

2004 NERC Compliance Enforcement Program

North American Electric Reliability Council



May 24, 2005

Table of Contents

Executive Summary 1

2004 Program Highlights 1

 Impacts of the August 14, 2003 Blackout..... 1

 Program Reorganization 2

 Program Oversight—Audits of Regional Programs 3

 Cyber Security Standard Self-Assessment..... 3

 Compliance Program Transitions to Reliability Standards..... 3

 Compliance Process Continues to Improve 4

 Overall Compliance Improves, But Violations Continue 4

 Recommendations for Program Improvements 4

Introduction 6

2004 Compliance Enforcement Program Requirements..... 6

Program Observations 7

 Implementation Plan 7

 Communications 7

 Program Changes 7

 Validation Processes 8

 Compliance Performance Reporting 8

 Enforcement 9

 Regional Program Strengths 9

 Regional Program Areas for Improvement 10

 Significant Problems 10

 NERC Program Improvements 10

 Regional Compliance Enforcement Program Audits 11

 Appeals 11

 Staffing Requirements 11

 Transmission Loading Relief Investigations..... 12

Program Results 13

Recommendations 14

Appendix A 16

Appendix B..... 17

Appendix C..... 18

Appendix D 20

Appendix E..... 21

Executive Summary

The NERC Compliance Enforcement Program (CEP) monitors entities whose operations affect the bulk electric system to determine whether they comply with NERC reliability 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. Because of its essential role in ensuring compliance with NERC standards, NERC and the regions continually strive to improve the program.

The CEP is comprised of ten regional compliance programs that monitor their members directly. NERC provides oversight of the regional programs, and monitors regional compliance with certain NERC reliability requirements. The objective of the CEP is to ensure compliance with the standards necessary to preserve the reliability of the grid. Some regions impose penalties and sanctions on those of their members who are found in noncompliance with the standards, while others take simulated enforcement actions.

2004 Program Highlights

Impacts of the August 14, 2003 Blackout

NERC significantly improved the CEP in 2004. Many of the improvements were the direct result of the blackout of August 14, 2003, and the implementation of the recommendations contained in NERC's February 10, 2004, report, *August 14, 2003 Blackout: NERC Actions to Prevent and Mitigate the Impacts of Future Cascading Blackouts*.¹ The actions the CEP implemented based on this report include:

- **Review and update CEP compliance templates**
Revised compliance templates were approved in April 2004 and implemented in the CEP in June. The new templates more clearly define the criteria for measuring compliance and the compliance process.
- **Adopt new compliance requirement on vegetation management**
NERC identified the absence of sound vegetation management practices as a key factor contributing to the blackout of August 14, 2003. To address this issue, NERC developed and implemented a new compliance template in 2004 to provide for the collection of vegetation-related transmission outages, require a vegetation management plan, and confirm compliance with an annual work plan.

The CEP presented a 2004 vegetation-related transmission outage report to the Board of Trustees in May 2005. It was the first annual report on vegetation-related outages and will be the basis for future comparisons of performance.

¹ The findings and recommendations of the NERC blackout investigation are available at <http://www.nerc.com/~filez/blackout.html>.

2004 NERC Compliance Enforcement Program

- **Adopt new compliance requirement on operator training**

Another recommendation in the NERC report was to improve training programs for system operators. The CEP developed and implemented a new compliance template in 2004 to require improved training of system operators. The CEP monitored the compliance of reliability coordinators, control areas, and transmission operators to determine if each had completed the five days of emergency training by June 30, 2004, as required by Recommendation 6 of the NERC report. This template provided for ongoing training, consistent with Recommendation 6, and will be monitored on a calendar-year basis going forward.
- **Improve disclosure of compliance violations**

NERC's adoption of the final *NERC Guidelines for Reporting and Disclosure*, which were used for the second half of 2004, was a significant step. These final guidelines allow the CEP to report all violations of NERC standards to the Board of Trustees. NERC posts quarterly performance reports on the NERC compliance Web site, and, for the second half of 2004, violations reporting includes the name of the entity violating NERC standards once the violation has been confirmed. A violation is confirmed when all dispute resolution processes regarding the violation have been completed or the time for seeking reviews of a finding of a violation has passed and the entity has not sought review.²

Each region is also confidentially reporting all violations of key NERC or regional reliability council operating rules, whether confirmed or still under investigation, within 48-hours of the violation (or within 48-hours of when the regional council learns of the violation). NERC compliance staff provides these reports confidentially to the Board of Trustees. In 2005, these reports will be provided to a new board-level Compliance Committee on a monthly basis.

Program Reorganization

In 2004, NERC reorganized its compliance committees. The establishment of the Compliance and Certification Committee (CCC) and restructuring of the Compliance and Certification Managers Committee (CCMC) have improved efficiency and coordination, and increased stakeholder input into policy issues for the CEP.

The CCC provides stakeholder oversight of the CEP and Organization Certification Program, and provides policy and process recommendations. The CCMC provides a forum for review and input into the management and implementation of the CEP and Organization Certification Program. The CCMC shares information about regional compliance enforcement and organization certification programs to promote consistency, and works with NERC to implement the CEP through the regions.

The CCC formed three subcommittees to support CEP activities: the Compliance Audit Subcommittee, the Compliance Policy and Procedures Subcommittee, and the Enforcement, Sanctions, and Disclosure Subcommittee. These subcommittees work on matters of importance to the CEP including establishing an appellate processes for compliance matters and readiness audits, appropriate nondisclosure agreements for NERC use, and a process to characterize the

² The quarterly compliance reports are available at <http://www.nerc.com/~comply/quarterly.html>.

relative reliability risk of violations of NERC standards, and documenting the NERC CEP processes and procedures.

Program Oversight—Audits of Regional Programs

NERC oversees the performance of regional compliance enforcement programs. In 2004, NERC audited the regional compliance enforcement programs of the Southeastern Electric Reliability Council (SERC) and the Midwest Reliability Organization (MRO), formerly called the Mid-Continent Area Power Pool (MAPP). NERC revised the process it uses to audit regional programs to focus on the implementation of the regional compliance processes. The audits proved to be productive and beneficial for both NERC staff and the regions that were audited. The 2004 audits marked the second cycle of NERC regional compliance program audits. The East Central Area Reliability Council (ECAR), Florida Regional Coordinating Council (FRCC), Mid-Atlantic Area Council (MAAC), Northeast Power Coordinating Council (NPCC), and Southwest Power Pool (SPP) will be audited during 2005. The remaining three regions will be audited in 2006.

Cyber Security Standard Self-Assessment

The CEP began monitoring compliance with the urgent action Cyber Security Standard (Standard 1200), which was the first standard developed through NERC's American National Standards Institute (ANSI)-accredited standards development process. This cyber security standard is the first of its kind in any industry. The CEP assessed reliability coordinator and control area compliance with Standard 1200 at the beginning of 2004. Aggregated results of monitoring compliance with this standard, which were presented confidentially to the Board of Trustees, demonstrated that the assessed entities are in substantial compliance with the standard and well on the way to full compliance by the end of 2004. The board extended the urgent action standard an additional year to allow time for a permanent standard to be developed, approved, and adopted.

NERC held workshops in early 2005 to help the industry understand and comply with the requirements of the cyber security standard. Compliance with Standard 1200 was reassessed in the first quarter of 2005 to determine the industry's level of compliance. NERC received regional aggregated results on March 31, 2005 and presented a confidential report based on these results to the board in May 2005.

Compliance Program Transitions to Reliability Standards

New compliance templates were developed and approved for use in the 2004 CEP to address the findings from the blackout investigation. These templates provided new measures and clarified others. In February 2005, NERC adopted new reliability standards and replaced all compliance templates. The new standards consolidated the former NERC planning standards, operating policies, and compliance templates to create a clear and concise set of baseline reliability standards.

The 2005 CEP was finalized in early 2005 and each region developed a corresponding implementation plan. When the new reliability standards took effect on April 1, 2005, the 2005 program compliance measures changed from those in the compliance templates to those included in the new standards. To allow for consistency in the 2005 CEP, compliance measures being

2004 NERC Compliance Enforcement Program

monitored through the compliance templates will be monitored through their reliability standard equivalent.

Compliance Process Continues to Improve

NERC continually evaluates the effectiveness of the compliance processes the CEP uses and incorporates recommended improvements to the program each year. For the 2005 program, NERC will publish four quarterly reports that disclose the identity of entities confirmed to have violated NERC standards, regional standards, or both. These reports will identify trends and focus on emerging problem areas of standards violations. Certain violations will be reported to NERC within 48-hours and provided to the board's Compliance Committee, as appropriate.

A primary goal for 2005 is to promote consistency among the regional compliance enforcement programs where appropriate. Consistency among regional compliance programs is necessary to ensure that participants are monitored and assessed equally in all regions. To accomplish this goal, NERC staff will continue to work closely with the regional compliance programs to identify opportunities to improve and promote consistency across the regional programs.

Overall Compliance Improves, But Violations Continue

Overall compliance with NERC operating policies and planning standards in the 2004 program improved slightly over 2003, although a number of violations of specific compliance measures were reported. Operator certification requirement violations were again the most numerous in 2004, although there was a 28 percent reduction compared with 2003. The 2004 program saw a reduction of about 33 percent in the total number of violations relative to 2003 for the planning and operating requirements that were monitored in both years. One region reported full compliance with both operating and planning requirements. No violations of the new measures included in 2004 for vegetation management and the planning and coordination of scheduled generation and transmission outages were identified. The new training requirements had 23 violations, and the requirement for the loss of primary control facility had 31 violations.

Recommendations for Program Improvements

NERC recommends the following actions to further develop and improve the CEP:

- Refine the vegetation-related transmission outage reporting procedure.
- Develop a tracking system to monitor the progress associated with mitigation activities resulting from the compliance program.
- Refine and streamline the NERC 48-hour and quarterly reporting processes, identify trends, and focus on emerging problem areas of standards violations.
- Rigorously validate the quality, accuracy, and completeness of self-certification submittals.
- Establish policy on enforcement actions, simulated or otherwise, for the 2005 program.
- Develop a process to characterize the relative reliability risk of violations of NERC standards.
- Implement a process to ensure effective compliance input into the standards development process.

2004 NERC Compliance Enforcement Program

- Integrate the cyber security standards into the overall CEP.
- Promote consistency across regional programs.

Introduction

The CEP 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 program 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 is comprised of ten regional programs. The regional councils monitor their members and others operating within their regions 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 the regions' compliance with those standards.

Some regions have approved processes for applying actual penalties and sanctions for a subset of the standards included in the annual CEP. Other regions continue to use 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 of the 2004 CEP. Lessons learned from the 2003 program were successfully incorporated into the 2004 program. In the spirit of striving for continuous program improvement, this report highlights the observations, results, and recommendations from the 2004 program that will be considered for implementation in future years.

2004 Compliance Enforcement Program Requirements

The NERC regions implemented the 2004 CEP with the intention of further testing regional and NERC compliance processes as well as the NERC standards and compliance requirements. The regional compliance enforcement programs, NERC subgroups, and various compliance committees all played a role in this process.

Forty compliance measures were included in the 2004 CEP: twenty-two planning and eighteen 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 2003 program consisted of forty-one measures, including twenty-eight that carried over into the 2004 program.

Program Observations

NERC is responsible for oversight of the regional compliance programs. Each of the regions was asked to complete a questionnaire when submitting its 2004 program results. A review of the regions' responses resulted in the following observations.

Implementation Plan

The regions generally followed the implementation plans that were submitted to and approved by NERC with few exceptions. These plans were reviewed by the CCMC and approved by NERC's vice president-compliance.

Communications

There were no Level 4 violations reported as a result of failure to submit compliance data in 2004, demonstrating the benefit of and need for continued attention to communication enhancements.

Half of the NERC regions conducted workshops addressing the NERC compliance program or standards development. The workshops enabled the regions to effectively present their reporting requirements and provide a forum to share program experiences. One region conducted a workshop covering both compliance and cyber security. Another region had three workshops during the year covering the revised compliance templates, changes to NERC Operating Policies 5, 6, and 9, the new reliability standards, mapping of reliability entities, and cyber security.

Regions that did not conduct an annual compliance program workshop used other ways to communicate program information with their members. Program information was generally disseminated at regional committee meetings, and through a regional Web site. Most regions indicated that they would conduct workshops in 2005; some workshops were planned for after the reliability standards were implemented and the final functional model registration was completed.

Program Changes

The regions made the following changes to their compliance programs in 2004:

- Incorporated the new *NERC Guidelines for Reporting and Disclosure* within the regional compliance process.
- Implemented the NERC 48-hour standard violation reporting process.
- Implemented the NERC quarterly compliance results reporting process.
- Established a Compliance Committee and Compliance Enforcement Committee.
- Expanded the scope of the audit program.
- Developed an outage collection process to report vegetation-related transmission line outages.
- Formed a regional task force to address the new vegetation standard and compliance.
- Implemented the NERC Board of Trustees' approved compliance templates.

2004 NERC Compliance Enforcement Program

- Introduced the use of a regional portal to make compliance filings on-line over a secure encrypted connection.
- Enhanced existing electronic reporting systems.

Validation Processes

The regions focused on verifying the validity and completeness of self-certifications in 2004. Overall, the application of the regional validation processes continues to increase in depth and breadth. Verifications included, but were not limited to:

- Complete on-site audits of all operating measures.
- Audits of planning standards.
- Random member audits.
- Spot-checks to supplement audits.
- Audits of protection system maintenance and testing planning standards.
- Real-time underfrequency load shedding (UFLS) survey.

Two regions reported that planned compliance audits were not completed due to severe weather, or were postponed to 2005 due to the scheduling of NERC readiness audits. One region completed all audits in 2003 to meet its three-year audit cycle, and will initiate the new audit cycle in 2005.

Several regions indicated good correlation between the audit results and the self-certification submittals. Implementing comprehensive validation processes continues to elevate the level of confidence in using self-certifications.

Compliance Performance Reporting

The initial implementation of the *NERC Guidelines for Reporting and Disclosure* has been successful, but further refinement of reporting and tracking processes are necessary. Most regions were able to disclose confirmed violations including names with few exceptions. One region developed a waiver to allow the participants in an enforceable compliance program to waive the confidentiality provisions of the original contract in order to meet the requirements of the NERC guidelines allowing the region to report the identity of members incurring potential violations.

The CCMC will conduct a peer review of the violation reports in all regions as part of the quarterly performance reporting process. The peer review will help promote consistency across regional programs and better assessments of potential bulk electric system reliability impacts. In order to conduct these peer reviews, each CCMC member has signed a NERC confidentiality agreement.

The compliance performance reporting process and corresponding reporting forms were initially developed in 2004 and continue to evolve. The changes help to produce more accurate and more informative reports. Several regions have expressed their desire to minimize the introduction of

revised forms throughout the year to reduce confusion with the process and promote consistent reporting.

Enforcement

All regions, when noncompliance with a NERC or regional standard was identified, sent letters to their members identifying the violations and requesting the development of mitigation plans. A few regions, however, requested mitigation plans for only the more severe levels of noncompliance. One region did not request mitigation plans for violations associated with its enforceable compliance program, but does provide follow-up support to its members when such violations are identified. Six regions included simulated financial penalties in their notification of compliance violations, including one region that only simulated monetary penalties for operating measure violations. Another region stopped simulating financial penalties in 2004 because the new compliance templates NERC adopted in June 2004 did not include penalties or sanctions. Most regions indicated that they are tracking mitigation plans, refining their tracking processes, and developing tracking databases. The variation of approaches with sanctions and penalties raises concerns about consistency among the regions. The CCC will need to establish policy on enforcement actions, simulated or otherwise, for the 2006 program.

Regional Program Strengths

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

- Expansion of the audit program; comprehensive and independent on-site field reviews.
- Independent determination of compliance; maintaining a streamlined compliance process that precludes the need for various committee reviews or stakeholder involvement.
- Effective data access to validate compliance.
- Clear communications with members.
- Member cooperation, support, extensive knowledge of the bulk electric system in their area, participation in the compliance program, and commitment to reliability; including the development and implementation of mitigation plans.
- Member commitment to NERC standards.
- Records retention program.
- Consistent implementation of a regional compliance program with all members.
- Staff expertise.
- An established mandatory enforceable compliance program.
- Active participation of regulators.
- Development and use of supplements to the NERC standards.
- Relationship with members.
- Use of electronic media for reporting and communication.

2004 NERC Compliance Enforcement Program

Regional Program Areas for Improvement

The regions identified the following areas that could be improved or enhanced:

- Process for disclosure of information, completion of reporting requirements, and enhancement of member communications regarding the *NERC Guidelines for Reporting and Disclosure*.
- Identification of compliance applicability, responsibility, and accountability among members, the reliability coordinator, associate members, and entities not affiliated with the region.
- Documentation and interpretation of NERC reliability standards.
- Effective communications with members regarding NERC requirements.
- Accolades for entities with good performance.
- Clear delineation of job responsibilities of regional compliance staff and other regional support staff.
- Creation and enhancement of electronic database processes.
- Communication with non-members within the region.
- Restructuring regional committees.
- Establishment of technical contact rosters.
- Regional tracking systems.
- Timeliness of data submittals.
- Reporting of mitigation plans

Significant Problems

The regions encountered the following significant problems in 2004:

- Difficulties associated with identifying responsibility and accountability as the functional model is implemented and registration is finalized under the new reliability standards.
- Identifying ways to resolve noncompliance when the potential remedies to the noncompliance are outside of the noncompliant entity's control.
- Stress on staff and member resources caused by efforts to address the NERC reporting and disclosure requirements, the NERC readiness audit program, and the recommendations from the NERC and U.S./Canada blackout reports
- Late submittals of compliance information from members.

NERC Program Improvements

The regions provided the following suggestions for overall and specific improvements to the CEP process and procedures:

- Incorporate in the NERC standards a quality aspect in the measurement of compliance.

- Continue the efforts of the NERC compliance committees (CCC and CCMC) to improve communication and coordination, and provide input to the standard development process.
- Develop and communicate the NERC vision about the future of the NERC reliability standards development process, the functional model, and the CEP.
- Provide a compliance representative on each standards team and have the standard reviewed by a compliance panel before the comment period to ensure compliance consistency.
- Enhance the separation of the compliance program and the readiness audit program.
- Formalize the CEP process and procedure documents into one comprehensive document.
- Integrate the cyber security portion of the compliance program into the overall CEP once the transition to a permanent standard is completed.
- Make appropriate standard requirements more objective. As an example, institute maintenance program requirements other than only 100% compliant.
- Revise the performance reporting forms to streamline and enhance the completion of such forms.

Regional Compliance Enforcement Program Audits

NERC audited the SERC and MRO (formerly MAPP) regional compliance enforcement programs. The purpose of these audits was to evaluate regions' performance with their CEP implementation plans. The primary objective of the evaluation is to identify those areas of greatest effectiveness, encourage the continued development of such practices, and determine those areas that require improvement. The 2004 audits mark the initiation of the second cycle of NERC regional compliance program audits. The process used to audit the regional programs was revised in 2004 to focus on the implementation of the regional compliance processes. Audits of ECAR, FRCC, MAAC, NPCC, and SPP will be conducted during 2005. The audit teams include representatives from the CCMC, the CCC, and NERC compliance staff. The remaining regions will be audited in 2006.

Appeals

Four regions used their appeals processes to successfully resolve disputes in their regional CEPs. There were eight appeals in 2004; this included three appeals involving violations of regional requirements. Three of the appeals overturned the original assessment of noncompliance and in each case the entity was ultimately found to be in full compliance.

Staffing Requirements

Some regions added compliance staff in 2004. Most regions indicated that current staffing levels for compliance enforcement program are inadequate to effectively support the projected workload and responsibilities for 2005. Some regions have specific plans to add staff resources in 2005. Additional staff resources are needed to support the implementation of the following compliance program enhancements:

- New reliability standards (such as cyber security and vegetation management).
- Certification of functional model entities.

2004 NERC Compliance Enforcement Program

- Compliance program tracking activities.
- Performance reporting and disclosure requirements.
- Additional audits that need to be performed.

Transmission Loading Relief Investigations

An integral part of the CEP is the investigation of transmission loading relief (TLR) procedures (or equivalent transmission loading relief procedures in ERCOT or WECC) that are implemented by reliability coordinators within NERC. The Operating Committee has requested that NERC compliance staff conduct routine investigations of significant events, such as TLR Level 5. The staff investigated fourteen events that occurred in 2004. These investigations identified lessons learned, assessed reliability impacts, and evaluated fairness in implementation. These reports are posted at <http://www.nerc.com/~comply/>.

Program Results

The 2004 program results demonstrate that the NERC regions and their members are 96% in compliance with the 2004 program measures (95% for planning and 96% for operating measures):

- 318 total violations were reported, with corresponding simulated sanctions of about \$761,000.00.
- 116 planning measure violations were reported with \$52,000.00 in simulated sanctions.
- 202 operating measure violations were reported with \$709,000.00 in simulated sanctions.

The 2004 program saw a reduction of about 33% in the total number of violations relative to 2003 for the planning and operating measures that were monitored in both years; these represent 70% of all monitored measures. One region reported full compliance with both operating and planning measures. Appendix C contains the statistics for all levels of noncompliance for 2004 planning and operating measures.

The regions are reporting compliance performance statistics in a consistent standardized format. For example, some planning and operating measure violations will be reported only by occurrence. A compliance performance percentage will be computed for all other measures. To achieve full compliance, a region would need to demonstrate 100% 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 were no Level 4 violations reported as a result of a failure to submit compliance data in the 2004 program. Repetitive violations of measures, including the consistency with regional UFLS, operator certification, and the control performance standard, were experienced in six of the regions. In some cases, the repetitive violations have been resolved.

Violations of operator certification requirements remain high at 103, although the number of violations declined compared with 2003 at 143. The primary reason for the decline in 2004 violations in one region is the continued inclusion of the operator certification requirement in that region's enforceable compliance program. This resulted in a 41% reduction in the number of violations that region experienced.

Planning standard measure III D M2 addresses consistency with regional UFLS programs. This measure had the highest number of NERC-wide planning violations in 2002, 2003, and 2004. Thirty-seven violations were reported in 2004, seven at Level 4 and twenty-five at Level 1. Twelve of these violations were the result of participants not meeting the regional requirements based upon an actual field survey conducted during an on-peak hour. All twelve participants have made or are making the necessary adjustments to meet the requirements in 2005. In 2003, forty-six violations were reported.

Thirty-one violations of the measure for the loss of primary control facility were reported; six of these violations were at Level 4. This standard requires a member to have a plan for disaster

2004 NERC Compliance Enforcement Program

recovery that is independent of its primary control center. This standard was introduced for the first time in the 2004 CEP in response to the findings of the blackout investigations. It appears that some of the members need more time to complete their individual plans and make the physical adjustments required to comply with the NERC standard.

The Operating Personnel and Training/Training Program standard that was introduced into the program on June 1, 2004, had twenty-three violations; eight of which were at Level 4—a system operator shift staff training program has not been developed. Five Level 3 violations were reported for not completing at least five days per year of training and drills in system emergencies.

One Level 1 violation was reported on the new System Operating and Interconnected Reliability Operating Limit standard, introduced on June 1, 2004.

No violations were reported of the new vegetation management requirement, or the new planning and coordination of scheduled generation and transmission outages standards.

Some of the regions included regional measures in their 2004 CEP. One region reported 473 violations of four regional measures; 366 of these violations were of the Qualified Path Unscheduled Flow (USF) Relief requirement. As a result of the high number of violations, the region is in the process of implementing enhancements and changes to this requirement. In addition, in 2005 two tagging requirements were included in the region's enforceable compliance program; this action reduced the number of E-tag violations. A regional compliance performance summary, and specific operating and planning comparisons, are contained in Appendix D, and Appendix E, respectively.

Recommendations

The following recommendations were derived from the 2004 CEP and will be considered for implementation to further improve the program. They are presented below, in no particular order of importance.

1. The CCMC should work with the Standards Drafting Team (SDT) to refine the vegetation-related transmission outage reporting procedure in the standard to include details surrounding each outage and the actions taken to prevent further outages of this type.
2. The CCMC should refine and streamline NERC 48-hour and quarterly reporting.
3. The CCMC should formalize a peer review process to assess the significance to bulk power system reliability of reported violations. This process will help the compliance committees identify areas requiring immediate attention and improvement.
4. The NERC vice president of compliance, in coordination with the CCMC, should publish four quarterly reports disclosing the identity of those entities confirmed to have violated NERC standards, regional standards, or both during 2005. These reports should identify trends, and focus on emerging problem areas of standards violations.
5. The NERC vice president of compliance, in coordination with the CCMC and the CCC, should continue to develop a tracking system that can be used to monitor the completion of mitigation plans resulting from the compliance program.

6. The CCC should establish policy on enforcement actions, simulated or otherwise, for the 2006 program. This should include assessing the impact of simulated sanctions, determining whether they are sufficient to ensure compliance with reliability standards, and refining the current enforcement process and enforcement penalty matrix.
7. The CCC should complete its work to develop a process to characterize the relative reliability risk of violations of NERC standards.
8. The CCC, in conjunction with the CCMC, should develop the CEP processes and procedures manual.
9. The CCC, in conjunction with the CCMC, should work with NERC's Standards Authorization Committee to implement a process to ensure effective compliance input into the standards development process. New standards should be effectively field tested when necessary and incorporated into the compliance program.
10. The CCMC should integrate the cyber security standards into the overall CEP.
11. The NERC compliance staff, in conjunction with the CCMC, should review the regional 2005 compliance programs to identify opportunities to improve and promote consistency with key compliance elements.

2004 Planning Standard Measures/Templates

Planning Template	Brief Description of Measure	Monitoring Responsibility	Applies To
I A S1 M1.	System performance under normal (no contingency) conditions.	Regions	Members
I A S2 M2	System performance following loss of a single bulk system element.	Regions	Members
I A S3 M3	System performance following loss of two or more bulk system elements.	Regions	Members
I A S4 M4	System performance following extreme events resulting in the loss of two or more bulk system elements.	Regions	Members
I B S1 M1	Regional and interregional self-assessment reliability reports.	NERC	Regions
II A S1 M5	Development of steady-state system models.	NERC	Regions
II A S1 M6	Development of dynamics system models.	NERC	Regions
II C S1 M1	Methodology(ies) for determining electrical facility ratings.	Regions	Members
III A S3 M5	Analysis and reporting of transmission protection misoperations.	Regions	Members
III A S4 M4	Transmission protection system maintenance and testing.	Regions	Members
III D S1 M4	Analysis and documentation of UFLS program performance.	Regions	Members
III D S1 M1	Development and documentation of regional UFLS programs coordinated within and among regions.	NERC	Regions
III D S1 M2	Assuring consistency of entity UFLS programs with regional UFLS requirements.	Regions	Members
III D S1 M3	Implementation and documentation of UFLS equipment maintenance program.	Regions	Members
III E S1 M4	UVLS system maintenance and testing.	Regions	Members
III E S1 M5	Analysis and documentation of UVLS program performance.	Regions	Members
III E S1-S2 M3	Technical assessment of the design and effectiveness of UVLS programs.	Regions	Members
III F S4 M5	Notification and analysis of special protection system misoperations and corrective action plans.	Regions	Members
III F S5 M6	Special protection system maintenance and testing.	Regions	Members
IV A S1 M1	Establish, maintain, and document a regional blackstart capability plan.	NERC	Regions
IV A S2 M4	Documentation of blackstart generating unit test results.	Regions	Members

Notes: UFLS—underfrequency load shedding. UVLS—undervoltage load shedding.

Appendix B

2004 Operating Policy Measures/Templates

Planning Template	Brief Description of Measure	Monitoring Responsibility	Applies To
P1 T1	Control Performance Standard CPS-1 and CPS-2	Regions	Members
P1 T2	Disturbance Control Standard	Regions	Members
P2 T1	System operating limit reporting and interconnected reliability operating limit violations	Regions	Members
P2 T2	System operating and interconnected reliability operating limit violations.	Regions	Members
P3 T3	Interchange transaction implementation and electronic tagging	Regions	Members
P4 T2	System Coordination/Operational Security Information	Regions	Members
P4 T4	Plan and coordinate scheduled generator and transmission outages	Regions	Members
P5 T1	Emergency operations/Implementation of capacity and energy emergency plans and coordination with other systems	Regions	Members
P6 T1	Emergency operations/Preparation of capacity and energy emergency plans	Regions	Members
P6 T2	Development/Review of system restoration plans	Regions	Members
P6 T3	Emergency operations/Loss of primary controlling facility	Regions	Members
P8 T1	System operating authority	Regions	Members
P8 T2	Operator certification	Regions	Members
P8 T3	Operating personnel and training/Training program	Regions	Members
P9 T1	Reliability coordinator procedures including next-day operations planning	Regions	Members
P9 T2	Reliability coordinator procedures/Implementing transmission system relief	Regions	Members
P9 T3	Reliability coordinator procedures/Current-day operations-authority to implement emergency procedures	Regions	Members
P9 T4	Issuance of energy emergency alerts	Regions	Members
Veg. Mgmt.	Vegetation management program for transmission owners	Regions	Members

Planning Standard Violations by Measure and Level														
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	\$
I A S1 M1.	Regions	ANNUALLY	212	0	100%									
I A S2 M2	Regions	ANNUALLY	209	3	99%			2				1		
I A S3 M3	Regions	ANNUALLY	185	5	97%			2				3		4000
I A S4 M4	Regions	ANNUALLY	184	6	97%	6								
I B S1 M1	NERC	ANNUALLY	10	0	100%									
II A S1 M5	NERC	ANNUALLY	10	0	100%									
II A S1 M6	NERC	ANNUALLY	10	0	100%									
II C S1 M1	Regions	ANNUALLY	205	4	98%	2						2		2000
III A S3 M5	Regions	OCCURRENCE		1						1	6100			
III A S4 M4	Regions	ANNUALLY	123	22	85%	7		13		2	2000			
III D S1 M1	NERC	ANNUALLY	8	2	80%	2								
III D S1 M2	Regions	ANNUALLY	180	37	83%	25		1		4	3000	7		12142
III D S1 M3	Regions	ANNUALLY	187	21	90%	8		10		2	2000	1		2000
III D S1 M4	Regions	OCCURRENCE		0										
III E S1 M4	Regions	ANNUALLY	70	3	96%	1		1		1	1000			
III E S1 M5	Regions	OCCURRENCE		1								1		2000
III E S1-S2 M3	Regions	ANNUALLY	95	2	98%							2		4000
III F S4 M5	Regions	OCCURRENCE		0										
III F S5 M6	Regions	ANNUALLY	53	1	98%					1				
IV A S1 M1	NERC	ANNUALLY	9	1	90%							1		4000
IV A S2 M4	Regions	ANNUALLY	286	7	98%	1				4	4000	2		4000
Sub Total			2036	116	95%	52	0	29	0	15	18100	20	0	34142

Operating Standard Violations by Measure and Level														
Measurement	Monitored By	Compliance Calculation Method	In Full Compliance	Total Violations	Compliance Percentage	Level 1		Level 2		Level 3		Level 4	Level 4	
						#	\$	#	\$	#	\$	#	# non submittal	\$
P1 T1	Regions	MONTHLY	1451	11	99%	10		1						
P1 T2	Regions	QUARTERLY	237	5	98%	1		1		1		2	3556	
P2 T1	Regions	OCCURRENCE		4				1		3	29686			
P2 T2	Regions	OCCURRENCE		1		1								
P3 T3	Regions	ANNUALLY	76	0	100%									
P4 T2	Regions	ANNUALLY	190	3	98%							3	2000	
P4 T4	Regions	ANNUALLY	101	0	100%									
P5 T1	Regions	OCCURRENCE		0										
P6 T1	Regions	ANNUALLY	174	6	97%	2						4		
P6 T2	Regions	ANNUALLY	173	10	95%	2		4				4		
P6 T3	Regions	ANNUALLY	147	31	83%			10		15	10269	6	32419	
P8 T1	Regions	ANNUALLY	166	5	97%	2		3						
P8 T2	Regions	MONTHLY	1359	103	93%	2		2	4000	3	9000	96	609650	
P8 T3	Regions	ANNUALLY	123	23	84%			10		5	4000	8	4000	
P9 T1	Regions	OCCURRENCE		0										
P9 T2	Regions	OCCURRENCE		0										
P9 T3	Regions	ANNUALLY	17	0	100%									
Veg. Mgmt.	Regions	ANNUALLY	333	0	100%									
Sub Total			5424	202	96%	20	0	32	4000	27	52955	123	0	651625

TOTAL			7460	318	96%	72	0	61	4000	42	71055	143	0	685767
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NERC 2004 Compliance Enforcement Program
Regional Compliance Performance

NERC 2004 Compliance Enforcement Program							
REGION	Measure Type	Level 1	Level 2	Level 3	Level 4	Level 4 Non-submittals	% Compliance
ECAR	Planning	2	2	1	0	0	98
	Operating	6	3	1	3	0	99
ERCOT	Planning	2	4	0	3	0	94
	Operating	0	3	0	2	0	99
FRCC	Planning	3	4	1	1	0	94
	Operating	0	2	0	28	0	99
MAAC	Planning	1	0	0	0	0	99
	Operating	1	0	0	0	0	99
MAIN	Planning	0	0	0	0	0	100
	Operating	1	2	2	3	0	95
MAPP	Planning	3	5	2	0	0	97
	Operating	1	2	4	3	0	98
NPCC	Planning	0	0	0	0	0	100
	Operating	0	0	0	0	0	100
SERC	Planning	7	3	1	2	0	94
	Operating	1---0	2	2	6	0	99
SPP	Planning	12	6	1	1----4	0	89
	Operating	1	3	4	23	0	98
WECC	Planning	24	5	9	9	0	90
	Operating	8	1---13	3---11	55	0	97
NERC Totals	Planning	54	29	15	1---19	0	95
	Operating	1---17	1---31	3---24	123	0	96
TOTALS		72	61	42	143	0	96

Notes: Violations presented as follows: L# — R#

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

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

Appendix E

2004 CEP Planning Measure Performance Comparison

Level	Measure					
	III A S4 M4 Transmission Protection system maintenance and testing.		III D S1 M2 Consistency of UFLS programs with regional requirements.		III D S1 M3 Implementation/ documentation of UFLS maintenance program.	
	2004	2003	2004	2003	2004	2003
Level 1	6	16	25	42	8	15
Level 2	13	1	1	0	10	2
Level 3	1	4	4	0	2	3
Level 4	0	0	7	4	1	5
Total	20	21	37	46	21	25
% change from 2003	-4.76%		19.57%	-	16.00%	-

2004 CEP Operating Measure Performance Comparison

Level	Measure					
	P1 T1 Control Performance		P2 T2 Operating Security Limit		P8 T2 Operator Certification	
	2004	2003	2004	2003	2004	2003
Level 1	10	21	1	0	2	1
Level 2	1	1	0	2	2	2
Level 3	0	3	0	10	3	9
Level 4	0	0	0	2	96	131
Total	11	25	1	14	103	143
% change from 2003	56.00%	-	92.86%	-	27.97%	-