



Compliance Audit Report Public Version

**City of Columbia, Missouri (CWLD)
(NCR01196)
June 21, 2007**

**Confidential Information (including
Privileged and Critical Energy Infrastructure
Information) – Has Been Removed**

July 30, 2007

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EXECUTIVE SUMMARY

This final compliance audit report is the public version. Confidential information (including privileged and critical energy infrastructure information) has been redacted from this report. The full final compliance audit report was submitted to the audited entity and NERC.

The City of Columbia, Missouri (CWLD) was audited on June 21, 2007 for compliance to the requirements contained in the NERC Reliability Standards that are currently enforceable and apply to the CWLD's electric utility operation. This audit focused on documents and other evidence provided to SERC by the staff of the CWLD, and did not include any evidence obtained through system observation or inspection. The findings of the audit are based on the state of compliance and current mitigation activity at the time of the audit, and do not reflect past compliance activities or activities that will be completed in the future.

The audit was conducted by asking CWLD's staff to show valid evidence of meeting each and every individual requirement and sub-requirement contained in the 20 standards that had been previously identified by SERC to CWLD as subject to this audit. CWLD staff responded by providing evidence in the form of reports, procedures, studies, and other documents. CWLD staff would then cite specific portions of the evidence that demonstrated compliance. This evidence and the citations were documented and evaluated by the audit team for the level of compliance and agreement with the requirement. If all of the requirements and sub-requirements of an audited standard were met, then CWLD was judged to be compliant. Likewise, if any of the requirements or sub-requirements were not fully met, then CWLD was judged to have a possible violation of the standard. In other words, only a score of 100% is identified as compliant; 99% and below is a possible violation.

The CWLD electric utility operation was found to be in compliance with the standards and mitigation plans that were audited with exceptions as shown below, and exhibited a strong desire and willingness to continue improvement of their compliance effort in the future. However, two possible areas of violation of the audited standards were noted during the audit and at the exit briefing. One possible violation of the operations training standard (PER-002) requirement for a formal training objective was noted. A second possible violation was noted that applied to the requirement for annual system assessments in all four of the Transmission Planning Standards (TPL-001 through 004). Although studies were performed that demonstrated the reliability requirements of the system, they were not assessed annually to verify their validity each year (TPL-001 through 004).

The possible compliance violations will be processed through the SERC Compliance Monitoring and Enforcement Program. Any further actions related to possible compliance violations will be through that process.

AUDIT PROCESS

Objectives

All registered entities are subject to audit for compliance with all reliability standards applicable to the functions for which the registered entity is registered.¹ The audit objectives are:

- Independently and objectively review CWLD's compliance with the requirements of the reliability standards that are applicable to CWLD based on the CWLD's functions in the bulk electric system as determined by SERC.
- Validate compliance with applicable reliability standards from the NERC 2007 Implementation Plan list of actively monitored standards.

Scope

The scope of the audit of CWLD was to look at all planning-related standards that are in the NERC 2007 Compliance Monitoring and Enforcement Plan. SERC audits planning-related and operating-related standards at different times to minimize impact on entity staff, and to recognize the somewhat seasonal availability of different staff groups. Operating Audits are generally held in the spring and fall of the year, and planning audits held in the middle of the year. Of the 32 standards that apply to CWLD, 20 were selected for review in this audit. Fifteen of these standards were planning-related and five of these standards were operating-related that were selected to follow up on previously submitted mitigation plans. Three planning-related standards that were selected were not reviewed during the audit due to the filing of self-reports of possible noncompliance by CWLD. Review of these three possible noncompliance issues is undergoing separate processing within SERC.

Note: For the 2007 compliance program, the monitoring period for the compliance audit will be the past 12 months or periods specified in individual reliability standards. The monitoring period is not limited to the time period for which penalties and sanctions are assessed.

Methodology

The audit was conducted by reviewing all of the standards that apply to CWLD in the NERC 2007 Enforcement Plan that pertain to system planning, and standards that are currently covered by a mitigation plan. These standards were grouped and scheduled during the day to make the most efficient use of the CWLD staff's time. The CWLD staff had been briefed on the standards that were to be addressed so that documentation and evidence of compliance could be assembled.

Two teams of auditors and subject matter experts were identified, one that audited the modeling and assessment standards, and one that audited the operations planning and system maintenance related standards. Each team had a moderator who would initiate dialogue on each standard requirement, request compliance evidence, and document the evidence and CWLD staff response. This was done by asking CWLD staff to show valid evidence of meeting each and every individual requirement and sub-requirement contained in the 20 standards that had been

¹ North American Electric Reliability Corporation CMEP, paragraph 3.1, Compliance Audits

previously identified by SERC to CWLD as subject to this audit. CWLD staff responded by providing evidence in the form of reports, procedures, studies, and other documents. CWLD staff would then cite specific portions of the evidence that demonstrated compliance. This evidence and the citations were documented and evaluated by the audit team for the level of compliance and agreement with the requirement. Discrepancies between the requirement and the evidence provided were the subject of dialogue among the team members and CWLD staff members until it could be agreed that each requirement was met by the cited evidence or other evidence offered. If it was felt that, after all evidence had been presented and discussed, that CWLD did not have sufficient evidence to support a finding of compliance, a possible violation was identified by the team and CWLD staff.

Company Profile

The CWLD operates a municipal electric utility wholly within the State of Missouri and the footprint of SERC. They act as a Balancing Authority for the entities: City of Columbia, the City of Fulton, and the University of Missouri which are also within the City of Columbia's Control Area. The aggregate control area is forecasting a 320 MW peak load for 2007. The CWLD, as a Load-Serving Entity, owns and operates a municipal electric utility that supplies power to approximately 43,000 customers in and around the city and anticipates a summer peak load of 273 MW this year. The utility is interconnected with Ameren, an investor-owned utility, and Associated Electric Cooperative Inc. (AECI) a RUS G&T Cooperative.

To serve the above load, the CWLD has internal generation of 86 MW and purchases power from other resources including:

- the City of Kansas City, KS,
- the City of Sikeston, MO, and
- Ameren

A contractor, TEA, handles daily purchases and market participation activities through the Midwest ISO. The city is participating with independent power producers to develop additional resources by 2011. The city is also considering adding generation internal to its system by 2015.

The CWLD is a Transmission Owner with a system that includes 4 - 161 kV lines with total length of 24.49 miles. The city also owns and operates a 69 kV networked subtransmission system. The CWLD Control Area has six interconnections: three 161 kV transmission interconnections and three 69 kV interconnections. Of the three 161 kV interconnections, two are with AECI and the other is with Ameren. The three 69 kV interconnections are all with AECI. Internal to the CWLD Control Area, the City of Fulton and the University of Missouri each have a single point of connection at 69 kV with the CWLD. Ameren also has a 144 MW peaking plant connected to the CWLD 69 kV system at Bolstad.

CWLD has been a supporting member of NERC regional reliability regions for the last 15 years. As a member of MAIN, CWLD provided representation on the Executive Committee, Operating Committee and Market Interface Committee. As a member of SERC, CWLD provides representation on the Critical Infrastructure Committee, Operating Committee, Engineering Committee, Board of Director and Compliance Committee. Compliance with NERC standards is

overseen by a CWLD Compliance Committee with representation from Engineering, Operations and Information Technologies. The Committee reports to the Director of Water & Light, CWLD. A new engineering specialist position was created and filled in April of 2007 to review and ensure the CWLD's compliance with NERC standards. The CWLD is a member of the Gateway subregion of SERC and participates in the following:

- SERC Near-Term Study Group (NTSG),
- SERC Long-Term Study Group (LTSG), and
- SERC Engineering Committee (EC).

In 2007, the utility received the RP3 award for its reliability performance from the American Public Power Association. This award recognizes utilities that demonstrate proficiency in four key disciplines: reliability, safety, training and system improvement. Criteria within each category are based on sound business practices and represent a utility-wide commitment to safe and reliable delivery of electricity.

Columbia Water and Light currently has a Customer Average Interruption Duration Index of 55.97 and a System Average Interruption Duration Index of 18.27.

Audit Date and Location

The compliance audit was conducted on June 21, 2007 at the City of Columbia, Missouri conference room on East Business 70 at Bowling Street in Columbia, Missouri.

Audit Team

Audit Team Role	Name	Title	Company
Audit Team Leader	Bob Goss	Manager of Compliance Audits	SERC
Auditor; Sub-Team Moderator	Ralph Anderson	Senior Compliance Auditor	SERC
Auditor	Mike Vastano	Compliance Auditor	SERC
Auditor; Sub-Team Moderator	Sam Stryker	Senior Compliance Auditor	SERC
Member	Brian Mitchell	Transmission Planning – West (SERC ECAG Representative)	Southern Company Services
Member	Marion Frick	Mgr. - System Protection & SCADA Applications (SERC PCS Representative)	SCE&G
Member	Tom Cain	Planning Engineer (SERC DRS Representative)	TVA
Member	Curt Stepanek	Principal Transmission Planning Engineer (SERC RRS Representative)	Ameren
Observer	Ed Ruck	Regional Compliance Program Coordinator	NERC

AUDIT RESULTS

The audit began at 8:30 a.m., June 21, 2007 with an opening presentation by Bob Goss, SERC Manager of Compliance Audits. He reviewed the NERC compliance plan for 2007 in general, and how it applied to CWLD specifically. He introduced and reviewed the standards to be covered in the audit, and addressed both the expectations of CWLD staff and the quality of evidence to be presented. He also covered the basic procedure for the audit, and the bounding rules of conduct. Each member of the audit team was introduced and professional affiliation identified. His presentation was followed by a brief presentation covering the background of CWLD and its compliance activities. The staff of CWLD was introduced, and general housekeeping matters explained.

The audit team then split into two previously identified sub-teams for the sake of efficiency, and the individual auditing of standards began at 9:15 a.m. Each team initially reviewed the registration status of CWLD with CWLD staff to verify application of each standard. Each standard's audit began with a recitation of each requirement and an explanation, if requested by CWLD. CWLD staff would then present evidence of meeting this requirement, or cite evidence in material already presented to the team. At that point, the evidence was reviewed and dialogue took place until the team reached a point of satisfaction with the evidence. Consensual approval or concern was reached on each of the requirements, and explained to CWLD staff before proceeding to the next requirement. At that point the team moderator would record the evidence presented to satisfy the requirement and the team's recommendation on that requirement using the standard worksheet.

After completing a review of all applicable requirements in the standard, the overall compliance to that standard was reviewed first by the team and CWLD staff, and then by the Audit Team Leader (ATL). Any concerns or dissention with the recommendation was offered, and the ATL would indicate support or disagreement with the recommendation. Dialogue would ensue to the point of decision on the part of the ATL. Following this review, the standard worksheet would be updated with the compliance recommendation.

The review of all applicable standards was completed at approximately 1:30 p.m. and the audit team met to review and discuss the findings. Following these discussions, moderators collected all notes and evidence as needed and began to finalize the standards worksheets. The ATL began to develop the exit briefing with the help of all team members by using a projector connected to his laptop. This facilitated the consensus of the full team on the content of the exit briefing, and re-affirmed the findings and recommendations of the individual sub-teams.

The exit briefing was presented to the assembled Audit Team and CWLD staff at approximately 3:30 p.m. and was followed by an informal response from CWLD staff. The ATL solicited both informal comments from CWLD staff, along with requesting that they fill out formal feedback forms for submission to SERC. The audit team left the CWLD meeting room at approximately 4:00 p.m.

Findings

Reliability Standard	Auditor Notes	Finding
BAL-001-0	Applies to CWLD, but not covered in this planning audit	NA
BAL-002-0	Applies to CWLD, but not covered in this planning audit	NA
BAL-003-0	Applies to CWLD, but not covered in this planning audit	NA
BAL-004-0	Applies to CWLD as currently registered. Covered in audit as a mitigation plan follow-up. CWLD was found to have completed the mitigation plan and to meet all currently enforceable requirements of the standard.	Compliant
BAL-005-0	Applies to CWLD as currently registered. Covered in audit as a mitigation plan follow-up. CWLD submitted evidence to the audit team showing that they have completed the mitigation plan and were found to meet all currently enforceable requirements of the standard.	Compliant
CIP-001-1	Applies to CWLD, but not covered in this planning audit	NA
CIP-002-1 through CIP-009-1	Applies to CWLD, but not covered in this planning audit	NA
COM-001-1	Applies to CWLD, but not covered in this planning audit	NA
EOP-001-0	Applies to CWLD, but not covered in this planning audit	NA
EOP-003-1	Applies to CWLD, but not covered in this planning audit	NA
EOP-005-1	Applies to CWLD as currently registered. Covered in audit as a mitigation plan follow-up. CWLD submitted evidence to the audit team showing that they have completed the mitigation plan and were found to meet all currently enforceable requirements of the standard.	Compliant
EOP-006-1	Does not apply to CWLD as currently registered	NA
EOP-008-0	Applies to CWLD as currently registered. Covered in audit as a mitigation plan follow-up. CWLD submitted evidence to the audit team showing that they have completed the mitigation plan and were found to meet all currently enforceable requirements of the standard.	Compliant
EOP-009-0	Applies to CWLD, but not covered in this planning audit	NA
FAC-003-1	Applies to CWLD as a transmission owner. Audited for compliance with NERC standards. CWLD submitted evidence in the form of current approved system diagrams that show CWLD does not own any of the lines designated as BES critical.	Compliant
FAC-008-1	Applies to CWLD as currently registered. Audited for compliance with NERC Standards: CWLD submitted an interim approved document entitled <u>Columbia Water & Light Facility Rating Methodology</u> revised in 2007. This evidence was unanimously found by the audit team to meet all standard requirements.	Compliant
FAC-009-1	Applies to CWLD as currently registered. CWLD has submitted a self-report of a possible violation with this standard that is currently in the review and mitigation process in accordance with SERC CMEP procedures. The findings resulting from these procedures will be in a separate report.	Self-Reported Possible Violation
IRO-001-1	Applies to CWLD, but not covered in this planning audit	NA
IRO-004-1	Applies to CWLD, but not covered in this planning audit	NA
IRO-014-1	Applies to CWLD, but not covered in this planning audit	NA

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Reliability Standard	Auditor Notes	Finding
IRO-015-1	Applies to CWLD, but not covered in this planning audit	NA
IRO-016-1	Applies to CWLD, but not covered in this planning audit	NA
PER-002-0	Applies to CWLD as currently registered. Covered in audit as a mitigation plan follow-up. CWLD submitted evidence of current mitigation progress, which satisfied most of the requirements. The audit team determined that there was not sufficient evidence that CWLD met R3.1 which calls for formal measurable training objectives.	Possible Violation
PER-003-0	Applies to CWLD, but not covered in this planning audit	NA
PER-004-1	Applies to CWLD, but not covered in this planning audit	NA
PRC-004-1	Applies to CWLD as currently registered. Audited for compliance with NERC Standards: System operation records were provided that indicated that CWLD has experienced no operations of BES protective devices during the covered period. CWLD was found by the audit team to meet all standard requirements through this evidence provided.	Compliant
PRC-005-1	Applies to CWLD as currently registered. CWLD has submitted a self-report of a possible violation with this standard that is currently in the review and mitigation process in accordance with SERC CMEP procedures. The findings resulting from these procedures will be in a separate report.	Self-Reported Possible Violation
PRC-008-0	Applies to CWLD as currently registered. CWLD has submitted a self report of a possible violation with this standard that is currently in the review and mitigation process in accordance with SERC CMEP procedures. The findings resulting from these procedures will be in a separate report.	Self-Reported Possible Violation
PRC-010-0	Applies to CWLD as currently registered. Audited for compliance with NERC Standards, but CWLD has no SPS plans or equipment, as previously certified.	Compliant
PRC-011-0	Applies to CWLD as currently registered. Audited for compliance with NERC Standards, but CWLD has no UVLS plans or equipment, as previously certified.	Compliant
PRC-016-0	Applies to CWLD as currently registered. Audited for compliance with NERC Standards, but CWLD has no UVLS plans or equipment, as previously certified.	Compliant
PRC-017-0	Applies to CWLD as currently registered. Audited for compliance with NERC Standards, but CWLD has no SPS plans or equipment, as previously certified.	Compliant
PRC-021-1	Applies to CWLD as currently registered. Audited for compliance with NERC Standards, but CWLD has no UVLS plan or equipment, as previously certified.	Compliant
TOP-003-0	Applies to CWLD, but not covered in this planning audit	NA
TOP-004-1	Applies to CWLD, but not covered in this planning audit	NA
TOP-005-1	Applies to CWLD, but not covered in this planning audit	NA
TOP-007-0	Applies to CWLD, but not covered in this planning audit	NA
TPL-001-0	Applies to CWLD as currently registered. At the time of the compliance audit, CWLD had not conducted formal annual assessments of their system with all elements and improvements modeled as required by R1 & 2 of this standard. CWLD has contracted Commonwealth Associates, Incorporated (CAI) to perform comprehensive analysis and assessment of the CWLD system that should cover all requirements of the standard, when completed.	Possible Violation

Reliability Standard	Auditor Notes	Finding
TPL-002-0	Applies to CWLD as currently registered. At the time of the compliance audit, CWLD had not conducted formal annual assessments of their system under contingency situations with all elements and improvements modeled as required by R1 & 2 of this standard. CWLD has contracted Commonwealth Associates, Incorporated (CAI) to perform comprehensive analysis and assessment of the CWLD system that should cover all requirements of the standard, when completed.	Possible Violation
TPL-003-0	Applies to CWLD as currently registered. At the time of the compliance audit, CWLD had not conducted formal annual assessments of their system under more extreme contingencies as required by R1 & 2 of this standard. CWLD has contracted Commonwealth Associates, Incorporated (CAI) to perform comprehensive analysis and assessment of the CWLD system that should cover all requirements of the standard, when completed.	Possible Violation
TPL-004-0	Applies to CWLD as currently registered. At the time of the compliance audit, CWLD had not conducted formal annual assessments of their system under the most severe contingencies as required by R1 of this standard. CWLD has contracted Commonwealth Associates, Incorporated (CAI) to perform comprehensive analysis and assessment of the CWLD system that should cover all requirements of the standard, when completed.	Possible Violation
VAR-001-1	Applies to CWLD, but not covered in this planning audit	NA

Conclusions

The CWLD electric utility operation was found to be in compliance with the standards and mitigation plans that were audited, with the exceptions shown above, and exhibited a strong desire and willingness to continue improvement of their compliance effort in the future. In addition to the three self-reported areas of possible noncompliance, two possible areas of violation of the audited standards were noted during the audit and at the exit briefing. One possible violation of the operations training standard (PER-002) requirement for a formal training objective was noted. A second possible violation was noted that applied to the requirement for annual system assessments in all four of the Transmission Planning Standards (TPL-001 through 004).

The possible compliance violation along with this compliance audit report will be provided to the SERC compliance staff for processing through the NERC CMEP. Any further actions related to possible compliance violations will be through that process.

SUMMARY OF CITY OF COLUMBIA, MISSOURI RESPONSE TO THE AUDIT FINDINGS

The CWLD has gone through great efforts to ensure compliance with the standards set forth by NERC, and with any supplements provided by SERC. As mentioned in this report the CWLD has created and filled a new position to specifically address all issues that may arise with

compliance with NERC standards. The city welcomes the audit process and uses the results to further enhance its operating policy and procedures.

Regarding PER-002-0:

The city has long operated with a blend of formal training and informal “On-the-Job” training that is passed down from senior employees to new ones. A more formal training program is being developed to ensure compliance with the NERC standards.

Regarding TPL-001-0 through TPL-004-0:

Although the CWLD has not performed “Formal Assessments” on an annual basis, it has performed assessments as required to identify possible problems within its system. The city’s electric system is small and compact with little impact on the Bulk Electric System. As mentioned in this report the city has contracted with Commonwealth Associates, Incorporated (CAI) to perform comprehensive analysis and assessment of the CWLD system that should cover all requirements of the standards, when completed. The city will include in its budgeting process an annual assessment to meet the required standards.

APPENDIX 1 — APPLICABLE RELIABILITY STANDARDS

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to City of Columbia, Missouri? Yes or No
BAL-001-0	All	Real Power Balancing Control Performance	BA	To maintain Interconnection steady-state frequency within defined limits by balancing real power demand and supply in real-time.	The data that supports the calculation of CPS1 and CPS2 (Attachment 1-BAL-001-0) are to be retained in electronic form for at least a one-year period. If the CPS1 and CPS2 data for a Balancing Authority Area are undergoing a review to address a question that has been raised regarding the data, the data are to be saved beyond the normal retention period until the question is formally resolved. Each Balancing Authority shall retain for a rolling 12-month period the values of: one-minute average ACE (ACEi), one-minute average Frequency Error, and, if using variable bias, one-minute average Frequency Bias.	Yes
BAL-002-0	All	Disturbance Control Performance	BA, RSG, RRO	To ensure the Balancing Authority is able to utilize its Contingency Reserve to balance resources and demand and return Interconnection frequency within defined limits.	Compliance for DCS will be evaluated for each reporting period. Reset is one calendar quarter without a violation. The data that support the calculation of DCS are to be retained in electronic form for at least a one-year period.	Yes

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to City of Columbia, Missouri? Yes or No
BAL-003-0	All	Frequency Response and Bias	BA	This standard provides a consistent method for calculating the Frequency Bias component of ACE.	Yearly or by request.	Yes
CIP-001-1	All	Sabotage Reporting	RC, BA, TOP, GOP, LSE	Disturbances or unusual occurrences, suspected or determined to be caused by sabotage, shall be reported to the appropriate systems, governmental agencies, and regulatory bodies.	By request and any events in the last year.	Yes
CIP-002-1 through CIP-009-1	All	Critical Infrastructure Protection Standards	BA, GO, GOP, IA, LSE, NERC, RC, RRO, TO, TOP, TSP	Cyber Security Standards-Follow revised Implementation Plan for Cyber Security Standards CIP-002-1 through CIP-009-1	By request.	Yes
COM-001-1	R2 and R5	Telecommunications	TO, BA, RC, NERCNet User Organizations.	Each Reliability Coordinator, Transmission Operator and Balancing Authority needs adequate and reliable telecommunications facilities internally and with others for the exchange of Interconnection and operating information necessary to maintain reliability.	By request.	Yes

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to City of Columbia, Missouri? Yes or No
EOP-001-0	All	Emergency Operations Planning	BA, TOP	Each Transmission Operator and Balancing Authority needs to develop, maintain, and implement a set of plans to mitigate operating emergencies. These plans need to be coordinated with other Transmission Operators and Balancing Authorities, and the Reliability Coordinator.	By request.	Yes
EOP-003-1	All	Load Shedding Plans	BA, TOP	A Balancing Authority and Transmission Operator operating with insufficient generation or transmission capacity must have the capability and authority to shed load rather than risk an uncontrolled failure of the Interconnection.	R1, R5, R6 - Event Driven. Has an event occurred in the past year? R2, R3, R4, R7, R8 – By request	Yes
EOP-005-1	All	System Restoration Plans	BA, TOP	To ensure plans, procedures, and resources are available to restore the electric system to a normal condition in the event of a partial or total shut down of the system	By request. Note: entity must follow the timelines specified in the standard: show that the plan is reviewed annually; simulation or testing must be done every five years.	Yes
EOP-006-1	All	Reliability Coordination – System Restoration	RC	The Reliability Coordinator must have a coordinating role in system restoration to ensure reliability is maintained during restoration and priority is placed on restoring the Interconnection.	By request.	Yes

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to City of Columbia, Missouri? Yes or No
EOP-008-0	All	Plans for Loss of Control Center Functionality	BA, RC, TOP	Each reliability entity must have a plan to continue reliability operations in the event its control center becomes inoperable.	By request.	Yes
EOP-009-0	All	Documentation of Blackstart Generating Unit Test Results	GO, GOP	To ensure that the quantity and location of system blackstart generators are sufficient and that they can perform their expected functions.	By request. Note entity must meet testing frequency specified in EOP-007-0.	No
FAC-003-1	All	Vegetation Management	RRO, TO	To improve the reliability of the electric transmission systems by preventing outages from vegetation located on transmission rights-of-way (ROW) and minimizing outages from vegetation located adjacent to ROW, maintaining clearances between transmission lines.	By request – program documentation and last four quarterly outage reports.	Yes
FAC-008-1	All	Facility Ratings Methodology	GO, TO	To ensure that Facility Ratings used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on an established methodology.	By request the current methodology and any superseded portions of the methodology within the past 12 months.	Yes
FAC-009-1	All	Establish and Communicate Facility Ratings	GO, TO	To ensure that Facility Ratings used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.	By request.	Yes

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to City of Columbia, Missouri? Yes or No
IRO-001-1	All	Reliability Coordination – Responsibilities and Authorities	BA, GOP, LSE, PSE, RC, RRO, TOP, TSP	Reliability Coordinators must have the authority, plans, and agreements in place to immediately direct reliability entities within their Reliability Coordinator Areas to re-dispatch generation, reconfigure transmission, or reduce load to mitigate critical conditions to return the system to a reliable state. If a Reliability Coordinator delegates tasks to others, the Reliability Coordinator retains its responsibilities for complying with NERC and regional standards. Standards of conduct are necessary to ensure the Reliability Coordinator does not act in a manner that favors one market participant over another.	By request.	Yes
IRO-004-1	All	Reliability Coordination — Operations Planning	BA, GO, GOP, LSE, RC, TO, TOP, TSP	Each Reliability Coordinator must conduct next-day reliability analyses for its Reliability Coordinator Area to ensure the Bulk Electric System can be operated reliably in anticipated normal and Contingency conditions.	By request.	Yes

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to City of Columbia, Missouri? Yes or No
IRO-014-1	All	Procedures, Processes, or Plans to Support Coordination Between Reliability Coordinators	RC	To ensure that each Reliability Coordinator's operations are coordinated such that they will not have an Adverse Reliability Impact on other Reliability Coordinator Areas and to preserve the reliability benefits of interconnected operations.	By request.	No
IRO-015-1	All	Notifications and Information Exchange Between Reliability Coordinators	RC	To ensure that each Reliability Coordinator's operations are coordinated such that they will not have an Adverse Reliability Impact on other Reliability Coordinator Areas and to preserve the reliability benefits of interconnected operations.	Rolling 12 months of information provided on request.	No
IRO-016-1	All	Coordination of Real-time Activities Between Reliability Coordinators	RC	To ensure that each Reliability Coordinator's operations are coordinated such that they will not have an Adverse Reliability Impact on other Reliability Coordinator Areas.	Rolling 12 months of information provided on request.	No
PER-002-0	All	Operating Personnel Training	BA, TOP	Each Transmission Operator and Balancing Authority must provide their personnel with a coordinated training program that will ensure reliable system operation.	By request training program and training records.	Yes
PER-003-0	All	Operating Personnel Credentials	BA, RC, TOP	Certification of operating personnel is necessary to ensure minimum competencies for operating a reliable Bulk Electric System.	By request latest certification information and present calendar year plus previous calendar year staffing plan.	Yes

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Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to City of Columbia, Missouri? Yes or No
PER-004-1	All	Reliability Coordination — Staffing	RC	Reliability Coordinators must have sufficient, competent staff to perform the Reliability Coordinator functions.	By request – each Reliability Coordinator shall keep evidence of compliance for the previous two calendar years plus the current year.	No
PRC-004-1	All	Analysis and Mitigation of Transmission and Generation Protection System Misoperations	DP, GO, TO	Provide trip operation/misoperation information per regional process.	By request – last 12 months of protection system Misoperation analysis.	Yes
PRC-005-1	All	Transmission and Generation Protection System Maintenance and Testing	DP, GO, TO	Document/implement transmission protection system maintenance/testing/monitoring PROGRAM	By request – maintenance and testing program and testing records to show that testing intervals are on schedule.	Yes
PRC-008-0	All	Implementation and Documentation of Underfrequency Load Shedding Equipment Maintenance Program	DP, TO	Document/implement UFLS maintenance/testing PROGRAM	By request – maintenance and testing program and testing records to show that testing intervals are on schedule.	Yes
PRC-010-0	All	Technical Assessment of the Design and Effectiveness of Undervoltage Load Shedding Program.	DP, LSE, TO, TOP	ASSESS design and effectiveness of UVLS programs	By request – current assessment.	Yes

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Critical Energy Infrastructure Information) – Has Been Removed

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to City of Columbia, Missouri? Yes or No
PRC-011-0	All	UVLS System Maintenance and Testing	DP, TO	Document/implement UVLS maintenance/testing PROGRAM	By request – maintenance and testing program and testing records to show that testing intervals are on schedule.	Yes
PRC-016-0	All	Special Protection System Misoperations	DP, GO, TO	DOCUMENT/analyze misoperations	By request – last 12 months of special protection system Misoperation analysis.	Yes
PRC-017-0	All	Special Protection System Maintenance and Testing	DP, GO, TO	Document/implement SPS maintenance/testing PROGRAM	By request – maintenance and testing program and testing records to show that testing intervals are on schedule.	Yes
PRC-021-1	All	Under-Voltage Load Shedding Program Data	DP, TO	DOCUMENTATION of undervoltage load shedding program	By request – latest UVLS data.	Yes
TOP-003-0	All	Planned Outage Coordination	BA, GOP, RC, TOP	Scheduled generator and transmission outages that may affect the reliability of interconnected operations must be planned and coordinated among Balancing Authorities, Transmission Operators, and Reliability Coordinators.	By request.	Yes
TOP-004-1	R6	Transmission Operations	TOP	To ensure that the transmission system is operated so that instability, uncontrolled separation, or cascading outages will not occur as a result of the most severe single Contingency and specified multiple Contingencies.	By request – each Transmission Operator shall keep 90 days of historical data for Measure 1. Each Transmission Operator shall have current, in-force policies and procedures, as evidence of compliance to Measure 2.	No

Confidential Information (including Privileged and
Critical Energy Infrastructure Information) – Has Been Removed

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to City of Columbia, Missouri? Yes or No
TOP-005-1	All	Operational Reliability Information	BA, PSE, RC, TOP	To ensure reliability entities have the operating data needed to monitor system conditions within their areas.	By request.	Yes
TOP-007-0	All	Reporting System Operating Limit (SOL) and Interconnection Reliability	RC, TOP	Ensure SOL and IROL violations are being reported to the Reliability Coordinator so that the Reliability Coordinator may evaluate actions being taken and direct additional corrective actions as needed.	Event driven.	No
TPL-001-0	All	System Performance Under Normal (No Contingency) Conditions	PA, TPL	System performance under normal conditions	By request – latest annual assessment.	Yes
TPL-002-0	All	System Performance Following Loss of a Single Bulk Electric System Element	PA, TPL	System performance under single contingency	By request – latest annual assessment.	Yes
TPL-003-0	All	System Performance Following Loss of Two or More Bulk Electric System Elements	PA, TPL	System performance under multiple contingencies	By request – latest annual assessment.	Yes

Confidential Information (including Privileged and
Critical Energy Infrastructure Information) – Has Been Removed

Std #	Requirements	Standard	Who	Purpose	Monitoring Timeframe	Applicable to City of Columbia, Missouri? Yes or No
TPL-004-0	All	System Performance Following Extreme Events Resulting in the Loss of Two or More Bulk Electric System Elements	PA, TPL	System performance under extreme contingencies	By request – latest annual assessment.	Yes
VAR-001-1	All	Voltage and Reactive Control	PSE, TOP	To ensure voltage levels, reactive flows, and reactive resources are monitored, controlled, and maintained within limits in real time to protect equipment and the reliable operation of the Interconnection.	By request – last 12 months of data.	No

Determination Summary for Possible Violations Identified in an Audit

***Regional
Tracking Number*** 07-144

Entity City of Columbia, MO

Audit Date 6/21/2007

Standard PER-002-0

Requirement R3

***Sufficient Basis
for Violation***

Factual Basis The entity has no program objectives.

***Conclusion
Violation
Summary*** The entity has no program objectives and is therefore in violation of PER-002-0, R3.1.

***NERC BOTCC
Determination*** The NERC BOTCC affirmed SERC Reliability Corporation's determination to exercise enforcement discretion to impose a zero dollar (\$0) penalty against the City of Columbia, MO, based upon the NERC BOTCC's review of the applicable requirements of the Commission approved Reliability Standards and the underlying facts and circumstances of the violations at issue.

***NERC Violation
Number*** SERC200700002

NOC Number NOC-7

NOP Number NOP-7

***FERC Docket
Number*** NP08-29-000

Determination Summary for Possible Violations Identified in an Audit

<i>Regional Tracking Number</i>	<u>07-145</u>
<i>Entity</i>	<u>City of Columbia, MO</u>
<i>Audit Date</i>	<u>6/21/2007</u>
<i>Standard</i>	<u>TPL-001-0</u>
<i>Requirement</i>	<u>R1</u>
<i>Sufficient Basis for Violation</i>	<input checked="" type="checkbox"/>
<i>Factual Basis</i>	FACT: 2007 study as submitted was incomplete. Entity does not currently perform annual assessments as verified orally by entity representatives during the compliance audit.
<i>Conclusion Violation Summary</i>	CONCLUSION: CWLD, at the time of the compliance audit, does not meet sub-requirement 1.1 because CWLD does not perform annual assessments as required by the standard.
<i>NERC BOTCC Determination</i>	The NERC BOTCC affirmed SERC Reliability Corporation's determination to exercise enforcement discretion to impose a zero dollar (\$0) penalty against the City of Columbia, MO, based upon the NERC BOTCC's review of the applicable requirements of the Commission approved Reliability Standards and the underlying facts and circumstances of the violations at issue.
<i>NERC Violation Number</i>	<u>SERC200700003</u>
<i>NOC Number</i>	<u>NOC-7</u>
<i>NOP Number</i>	<u>NOP-7</u>
<i>FERC Docket Number</i>	<u>NP08-29-000</u>

Determination Summary for Possible Violations Identified in an Audit

<i>Regional Tracking Number</i>	<u>07-146</u>
<i>Entity</i>	<u>City of Columbia, MO</u>
<i>Audit Date</i>	<u>6/21/2007</u>
<i>Standard</i>	<u>TPL-002-0</u>
<i>Requirement</i>	<u>R1</u>
<i>Sufficient Basis for Violation</i>	<input checked="" type="checkbox"/>
<i>Factual Basis</i>	FACT: 2007 study as submitted was incomplete. Entity does not currently perform annual assessments as verified orally by entity representatives during the compliance audit.
<i>Conclusion Violation Summary</i>	CONCLUSION: CWLD, at the time of the compliance audit, does not meet sub-requirement 1.1 because CWLD does not perform annual assessments as required by the standard.
<i>NERC BOTCC Determination</i>	The NERC BOTCC affirmed SERC Reliability Corporation's determination to exercise enforcement discretion to impose a zero dollar (\$0) penalty against the City of Columbia, MO, based upon the NERC BOTCC's review of the applicable requirements of the Commission approved Reliability Standards and the underlying facts and circumstances of the violations at issue.
<i>NERC Violation Number</i>	<u>SERC200700004</u>
<i>NOC Number</i>	<u>NOC-7</u>
<i>NOP Number</i>	<u>NOP-7</u>
<i>FERC Docket Number</i>	<u>NP08-29-000</u>

Determination Summary for Possible Violations Identified in an Audit

<i>Regional Tracking Number</i>	<u>07-147</u>
<i>Entity</i>	<u>City of Columbia, MO</u>
<i>Audit Date</i>	<u>6/21/2007</u>
<i>Standard</i>	<u>TPL-003-0</u>
<i>Requirement</i>	<u>R1</u>
<i>Sufficient Basis for Violation</i>	<input checked="" type="checkbox"/>
<i>Factual Basis</i>	FACT: 2007 study as submitted was incomplete. Entity does not currently perform annual assessments as verified orally by entity representatives during the compliance audit.
<i>Conclusion Violation Summary</i>	CONCLUSION: CWLD, at the time of the compliance audit, does not meet sub-requirement 1.1 because CWLD does not perform annual assessments as required by the standard.
<i>NERC BOTCC Determination</i>	The NERC BOTCC affirmed SERC Reliability Corporation's determination to exercise enforcement discretion to impose a zero dollar (\$0) penalty against the City of Columbia, MO, based upon the NERC BOTCC's review of the applicable requirements of the Commission approved Reliability Standards and the underlying facts and circumstances of the violations at issue.
<i>NERC Violation Number</i>	<u>SERC200700005</u>
<i>NOC Number</i>	<u>NOC-7</u>
<i>NOP Number</i>	<u>NOP-7</u>
<i>FERC Docket Number</i>	<u>NP08-29-000</u>

Determination Summary for Possible Violations Identified in an Audit

<i>Regional Tracking Number</i>	<u>07-148</u>
<i>Entity</i>	<u>City of Columbia, MO</u>
<i>Audit Date</i>	<u>6/21/2007</u>
<i>Standard</i>	<u>TPL-004-0</u>
<i>Requirement</i>	<u>R1</u>
<i>Sufficient Basis for Violation</i>	<input checked="" type="checkbox"/>
<i>Factual Basis</i>	FACT: 2007 study as submitted was incomplete. Entity does not currently perform annual assessments as verified orally by entity representatives during compliance audit.
<i>Conclusion Violation Summary</i>	CONCLUSION: CWLD, at the time of the compliance audit, does not meet sub-requirement 1.1 because CWLD does not perform annual assessments as required by the standard.
<i>NERC BOTCC Determination</i>	The NERC BOTCC affirmed SERC Reliability Corporation's determination to exercise enforcement discretion to impose a zero dollar (\$0) penalty against the City of Columbia, MO, based upon the NERC BOTCC's review of the applicable requirements of the Commission approved Reliability Standards and the underlying facts and circumstances of the violations at issue.
<i>NERC Violation Number</i>	<u>SERC200700006</u>
<i>NOC Number</i>	<u>NOC-7</u>
<i>NOP Number</i>	<u>NOP-7</u>
<i>FERC Docket Number</i>	<u>NP08-29-000</u>