



# **Compliance Audit Report Public Version**

**Big Rivers Electric Corporation  
NCR01180  
November 10-11, 2008**

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

**January 9, 2009**

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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.

Big Rivers Electric Corporation (BREC) was audited November 10-11, 2008 for compliance with the requirements contained in the currently mandatory and enforceable operating Reliability Standards in the 2008 NERC Compliance Monitoring and Enforcement Program (CMEP) that are applicable to BREC's registered functions. BREC is registered with SERC Reliability Corporation (SERC) as a Balancing Authority (BA), Generator Owner (GO), Interchange Authority (IA), Load-Serving Entity (LSE), Planning Authority (PA), Purchasing-Selling Entity (PSE), Resource Planner (RP), Transmission Operator (TOP), Transmission Owner (TO), Transmission Planner (TP) and Transmission Service Provider (TSP). Thirty-two Operating Standards were selected and identified to BREC as subject to review during this audit. The audit focused on documents and other evidence provided to SERC by the staff of BREC, 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.

BREC staff was requested to provide valid evidence of meeting each and every applicable requirement and sub-requirement contained in each standard that had been previously identified by SERC Compliance staff to BREC as subject to this audit. BREC staff responded by providing evidence in the form of reports, procedures, studies and other documents. BREC staff then cited specific portions of the evidence that demonstrated compliance. This evidence and the citations were documented and evaluated by the audit team to assess the level of compliance. If all of the requirements and sub-requirements of an audited standard were met, then BREC was judged to be compliant. Likewise, if any of the requirements or sub-requirements were not fully met, then BREC was judged to have a possible violation of the standard. A score of 100% is required for compliance.

The audit team found BREC to be in compliance with all of the NERC Reliability Standards in the audit scope.

## AUDIT PROCESS

The compliance audit process steps are detailed in the NERC CMEP. The NERC CMEP generally conforms to the United States Government Accountability Office Government Auditing Standards and other generally accepted audit practices.

### **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.<sup>1</sup> The audit objectives are:

- Independently review BREC compliance with the requirements of the Reliability Standards that are applicable to BREC based on the BREC registered functions.
- Validate compliance with applicable Reliability Standards from the NERC 2008 Implementation Plan list of actively monitored standards.

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<sup>1</sup> North American Electric Reliability Corporation CMEP, paragraph 3.1, Compliance Audits

- Validate evidence of self-reported violations and previous self-certifications, confirm compliance with other requirements of the Reliability Standard and review the status of associated mitigation plans.
- Document the BREC compliance culture.

### **Scope**

The scope of the audit of BREC included all monitored operating standards that are in the NERC 2008 CMEP. Based on the confirmed registration of BREC, the 32 Operating Reliability Standards previously indentified were the focus of the compliance audit. Of these 32 standards, one standard (EOP-009-0) was not applicable. This is detailed in the Audit Results section.

Note: For the 2008 compliance program, the monitoring period for the compliance audit will generally 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.

### **Confidentiality and Conflict of Interest**

Code of conduct documentation for the regional entity staff was provided to BREC in advance of the audit. Work history and conflict of interest forms submitted by each audit team member were provided to BREC upon request. SERC has confirmed that confidentiality agreements have been executed by, and are on file for SERC Industry Subject Matter Experts (ISME). BREC was given an opportunity to object to an audit team member on the basis of a possible conflict of interest or the existence of other circumstances that could interfere with the audit team member's impartial performance of duties. BREC accepted the audit team member participants with no objections.

### **On-site Audit**

BREC was contacted by letter on May 12, 2008 by SERC staff. The letter provided BREC with their initial notification of their upcoming audit in 2008, and the desire to schedule audit dates that would be acceptable to both parties. SERC staff then provided formal acknowledgement of the scheduled audit dates and requested that BREC both verify their currently registered functions and complete and return an attached Pre-Audit Survey within 30 days.

On August 15, 2008, SERC staff forwarded an Audit Detail Letter to BREC, again confirming the scheduled audit dates and confirming BREC's registered functions within SERC. The Audit Detail Letter also provided BREC with notice of the Standards in Audit Scope, Proposed Audit Schedule, Audit Team Roster (with industry affiliations), and requested that BREC Subject Matter Experts (SMEs) responsible for and knowledgeable of compliance submittals be available for interview during the audit. In addition to the Audit Detail Letter, BREC was provided with a Non-Disclosure Agreement Signature Verification for audit team members, a Pre-Audit Questionnaire, a list of Documents to be Provided or Have Available and Reliability Standard Auditor Worksheets (RSAWs) for each standard to be audited.

Interviews with SMEs were requested, in conjunction with documented evidence, to provide the audit team with additional information or clarification as a basis for professional judgment when validating compliance with Reliability Standards.

### **Methodology**

A team of auditors and ISMEs were identified and conducted the audit of BREC. The standards were grouped and scheduled for review to make the most efficient use of BREC staff's time. The audit team moderator initiated dialogue on each standard requirement and requested compliance evidence. This evidence and BREC staff's response was documented. BREC staff

was requested to show valid evidence of meeting each applicable requirement and sub-requirement contained in the 32 Operating Standards that had been previously identified by SERC to BREC as subject to this audit. BREC staff responded by providing evidence in the form of reports, procedures, studies and other documents. BREC staff would then cite specific portions of the evidence that demonstrated compliance.

This evidence and the citations were documented by the scribe on the RSAWs 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 audit team members and BREC staff until it was determined that each requirement was met by the cited evidence or other evidence offered.

Once all the evidence was presented and discussed, if BREC did not provide sufficient evidence to support a finding of compliance, then a possible violation was identified by the team and BREC staff was informed.

### ***Audit Overview***

The audit team arrived at the BREC offices at 1:40 p.m., November 10, 2008. Each member of the audit team was introduced and professional affiliation identified. The staff of BREC was introduced and general housekeeping matters explained. At 2:56 p.m., James Harrell, Senior Compliance Auditor and Audit Team Lead (ATL) began the session with an opening presentation. He reviewed the NERC compliance plan for 2008 in general, and how it applied to BREC specifically. The ATL introduced and reviewed the standards to be covered in the audit, and addressed both the expectations of BREC staff and the quality of evidence to be presented. The ATL also covered the basic procedure for the audit, and the bounding rules of conduct. BREC staff made a brief presentation describing their corporate structure and compliance program.

### ***Audit***

The review of standards began at 3:39 p.m., November 10, 2008. The audit team initially reviewed the registration status of BREC with entity staff to verify applicability of each standard. Each standard's audit began with a recitation of each requirement. BREC staff then presented evidence supporting requirement compliance, or cited evidence previously provided to the audit team. At that point, the evidence was reviewed and discussed until the team reached agreement on the evidence. By audit team consensus, a determination of compliance was reached for each of the requirements and communicated to BREC staff before proceeding to the next requirement. At that point, the team scribe would record the evidence presented to satisfy the requirement and the team's recommendation on that requirement using the RSAW.

The audit team left the BREC site at 5:30 p.m. and returned the following day at 6:50 a.m. The review of standards resumed at 7:12 a.m. and was completed at 3:10 p.m., November 11, 2008. The audit team met to review and discuss the findings. Following these discussions, the scribe collected all notes and evidence as needed and began to finalize the RSAW.

### ***Exit Briefing***

The ATL presented an exit briefing to the assembled audit team and entity staff at 3:56 p.m., November 11, 2008. This was followed by an informal response and questions from the BREC staff. The exit briefing summarized the team's preliminary conclusions, including any items of potential noncompliance or possible violation with supporting information, areas of concern, any added information required and the expected timeline for review and issuance of the audit report.

The ATL solicited both informal comments from BREC staff, along with requesting that they fill out formal feedback forms for submission to NERC and SERC.

The audit team left the BREC offices at 4:17 p.m., November 11, 2008.

### **Company Profile**

Big Rivers Electric Corporation (BREC) is a generation and transmission cooperative headquartered in Henderson, Kentucky. BREC provides the electrical needs of 3 member cooperatives, which in turn sell electricity to approximately 109,000 consumers in 22 western Kentucky counties. These member cooperatives include Kenergy Corp., Jackson Purchase Energy Corporation and Meade County Rural Electric Cooperative Corporation.

While BREC operates a transmission system, the generating units are leased to and operated by E.ON U.S. subsidiary Western Kentucky Energy (WKE). In addition, E.ON U.S. subsidiary LG&E Energy Marketing performs some balancing duties for BREC.

### **Audit Specifics**

The compliance audit was conducted November 10-11, 2008 at the BREC offices in Henderson, KY.

### **Audit Team**

<b>Audit Team Role</b>	<b>Title</b>	<b>Company</b>
Lead	Senior Compliance Auditor	SERC
Member	Compliance & Reliability Specialist	SERC
Member	Senior Compliance Auditor	SERC
Member	Compliance Auditor	SERC
Member	Director, Reliability Services	SERC
Member	SERC Industry Subject Matter Expert	Ameren
Member	SERC Industry Subject Matter Expert	Progress Energy Carolinas

### **BREC Audit Participants Title and Organization**

<b>Title</b>	<b>Organization</b>
VP, System Operations	BREC
System Engineer	BREC
System Planning, Reliability Compliance Supervisor	BREC
Supervisor of Energy Control	BREC
Communication Engineer	BREC
Manager of Transmission	BREC
Substation Operations Supervisor	BREC
Manager of Engineering & Energy Control	BREC
Compliance Specialist	BREC
System Supervisor	BREC

## AUDIT RESULTS

The audit team found BREC to be in compliance with all of the NERC Reliability Standards in the audit scope. Please see Findings Table below.

### *Findings*

<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
BAL-001-0	R1.	Compliant
BAL-001-0	R2.	Compliant
BAL-001-0	R3.	Compliant
BAL-001-0	R4.	Compliant
BAL-002-0	R1.	Compliant
BAL-002-0	R2.	N/A
BAL-002-0	R3.	Compliant
BAL-002-0	R4.	Compliant
BAL-002-0	R5.	N/A
BAL-002-0	R6.	Compliant
BAL-003-0	R1.	Compliant
BAL-003-0	R2.	Compliant
BAL-003-0	R3.	Compliant
BAL-003-0	R4.	Compliant
BAL-003-0	R5.	Compliant
BAL-003-0	R6.	Compliant
BAL-004-0	R1.	N/A
BAL-004-0	R2.	N/A
BAL-004-0	R3.	Compliant
BAL-004-0	R4.	N/A
BAL-005-0	R1.	Compliant
BAL-005-0	R2.	Compliant
BAL-005-0	R3.	Compliant
BAL-005-0	R4.	Compliant
BAL-005-0	R5.	Compliant
BAL-005-0	R6.	Compliant
BAL-005-0	R7.	Compliant
BAL-005-0	R8.	Compliant
BAL-005-0	R9.	Compliant
BAL-005-0	R10.	Compliant
BAL-005-0	R11.	Compliant
BAL-005-0	R12.	Compliant
BAL-005-0	R13.	Compliant
BAL-005-0	R14.	Compliant
BAL-005-0	R15.	Compliant
BAL-005-0	R16.	Compliant

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

<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
BAL-005-0	R17.	Compliant
BAL-006-1	R1.	Compliant
BAL-006-1	R2.	Compliant
BAL-006-1	R3.	Compliant
BAL-006-1	R4.	Compliant
BAL-006-1	R5.	Compliant
CIP-001-1	R1.	Compliant
CIP-001-1	R2.	Compliant
CIP-001-1	R3.	Compliant
CIP-001-1	R4.	Compliant
CIP-002-1 through CIP-009-1	All	
COM-001-1	R1.	Compliant
COM-001-1	R2.	Compliant
COM-001-1	R3.	Compliant
COM-001-1	R4.	Compliant
COM-001-1	R5.	Compliant
COM-001-1	R6.	Compliant
COM-002-2	R1.	Compliant
COM-002-2	R2.	Compliant
EOP-001-0	R1.	Compliant
EOP-001-0	R2.	Compliant
EOP-001-0	R3.	Compliant
EOP-001-0	R4.	Compliant
EOP-001-0	R5.	Compliant
EOP-001-0	R6.	Compliant
EOP-001-0	R7.	Compliant
EOP-002-2	R1.	Compliant
EOP-002-2	R2.	Compliant
EOP-002-2	R3.	Compliant
EOP-002-2	R4.	Compliant
EOP-002-2	R5.	Compliant
EOP-002-2	R6.	Compliant
EOP-002-2	R7.	Compliant
EOP-002-2	R8.	N/A
EOP-002-2	R9.	Compliant
EOP-003-1	R1.	Compliant
EOP-003-1	R2.	Compliant
EOP-003-1	R3.	Compliant
EOP-003-1	R4.	Compliant
EOP-003-1	R5.	Compliant
EOP-003-1	R6.	Compliant
EOP-003-1	R7.	Compliant

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<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
EOP-003-1	R8.	Compliant
EOP-004-1	R1.	N/A
EOP-004-1	R2.	Compliant
EOP-004-1	R3.	Compliant
EOP-004-1	R4.	N/A
EOP-004-1	R5.	N/A
EOP-005-1	R1.	Compliant
EOP-005-1	R2.	Compliant
EOP-005-1	R3.	Compliant
EOP-005-1	R4.	Compliant
EOP-005-1	R5.	Compliant
EOP-005-1	R6.	Compliant
EOP-005-1	R7.	Compliant
EOP-005-1	R8.	Compliant
EOP-005-1	R9.	Compliant
EOP-005-1	R10.	Compliant
EOP-005-1	R11.	Compliant
EOP-006-1	R1.	N/A
EOP-006-1	R2.	N/A
EOP-006-1	R3.	N/A
EOP-006-1	R4.	N/A
EOP-006-1	R5.	N/A
EOP-006-1	R6.	N/A
EOP-008-0	R1.	Compliant
EOP-009-0	R1.	N/A
EOP-009-0	R2.	N/A
FAC-003-1	All	N/A
FAC-008-1	All	N/A
FAC-009-1	All	N/A
FAC-013-1	All	N/A
INT-001-2	R1.	Compliant
INT-001-2	R2.	Compliant
INT-003-2	R1.	Compliant
INT-004-1	R1.	Compliant
INT-004-1	R2.	Compliant
IRO-001-1	R1.	N/A
IRO-001-1	R2.	N/A
IRO-001-1	R3.	N/A
IRO-001-1	R4.	N/A
IRO-001-1	R5.	N/A
IRO-001-1	R6.	N/A
IRO-001-1	R7.	N/A

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<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
IRO-001-1	R8.	Compliant
IRO-001-1	R9.	N/A
IRO-003-2	R1.	N/A
IRO-003-2	R2.	N/A
IRO-004-1	R1.	N/A
IRO-004-1	R2.	N/A
IRO-004-1	R3.	Compliant
IRO-004-1	R4.	Compliant
IRO-004-1	R5.	N/A
IRO-004-1	R6.	N/A
IRO-004-1	R7.	Compliant
IRO-005-1	R1.	N/A
IRO-005-1	R2.	N/A
IRO-005-1	R3.	N/A
IRO-005-1	R4.	N/A
IRO-005-1	R5.	N/A
IRO-005-1	R6.	N/A
IRO-005-1	R7.	N/A
IRO-005-1	R8.	Compliant
IRO-005-1	R9.	N/A
IRO-005-1	R10.	N/A
IRO-005-1	R11.	N/A
IRO-005-1	R12.	N/A
IRO-005-1	R13.	Compliant
IRO-005-1	R14.	Compliant
IRO-005-1	R15.	N/A
IRO-005-1	R16.	N/A
IRO-005-1	R17.	N/A
IRO-006-3	R1.	N/A
IRO-006-3	R2.	N/A
IRO-006-3	R3.	N/A
IRO-006-3	R4.	N/A
IRO-006-3	R5.	N/A
IRO-006-3	R6.	Compliant
IRO-014-1	R1.	N/A
IRO-014-1	R2.	N/A
IRO-014-1	R3.	N/A
IRO-014-1	R4.	N/A
IRO-015-1	R1.	N/A
IRO-015-1	R2.	N/A
IRO-015-1	R3.	N/A
IRO-016-1	R1.	N/A

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<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
IRO-016-1	R2.	N/A
PER-002-0	R1.	Compliant
PER-002-0	R2.	Compliant
PER-002-0	R3.	Compliant
PER-002-0	R4.	Compliant
PER-003-0	R1.	Compliant
PER-004-1	R1.	N/A
PER-004-1	R2.	N/A
PER-004-1	R3.	N/A
PER-004-1	R4.	N/A
PER-004-1	R5.	N/A
PRC-004-1	All	N/A
PRC-005-1	All	N/A
PRC-008-0	All	N/A
PRC-010-0	All	N/A
PRC-011-0	All	N/A
PRC-016-0	All	N/A
PRC-017-0	All	N/A
PRC-021-1	All	N/A
TOP-002-2	R1.	Compliant
TOP-002-2	R2.	Compliant
TOP-002-2	R3.	Compliant
TOP-002-2	R4.	Compliant
TOP-002-2	R5.	Compliant
TOP-002-2	R6.	Compliant
TOP-002-2	R7.	Compliant
TOP-002-2	R8.	Compliant
TOP-002-2	R9.	Compliant
TOP-002-2	R10.	Compliant
TOP-002-2	R11.	Compliant
TOP-002-2	R12.	Compliant
TOP-002-2	R13.	N/A
TOP-002-2	R14.	N/A
TOP-002-2	R15.	N/A
TOP-002-2	R16.	Compliant
TOP-002-2	R17.	Compliant
TOP-002-2	R18.	Compliant
TOP-002-2	R19.	Compliant
TOP-003-0	R1.	Compliant
TOP-003-0	R2.	Compliant
TOP-003-0	R3.	Compliant
TOP-003-0	R4.	N/A

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<b>Reliability Standard</b>	<b>Requirement</b>	<b>Finding</b>
TOP-004-1	R1.	Compliant
TOP-004-1	R2.	Compliant
TOP-004-1	R3.	Compliant
TOP-004-1	R4.	Compliant
TOP-004-1	R5.	Compliant
TOP-004-1	R6.	Compliant
TOP-005-1	R1.	Compliant
TOP-005-1	R2.	Compliant
TOP-005-1	R3.	Compliant
TOP-005-1	R4.	Compliant
TOP-007-0	R1.	Compliant
TOP-007-0	R2.	Compliant
TOP-007-0	R3.	Compliant
TOP-007-0	R4.	N/A
TPL-001-0	All	N/A
TPL-002-0	All	N/A
TPL-003-0	All	N/A
TPL-004-0	All	N/A
VAR-001-1	R1.	Compliant
VAR-001-1	R2.	Compliant
VAR-001-1	R3.	Compliant
VAR-001-1	R4.	Compliant
VAR-001-1	R5.	Compliant
VAR-001-1	R6.	Compliant
VAR-001-1	R7.	Compliant
VAR-001-1	R8.	Compliant
VAR-001-1	R9.	Compliant
VAR-001-1	R10.	Compliant
VAR-001-1	R11.	Compliant
VAR-001-1	R12.	Compliant
VAR-002-1	R1.	N/A
VAR-002-1	R2.	N/A
VAR-002-1	R3.	N/A
VAR-002-1	R4.	Compliant
VAR-002-1	R5.	Compliant

***Compliance Culture***

Information regarding the compliance culture of BREC was obtained from the Pre-Audit Compliance Survey, Compliance Program Survey, and Pre-Audit Questionnaires that were completed by BREC prior to the audit.