



Compliance Audit Report Public Version

**Alcoa Power Generating, Inc. –
Yadkin Division
NCR01169
September 8-10, 2008**

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

October 27, 2008

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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.

Alcoa Power Generating, Inc. – Yadkin Division (Yadkin) was audited September 8-10, 2008 for compliance with the requirements contained in the currently mandatory and enforceable Reliability Planning Standards in the 2008 NERC Compliance Monitoring and Enforcement Program (CMEP) that are applicable to Yadkin's registered functions. Yadkin is registered with SERC Reliability Corporation (SERC) as a Balancing Authority (BA), Transmission Owner (TO), Transmission Service Provider (TSP), Transmission Operator (TOP), Transmission Planner (TP), Resource Planner (RP), Generator Operator (GOP), Generator Owner (GO), Load-Serving Entity (LSE) and Planning Authority (PA). Sixteen planning standards were selected and identified to Yadkin as subject to review during this audit. The audit focused on documents and other evidence provided to SERC by the staff of Yadkin, 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.

Yadkin 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 Yadkin as subject to this audit. Yadkin staff responded by providing evidence in the form of reports, procedures, studies and other documents. Yadkin 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 Yadkin was judged to be compliant. Likewise, if any of the requirements or sub-requirements were not fully met, then Yadkin was judged to have a possible violation of the standard. A score of 100% is required for compliance.

Yadkin was found to be in compliance with all but one of the planning standards that were audited. The audit team identified a possible violation of PRC-005-1 Transmission and Generation Protection System Maintenance and Testing, Requirement 1. The evidence presented was deficient in the following items: the document "Alcoa Power Generating Inc. Yadkin Division, Transmission and Generations Protection Systems Maintenance and Testing Program", current version dated 7/14/03, revision dated 5/5/05, specifically covers all of the requirements except DC control circuitry. The audit team has identified this possible violation as a documentation only issue.

The audit team determined that Yadkin does not own or operate UVLS or UFLS equipment, Special Protection Systems, transmission lines 200 kV or above and is not registered for blackstart capabilities. Therefore, seven of the originally identified standards are not applicable to Yadkin, including: FAC-003-1, PRC-008-0, PRC-010-0, PRC-011-0, PRC-016-0, PRC-017-0 and PRC-021-1.

Yadkin recently closed a mitigation plan regarding NERC Reliability Standard BAL-005-0 Automatic Generation Control, Requirement 17. The audit team reviewed the mitigation plan completion documentation to ensure compliance.

A copy of the Notice Of Penalty (NOP) can be found at the following link:
http://www.nerc.com/filez/enforcement/FinalFiled_NOP_NOC-407.pdf

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.¹ The audit objectives are:

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

Scope

The scope of the audit of Yadkin included all monitored standards that are in the NERC 2008 CMEP. Based on the confirmed registration of Yadkin, the 16 Reliability Planning Standards previously identified were the focus of the compliance audit. Of these 16 standards, 7 standards, FAC-003-1, PRC-008-0, PRC-010-0, PRC-011-0, PRC-016-0, PRC-017-0 and PRC-021-1 were 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 were provided to Yadkin in advance of the audit. Work history and conflict of interest forms submitted by each audit team member were provided to Yadkin upon request. SERC has confirmed that confidentiality agreements have been executed by, and are on file for SERC Industry Volunteers. Yadkin 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. Yadkin accepted the audit team member participants with no objections.

On-site Audit

Yadkin was contacted by letter on March 26, 2008 by SERC staff. The letter provided Yadkin 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 Yadkin both verify their

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

currently registered functions and complete and return an attached Pre-Audit Survey within 30 days.

On June 12, 2008, SERC staff forwarded an Audit Detail Letter to Yadkin, again confirming the scheduled audit dates and confirming Yadkin's registered functions within SERC. The Audit Detail Letter also provided Yadkin with notice of the Standards in Audit Scope, Proposed Audit Schedule, Audit Team Roster (with industry affiliations), and requested that Yadkin 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, Yadkin 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 SMEs were identified and conducted the audit of Yadkin. The planning standards were grouped and scheduled for review to make the most efficient use of Yadkin staff's time. The audit team moderator (Audit Team Lead) initiated dialogue on each standard requirement and requested compliance evidence. This evidence and Yadkin's staff response was documented. Yadkin staff was requested to show valid evidence of meeting each applicable requirement and sub-requirement contained in the 16 planning standards that had been previously identified by SERC to Yadkin as subject to this audit. Yadkin staff responded by providing evidence in the form of reports, procedures, studies, and other documents. Yadkin 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 team members and Yadkin staff members 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 Yadkin did not provide sufficient evidence to support a finding of compliance, then a possible violation was identified by the team and Yadkin staff was informed.

Audit Overview

The audit team arrived at the Yadkin offices at 3:14 p.m., September 8, 2008. Each member of the audit team was introduced and professional affiliation identified. The staff of Yadkin was introduced, and general housekeeping matters explained. At 3:34 p.m., the 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 Yadkin specifically. The ATL introduced and reviewed the standards to be covered in the audit, and addressed both the expectations of Yadkin 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. Yadkin staff made a brief presentation describing Yadkin's corporate structure and compliance program. The audit team left the site at 4:45 p.m.

Audit

The audit team arrived at the site at 7:44 a.m., September 9, 2008. The audit began at 8:03 a.m., and the audit team initially reviewed the registration status of Yadkin with entity staff to verify applicability of each standard. Each standard's audit began with a recitation of each requirement. Yadkin 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 Yadkin 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 site at 4:45 p.m.

The audit team returned to the site at 7:38 a.m., September 10, 2008 to review a recently closed mitigation plan, as well as additional evidence the team had requested the prior day. The audit resumed at 8:00 a.m., and the review of all applicable standards was completed at 8:54 a.m., at which time 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 9:07 a.m., September 10, 2008. This was followed by an informal response and questions from the Yadkin 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 Yadkin staff, along with requesting that they fill out formal feedback forms for submission to NERC and SERC.

The audit team left the Yadkin offices at 9:37 p.m., September 10, 2008.

Company Profile

Alcoa Power Generation, Inc. (APGI) is a wholly owned subsidiary of Alcoa, Inc. and falls under the USA Region of Alcoa Global Primary Products. APGI has eight divisions led by the Vice President of Hydro Operations, including the Yadkin division.

The Yadkin system includes four hydroelectric generating plants along the Yadkin River within the state of North Carolina, with an approximate capacity of 210 MW and nearly 18 miles of 100 kV transmission lines. There are interconnections with Duke Energy and Progress Energy Carolinas. Yadkin's system load consists of a single customer, the Alcoa production facility located in Badin, North Carolina.

Audit Specifics

The compliance audit was conducted September 8-10, 2008 at the APGI offices in Alcoa, TN (outside Knoxville).

Audit Team

Audit Team Role	Title	Company
Lead	Senior Compliance Auditor	SERC
Member	Compliance Auditor	SERC
Member	Compliance Auditor	SERC
Member	SERC Industry Subject Matter Expert	MEAG

Yadkin Audit Participants Titles and Organizations

Title	Alcoa Organization
Vice President	Alcoa Primary Metals
Manager, Regional Affairs - Energy	Alcoa Primary Metals
Compliance Manager	APGI
Power System Reliability Coordinator	APGI – Warrick Division
Electrical Engineer	APGI - Tapoco
Tapoco Technical Manager	APGI - Tapoco
Chief, Power System Dispatch	APGI
Shift Supervisor	APGI - Yadkin
Technical Manager	APGI - Yadkin
Senior Staff Electrical Engineer	APGI - Yadkin
Consultant	HRS Consulting

AUDIT RESULTS

Yadkin was found to be in compliance with all but one of the planning standards in the audit scope. The audit team identified a possible violation of PRC-005-1 Transmission and Generation Protection System Maintenance and Testing, Requirement 1. Please see Findings Table below.

Findings

Reliability Standard	Requirement	Finding
BAL-001-0	All	N/A
BAL-002-0	All	N/A
BAL-003-0	All	N/A
BAL-004-0	All	N/A
BAL-005-0	All	N/A
BAL-006-1	All	N/A
CIP-001-1	All	N/A
CIP-002-1 through CIP-009-1	All	N/A
COM-001-1	All	N/A

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Reliability Standard	Requirement	Finding
COM-002-2	All	N/A
EOP-001-0	All	N/A
EOP-002-2	All	N/A
EOP-003-1	All	N/A
EOP-004-1	All	N/A
EOP-005-1	All	N/A
EOP-006-1	All	N/A
EOP-008-0	All	N/A
EOP-009-0	All	N/A
FAC-003-1	All	N/A
FAC-008-1	R1.	Compliant
FAC-008-1	R2.	Compliant
FAC-008-1	R3.	Compliant
FAC-009-1	R1.	Compliant
FAC-009-1	R2.	Compliant
FAC-013-1	R1.	Compliant
FAC-013-1	R2.	Compliant
INT-001-2	All	N/A
INT-003-2	All	N/A
INT-004-1	All	N/A
IRO-001-1	All	N/A
IRO-003-2	All	N/A
IRO-004-1	All	N/A
IRO-005-1	All	N/A
IRO-006-3	All	N/A
IRO-014-1	All	N/A
IRO-015-1	All	N/A
IRO-016-1	All	N/A
PER-002-0	All	N/A
PER-003-0	All	N/A
PER-004-1	All	N/A
PRC-004-1	R1.	Compliant
PRC-004-1	R2.	Compliant
PRC-004-1	R3.	Compliant
PRC-005-1	R1.	Possible Violation
PRC-005-1	R2.	Compliant
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

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Reliability Standard	Requirement	Finding
TOP-002-2	All	N/A
TOP-003-0	All	N/A
TOP-004-1	All	N/A
TOP-005-1	All	N/A
TOP-007-0	All	N/A
TPL-001-0	R1.	Compliant
TPL-001-0	R2.	Compliant
TPL-001-0	R3.	Compliant
TPL-002-0	R1.	Compliant
TPL-002-0	R2.	Compliant
TPL-002-0	R3.	Compliant
TPL-003-0	R1.	Compliant
TPL-003-0	R2.	Compliant
TPL-003-0	R3.	Compliant
TPL-004-0	R1.	Compliant
TPL-004-0	R2.	Compliant
VAR-001-1	All	N/A
VAR-002-1	All	N/A

Compliance Culture

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