Compliance Audit Report
Public Version

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

Jersey Central Power & Light
NCR00806

Date of Audit
October 28-29, 2008

Date of Report
February 2, 2009

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Executive Summary

This 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.

Reliability*First* scheduled Jersey Central Power & Light (JCP&L) for an onsite audit of its compliance to the NERC Reliability Standards and the Reliability*First* Regional Standards that apply to JCP&L for the functions that it performs within the Reliability*First* area as part of the NERC Compliance Monitoring and Enforcement Program (CMEP). The audit team reviewed the material provided by JCP&L in response to the 60 day notification Reliability*First* provided requesting data and information to develop its compliance findings. The Reliability*First* audit team reviewed the material and developed the preliminary results on JCP&L's compliance to the standards.

The audit team assessed compliance with 28 NERC Standards, which JCP&L is registered to perform in the Reliability*First* area. The 28 NERC Standards include 52 requirements that apply to the functions of Distribution Provider (DP), Generation Owner (GO), Load Serving Entity (LSE), Purchasing Selling Entity (PSE), and Transmission Owner (TO). The audit team also assessed compliance with one Reliability*First* Regional Standard that applies to JCP&L. Of the 28 standards, 5 standards and 9 associated requirements were determined to be not applicable to JCP&L.

After reviewing all of the evidence presented, JCP&L was found to be compliant with 22 of 23 NERC Standards and 42 of 43 requirements that apply to JCP&L for the functions for which it is registered in the Reliability*First* Region. It was also found to be compliant with the one Regional Standard.

Evidence provided was insufficient to show that JCP&L uses the most limiting element in determining its generator ratings. Documentation was incomplete and ambiguous in some cases. JCP&L was found to be in a Possible Alleged Violation (PAV) with NERC Standard FAC-009-1, R1 (Establish and Communicate Facility Ratings). The Audit Team believes that the generator rating used is likely correct and that this is a documentation deficiency issue.

The PAV will be reported to the Reliability*First* Vice President & Director – Compliance and NERC. It will be processed through the Reliability*First*'s NERC Compliance Monitoring and Enforcement Program. JCP&L will receive letters from Reliability*First* concerning the next steps in the process.

There were no ongoing mitigation plans and therefore none were reviewed by the audit team.

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:

- Review JCP&L's compliance with the requirements of the reliability standards that are applicable to JCP&L based on JCP&L's 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 JCP&L's compliance culture
- Validate compliance with other NERC standards outside the 2008 implementation plan as selected by Reliability*First*
- Validate compliance with applicable Reliability*First* reliability standards that apply to JCP&L

Scope

This audit was conducted on those standards which were provided by NERC for monitoring in the 2008 CMEP Implementation Plan. Reliability*First* also monitors all applicable Reliability*First* standards, self certifications, and mitigation plans as appropriate for the period of June 18, 2008 through the date of the audit.

Confidentiality and Conflict of Interest

Confidentiality and Conflict of Interest of the audit team are governed under the Reliability*First* Delegation Agreement with NERC and the NERC Rules of Procedure Section 1500. The audited entity was informed of the Reliability*First* obligations and responsibilities under the agreement and procedures. The work history for each audit team member was provided to the audited entity. The audited entity 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. The audited entity did

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

not submit any objections by the stated fifteen day objection due date and by this action has accepted the audit team member participants without objections. A last minute replacement of one of the audit team members was also accepted by the audited entity. Reliability*First* found no conflict of interest for any of the audit team members.

On-site Audit

JCP&L is subject to an audit once every three years as provided by the NERC Rules of Procedure. JCP&L was provided 60 day notification of this scheduled audit and at that time all necessary documents required by the NERC and Reliability*First* audit process were provided. The following documents were provided as part of the notification:

- 60 day Notification letter which contained request for evidence, information, and date submittals
- Audit Survey
- Audit Agenda as applicable
- Internal Compliance Survey
- Audit Team Work History with discussion of objection process
- General Instructions of Data or Information Submittals
- Reliability Standard Auditor Worksheets (RSAWs)
- Reliability Standard Questionnaires

Documents were provided to JCP&L in both electronic and hardcopy format.

Reliability*First* discussed the use of technical experts with the JCP&L primary compliance contact and indicated that Reliability*First* would welcome the use of technical experts by JCP&L as it deemed necessary to explain their compliance to the standards. As such, JCP&L had been notified to provide any technical experts or personnel that it deemed necessary in order to provide the Audit Team an understanding of the evidence provided to meet compliance.

An audit agenda and/or schedule was provided to JCP&L in advance to allow the necessary time to prepare for the audit. JCP&L cooperation and flexibility with the agenda was appreciated by the audit team.

This audit was conducted at the FirstEnergy Corp. (FE) Metropolitan Edison Company (Met-Ed) offices using material provided by JCP&L. The audit team reviewed JCP&L compliance processes for all applicable standards with JCP&L technical experts and requested additional information to clarify information previously supplied to the team. These interviews in conjunction with evidence provided, supplied the audit team with a basis for using professional judgment when validating compliance to the reliability standards.

Methodology

The audit team reviewed the evidence provided by JCP&L for each of the requirements that apply to the functions performed by the company to determine if the company complied with

those standards and associated requirements. The team reviewed each requirement, discussed the levels of compliance and addressed each team member's observations from the audit to determine its findings from the review.

Audit Overview

An Opening Briefing was conducted to discuss the following:

- Introduction of audit team
- Audit Objective and Scope
- Team Audit Expectations
- Discussion on Clarification Calls
- Audit Process
- Exit Briefing and schedule

Audit

The audit team reviewed each requirement to determine if JCP&L was compliant to the requirement. The team discussed its findings to determine JCP&L's compliance to each of the standards. Upon request, JCP&L provided additional information or clarified existing information during the review of its material with their subject matter experts.

Cooperation and flexibility with the agenda was appreciated by the audit team.

Exit Briefing

The audit team presented its preliminary findings to the JCP&L staff. The team lead explained the findings from the audit. The exit presentation also covered the reporting process going forward, and audit feedback forms that the region is using to improve their audit process. In addition, the audit team identified recommendations on quality of evidence that was reviewed. JCP&L was provided an opportunity to ask questions that the audit team addressed.

Company Profile

JCP&L performs the following NERC function in the Reliability*First* region and is registered with NERC/Reliability*First* for the following functions:

- Distribution Provider (DP)
- Generator Owner (GO)
- Load Serving Entity (LSE)
- Purchasing Selling Entity (PSE)
- Transmission Owner (TO)

JCP&L is a subsidiary of FirstEnergy Corp. (FE), which is operated from a single control center along with two other subsidiaries, Pennsylvania Electric Company (Penelec) and Metropolitan Edison Company (Met-Ed). All three operating companies essentially function as one entity in the PJM footprint commonly referred to as FE East. Penelec and Met-Ed have the same NERC functions as JCP&L, except for the GO function. Therefore, each company has a separate written report but some evidence identified later in this report will overlap these companies. The separate reports do cover common operations, procedures, documentation, equipment, and personnel.

FE East serves northern, western, south central, and eastern Pennsylvania (Met-Ed and Penelec), as well as northern and central New Jersey (JCP&L).

FE East operates an extensive Bulk Electric System consisting of the following transmission voltages:

BES Voltage	Line Mileage
500 kV	566 miles
345 kV	148 miles
230 kV	1819 miles
138 kV	14 miles
115 kV	1971 miles

FE East has 57 synchronous Bulk Electric System transmission tie-lines to 10 neighboring transmission system entities. It also has 1 HVDC tie-line.

Peak load for FE East is 12,754 MW.

JCP&L serves 1,087,395 customers and is a 50% joint owner in the Yards Creek Pumped Storage Hydroelectric Station which is located in northwestern New Jersey.

Audit Specifics

The compliance audit was conducted on October 28 – 29, 2008 at the Met-Ed office in Reading, PA.

Audit Team

Audit Team Role	Title	Company
Lead	Manager of Compliance Program Implementation	Reliability*First* Corporation
Member	Senior Consultant	Reliability*First* Corporation
Member	Senior Engineer	Reliability*First* Corporation

Audit Team Role	Title	Company
Member	Senior Engineer	Reliability*First* Corporation
Member	Consultant	Scott Porteous & Associates

JCP&L Audit Participants

Title	Co.
Director, Transmission Ops	FE
Supervisor, ED Planning and Protection	FE
Supervisor, Transmission	FE
Supervisor, ED Planning and Protection	FE
Manager, ED Substation Maintenance	FE
Director, Planning and Protection	FE
Supervisor, RCS	FE
Director, FERC Compliance	FE
Manager Generation Support	FE
VP Energy Delivery	FE
Sr. Reg Sys Operator/RCS	FE
Senior Engineer	FE
Adv. Engineer, Transmission Ops	FE
Exec. VP and President, FE Utilities	FE
Manager Transmission System Dispatching	FE
Asst. Transmission Specialist	FE
Director, Transmission Initiatives	FE
Sr. Engineer, Transmission Planning and Protection	FE
Consultant, FERC Compliance	FE
Regional President, Met-Ed	FE
Supervisor, Power Network Analysis	FE
Manager, Planning and Protection	FE
Adv Security Representative	FE
Real Time Systems	FE
Transmission Ops Support	FE
Sr. Reg Sys Operator/RCS	FE
Supervisor, ED Planning and Protection	FE
RTO Policy Manager	FE
Transmission Shift Supervisor	FE
Manager, Corporate Forestry Services	FE
Manager, JCP&L Commodity Sourcing	FE
Manager, Transmission Planning and Protection	FE
Supervisor Compliance Procedure Training	FE

Title	Co.
Administrative Asst	FE
Manager, PA Reg Commodity Sourcing	FE
Forestry Transmission Specialist	FE
Transmission Ops Support	FE
Director, ED Vegetation Management	FE
Supervisor, Substation Maintenance	FE
Director, RCS	FE
Reliability Compliance Manager	FE
Transmission Ops Support, Supervisor	FE
Vice President, FERC Policy and Chief FERC Compliance Officer	FE
Staff Analyst	FE

Audit Results

The audit team reviewed 28 NERC Standards that apply to the functions of Distribution Provider (DP), Generator Owner (GO), Load Serving Entity (LSE), Purchasing Selling Entity (PSE), and Transmission Owner (TO) which include 52 requirements that apply to those functions. One Reliability*First* Regional Standard applies to JCP&L.

Of the 28 NERC standards, 5 standards and 9 associated requirements were determined to be not applicable to JCP&L. After reviewing all of the evidence presented, JCP&L was found to be compliant with 22 of 23 NERC Standards and 42 of 43 requirements that apply to JCP&L for the functions for which it is registered in the Reliability*First* Region. It was also found to be compliant with the one Regional Standard.

JCP&L was found to be in a Possible Alleged Violation (PAV) with NERC Standard FAC-009-1, R1 (Establish and Communicate Facility Ratings). The evidence was insufficient to show that JCP&L uses the most limiting element in determining its generator ratings. Documentation was incomplete and ambiguous in some cases. The Audit Team believes that the generator rating used is likely correct and that this is a documentation deficiency issue.

Findings

The following table details the auditor findings relating to evidence reviewed for compliance as identified in the audit scope. The table includes details, section and page numbers noted by the auditor relating to the evidence reviewed for compliance to the reliability standard and associated requirements.

JCP&L On-site Audit Findings Table

Reliability Standard	Requirement	Finding
BAL-005-0	R1	Compliant
CIP-001-1	R1	Compliant
CIP-001-1	R2	Compliant
CIP-001-1	R3	Compliant
CIP-001-1	R4	Compliant
EOP-004-1	R2	Compliant
EOP-004-1	R3	Compliant
EOP-009-0	R2	Compliant
FAC-003-1	R1	Compliant
FAC-003-1	R2	Compliant
FAC-003-1	R3	Compliant
FAC-008-1	R1	Compliant
FAC-008-1	R2	Compliant
FAC-008-1	R3	Compliant
FAC-009-1	R1	PAV
FAC-009-1	R2	Compliant
INT-001-2	R1	NA
INT-004-1	R1	NA
INT-004-1	R2	NA
IRO-001-1	R8	Compliant
IRO-004-1	R4	Compliant
IRO-005-1	R13	Compliant
MOD-010-0	R1	Compliant
MOD-010-0	R2	Compliant
MOD-012-0	R1	Compliant
MOD-012-0	R2	Compliant
MOD-017-0	R1	Compliant
MOD-019-0	R1	Compliant
PRC-004-1	R1	Compliant
PRC-004-1	R2	Compliant
PRC-004-1	R3	Compliant
PRC-005-1	R1	Compliant
PRC-005-1	R2	Compliant
PRC-008-0	R1	Compliant
PRC-008-0	R2	Compliant
PRC-010-0	R1	NA
PRC-010-0	R2	NA
PRC-011-0	R1	NA
PRC-011-0	R2	NA
PRC-016-0	R1	Compliant

Reliability Standard	Requirement	Finding
PRC-016-0	R2	Compliant
PRC-016-0	R3	Compliant
PRC-017-0	R1	Compliant
PRC-017-0	R2	Compliant
PRC-021-1	R1	NA
PRC-021-1	R2	NA
TOP-002-2	R3	Compliant
TOP-002-2	R18	Compliant
TOP-005-1	R4	Compliant
VAR-001-1	R5	Compliant
VAR-002-1	R4	Compliant
VAR-002-1	R5	Compliant
BAL-502-RFC-01		Compliant

Compliance Culture

Senior management attended the opening and exit briefing presentations. JCP&L provided documentation to demonstrate its compliance to the requirements of the applicable standards. The documentation was complete and in order such that the audit team could reasonably determine JCP&L compliance to the applicable requirements. JCP&L provided additional evidence and clarifications in a timely manner when requested by the audit team. JCP&L completed the Compliance Audit Questionnaire, individual Pre-Audit Questionnaires for each applicable standard, and the documentation section of the NERC Reliability Standard Audit Worksheets.

The compliance program addresses all NERC Reliability Standards and all applicable Regional Standards including CIP standards. Responsibility to implement the compliance program extends to every employee of every business unit with responsibility to meet the standards.

FirstEnergy Corp. is working to build a strong compliance culture that drives for continuous improvement. The FE Reliability & Compliance Policy establishes the specific expectations for active management oversight and employee engagement in maintaining a compliance culture. FE management fosters and maintains a culture that ensures reliable and compliant operations at each of its facilities and encourages individuals to identify improvement opportunities.

A FERC Policy & Compliance Group was formed in late 2006 and is headed by the FERC Chief Compliance Officer who reports directly to the Executive VP and President, FE Utilities. The significance of establishing a broad group focused on developing and implementing strong reliability and regulatory compliance programs, with direct reporting responsibility to the

Executive VP and President, FE Utilities signifies the overall priority and importance attached to these initiatives by senior management. This group provides an internally independent organization for corporate reliability and provides compliance oversight for all aspects of FE's compliance initiatives, self-assessments, and reporting requirements.

The guidance by corporate management and training provided strengthen the FE compliance program. There have been numerous communications to educate employees on Reliability Compliance and how it relates to their jobs.

JCP&L's staff was able to supply additional evidence of compliance in a timely manner when requested by the Audit Team. Its quick response to additional questions is evidence of a comprehensive compliance program.

CONFIDENTIAL

January 15, 2009

Stanley F. Szwed
Vice President/Chief FERC Compliance Officer
76 South Main Street
Akron, Ohio 44308

RE: Disposition of Finding of a Possible Violation during Compliance Audit of JCP&L
NRC #00806
(Conducted October 2008)

Dear Mr. Szwed:

In accordance with the NERC Rules of Procedure (including Appendix 4C) and in conformity with the Reliability*First* Compliance Monitoring and Enforcement Program ("CMEP"), Sections 3.11 and 5.0, Reliability*First* Corporation ("Reliability*First*") hereby notifies FirstEnergy and Jersey Central Power & Light ("JCP&L") that Reliability*First* has completed their assessment of the possible alleged violation of FAC-009-1 Requirement 1 ("Requirement") identified by the Reliability*First* Audit Team and has determined that insufficient reasonable basis exists to support an alleged violation.

Although the Reliability*First* Audit Team cited a failure of JCP&L to produce a clear and concise document to demonstrate compliance to the Requirement as the basis of the possible alleged violation, Reliability*First*, upon review of the documents provided at the time of audit as well as subsequent summary documents encapsulating the same information previously provided, finds that an alleged violation did not occur and that JCP&L is compliant to the Requirement and no further action will be taken by Reliability*First* with regards to this matter.

On October 28 and 29, 2008, Reliability*First* performed an on-site Compliance Audit of JCP&L of all NERC Reliability Standards applicable to JCP&L on the basis of their status on the NERC Compliance Registry as a Distribution Provider ("DP"), Generator Owner ("GO"), Load Serving Entity ("LSE"), Purchasing Selling Entity ("PSE"), and Transmission Owner ("TO"). NERC Reliability Standard FAC-009-1 (Effective Date October 7, 2006) is applicable to Transmission Owners and Generator Owners and therefore is applicable to JCP&L.

Requirement 1 of FAC-009-1 states,

> *"The Transmission Owner and Generator Owner shall each establish Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings Methodology."*

As part of the Compliance Audit, JCP&L provided Reliability*First* with various documents in an effort to demonstrate compliance to the Requirement with regards to their Yards Creek facility ("YC"). Among the JCP&L documents provided to the Audit Team received were the following:

Document Title	Document Date
RCS-FAC-009-1	Revision 1 – September 26, 2008
Kittatiny Yards Creek K03 Line Rating	September 16, 2008
Yards Creek 2007 NDC Tests	May 2007
YC MW Limitation Study 10-2006	October 26, 2006
YC Nameplate Doc Circuit Breakers	September 19, 2008
YC Nameplate Doc Generators	September 19, 2008
YC Nameplate Doc Step-up Transformers	September 19, 2008
YC Station one line drawings	September 25, 2008
Yards Creek (Line Diagram)	January 1, 1999

The Audit Team found that, upon review and inspection of the documents provided, JCP&L had not clearly demonstrated compliance to the Requirement, specifically that the identification of the most limiting element (as required by the JCP&L Methodology and FAC-008-1, Requirement 1.1) could not be confirmed. The Audit Team believed that although the identification of the generator as the limiting factor based on the hydrology limitations as presented by JCP&L was likely correct, the lack of a summary document that may have aided to draw that conclusion based on a comparison of elements using a common unit base (e.g., Amps, MVA, etc.) prevented the Audit Team from easily arriving at a finding of compliance to the Requirement. The Audit Team did, however, indicate that JCP&L was likely correct in their limiting element identification and any deficiency was only a documentation deficiency and not a serious reliability risk.

On October 31, 2008, in an attachment to a letter from Stanley Szwed of FirstEnergy (on behalf of JCP&L) to Raymond Palmieri, Vice President and Director of Compliance of Reliability*First*, a "Facility Ratings and Limiting Element Summary" sheet was provided listing the Bulk Electric System ("BES") elements with ratings in uniform units for easy comparison. Mr. Szwed further stated in the October 31, 2008 letter that the values and ratings contained within the summary sheet were "extracted from existing facility information."

On November 25, 2008, Robert Wargo, Manager of Compliance Enforcement at Reliability*First*, along with three members of his enforcement staff, met with representatives of FirstEnergy (including Mr. Szwed) to discuss the summary sheet information as part of the Reliability*First* possible alleged violation review and assessment process. Representatives of FirstEnergy were able to clearly demonstrate to Reliability*First* the transfer (and unit conversion) of information from the documents provided to the Compliance Audit Team into the summary sheet (Yards Creek Station Ratings) provided by Mr. Szwed in his October 31, 2008 letter. In addition,

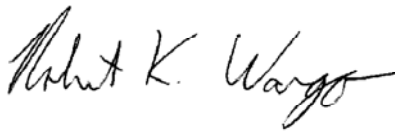
FirstEnergy provided a revised summary sheet to Reliability*First* during the November 25, 2008 meeting, for elements, although not major BES elements, were components of interest to the Compliance Audit Team (see attached Summary Sheet – Date November 25, 2008).

Reliability*First*, based on the discussions with FirstEnergy and the summary documents provided, has determined that an alleged violation of the Requirement does not exist and no further action regarding this matter is to be taken. Reliability*First* believes that if this information had been presented in this manner at the time of the Compliance Audit a finding of compliance to the standards would have been reached. Although the summary documents provide to Reliability*First* include language such as "provided to Audit Team" and "requested by audit team", it is Reliability*First's* understanding that the preparation and maintenance of the summary tables themselves will be an on-going institutionalized process and not an audit-time task in satisfaction of an audit team request.

JCP&L and FirstEnergy are cautioned, however, that registered entities have the burden of providing sufficient evidence to demonstrate compliance during a regularly scheduled compliance audit. FAC-008-1 and the JCP&L Ratings Methodology are quite clear; the most limiting piece of equipment must be identified. The absence of a clear and concise document listing each pertinent piece of equipment in comparable measurement units prevents Compliance Audit Teams from easily ascertaining compliance. JCP&L and FirstEnergy should keep in mind that a Compliance Audit Team will never have the depth of knowledge and expertise regarding the registered entities facilities, equipment, procedures, terminology, etc, that the registered entity themselves possess. It is incumbent upon registered entities to provide their evidence of compliance in an easily understood and concise manner that will allow a Compliance Audit Team to readily determine the state of compliance to a particular standard and requirement. Reliability*First* expects that this experience will provide both JCP&L and FirstEnergy valuable guidance on that issue.

A copy of this disposition will be attached to the Compliance Audit Report. If you have any questions regarding this matter, please do not hesitate to contact me.

Respectfully submitted,



Robert K. Wargo
Reliability*First* Corporation
Manager of Compliance Enforcement

Cc: Reliability*First*

Tim Gallagher – President
Raymond Palmieri – Vice President and Director of Compliance
Gary Campbell – Manager of Compliance Audit
Jim Uhrin – Manager of Compliance Program Implementation
Megan Mahany – Compliance Enforcement Specialist
Stephanie Davis – Compliance Enforcement Specialist
David Coyle – Compliance Enforcement Specialist

FirstEnergy (JCP&L)

Tom Burgess – Director of FERC Compliance

Att: Yards Creek Station Ratings (November 25, 2008)

Yards Creek Station "Major BES Equipment Ratings" provided to Audit Team (Summary of Original Documentation)

Item No.	Element	Rating (MVA)	Ratings (amps)	Ratings (Source)
1	Transmission Line	650		K03 Database 257 °F Design Temperature
2	Substation Circular Conductor			
2a	Seg 3-12	786		K03 Database 257 °F Design Temperature
2b	Seg 6-2	1245		K03 Database 257 °F Design Temperature
2c	Seg 2-7	1301		K03 Database 257 °F Design Temperature
2d	Seg 1-8	2489		K03 Database 257 °F Design Temperature
2e	Seg 1-7	2956		K03 Database 257 °F Design Temperature
2f	Seg 2-8	2959		K03 Database 257 °F Design Temperature
3	Sub-Station Circuit Breakers	1661		K03 Database 257 °F Design Temperature
4	Relays			
4a	Mho Relay	744		K03 Database 257 °F Design Temperature
4b	DFR	956		K03 Database 257 °F Design Temperature
4c	KD	956		K03 Database 257 °F Design Temperature
4d	KC4 (Seg 2-3)	1912		K03 Database 257 °F Design Temperature
4e	KC4 (Seg 1-3)	1912		K03 Database 257 °F Design Temperature
5	Meters	956		K03 Database 257 °F Design Temperature
6	Disconnect Switches			
6a	Seg 3-10	721		K03 Database 257 °F Design Temperature
6b	Seg 1-5, 1-6, 2-5, 2-6)	1442		K03 Database 257 °F Design Temperature
7	Current Transformer			
7a	Seg 1-2 & 2-2	999		K03 Database 257 °F Design Temperature
7b	Seg 2-4	1079		K03 Database 257 °F Design Temperature
7c	Seg 1-4	1664		K03 Database 257 °F Design Temperature
8	GSU	144		Nameplate Limiting Electrical Component
9	Generator	154		Nameplate
10	Generator SF6 Circuit Breaker	*(1255)*	3150 amps	YC Nameplate Doc Circuit Breakers.pdf
11	230 kV Disc Switch	*(478)*	1200 amps	Yards Creek One Line Drawings
12	Generate/Pump Mode Reversal Switch	*(478)*	1200 amps	Yards Creek One Line Drawings
13	Hydrology Limitations	140/140/120		400 MVA rated Yards Creek Limiting Facility Rating

Yards Creek Equipment Ratings Summary with additional components requested by audit team

Item No.	Element	Rating (MVA)	Ratings (amps)	Ratings (Source)
1	Generator	154		Nameplate
2	Generator leads, bushings, bus	150	6000 amps	Main One Line Diagram G-168642
3	Reactor (Running) Switch (2)	75	3000 amps	Main One Line Diagram G-168642
4	CTs (2)	75	3000 amps	Main One Line Diagram G-168642
5	Meters	637	1600 amps	FE EDPP Relay and Meter Data Manual
6	Relays			
6a	HA	174.5	7000 amps	Generator Differential Relay Vendor Manual
6b	CEX	227	9100 amps	Out of Step & Aux Relay Vendor Manual
6c	NAA	419	16800 amps	Out of Step & Aux Relay Vendor Manual
6d	CFW	174.6	7000 amps	Generator Differential Relay Vendor Manual
6e	KLF	279	11200 amps	Generator Differential Relay Vendor Manual
6f	CO-2 (diff)	n/a	n/a	Current Balance Relay Vendor Manual
6g	CO-2	1198	3008 amps	Phase Overcurrent Relay Vendor Manual
6h	COQ	174.6	7000 amps	Negative Phase Seq. Relay Vendor Manual
7	Main Generator Bus Isophase Bus	150	6000 amps	Westinghouse Drawings 119D465, 123D767, & 123D768
8	CTs	175	7000/5	Main One Line Diagram G-168642
9	GSU	144		Nameplate Limiting Electrical Component
10	GSU 795 ACSR Bus	424		K03 Database
11	CTs	478	1200/5	Main One Line Diagram G-168642
12	Relays			
12a	HU tap 3.8	515	1293 amps	Gen/Xfmr Differential Relay Vendor Manual
12b	HU tap 4.2	524	21000 amps	Gen/Xfmr Differential Relay Vendor Manual
13	230 kV Disc Switch	478	1200 amps	H.K. Porter Comp. Drawing T-137367x13
14	SF6 Circuit Breaker	1255	3150 amps	Main One Line Diagram G-168642-01 & YC Nameplate Doc Circuit Breakers.pdf
15	230 kV 795 ACSR Bus	424		K03 Database
16	Generate/Pump Mode Reversal Switch	478	1200 amps	H.K. Porter Comp. Drawing T-137367x13
17	4" SPS AL Bus Conductor	1237		K03 Database
18	1590 ACSR Strain Conductor	650		K03 Database 257 °F Design Temperature
0	Hydrology Limitations	140/140/120		400 MVA rated Yards Creek Limiting Facility Rating