



MIDWEST
RELIABILITY
ORGANIZATION



NERC BA Certification Final Report

Southwest Power Pool (SPP), NCR01143

Site Visit Conducted
November 5-6, 2013

Final Report Date
February 6, 2014

RELIABILITY | ACCOUNTABILITY



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Table of Contents

Table of Contents.....	2
Introduction.....	3
Certification Team.....	3
Objective and Scope.....	3
Overall Conclusion.....	3
Certification Team Determinations.....	4
Items that Required Completion.....	4
Findings.....	4
Positive Observations.....	4
Company History – Background.....	4
Corporate.....	4
SERC’s CMEP Relationship with SPP.....	4
System Overview.....	5
Company Details – Operating Facility.....	5
Control Center/SCADA System Description.....	5
Documentation List.....	5
Attachment 1 – Certification Team.....	6
SERC Certification Team.....	6
SPP Personnel.....	6
Attachment 2 – Certification Process Steps.....	8
Documentation Review.....	8
Applications Review.....	8
Attachment 3 – Items Required to be Completed for Operation.....	9

Introduction

This report presents the results of the SERC Reliability Corporation led Certification Team's (CT) efforts to endorse Southwest Power Pool (SPP) (NCR01143) as a Balancing Authority (BA) in the Southwest Power Pool Regional Entity (SPP RE) and Midwest Reliability Organization (MRO) areas of responsibility certified by the North American Electric Reliability Corporation (NERC). This Certification was due to the consolidation of 16 SPP area Balancing Authorities into a single Balancing Authority to be operated by SPP.

The BA operates within the metered boundaries that establish the Balancing Authority Area. Every generator, transmission facility, and end-use customer is in a Balancing Authority Area. The BA's mission is to maintain the balance between loads and resources in real time within its BA Area by keeping its actual interchange equal to its scheduled interchange and meeting its frequency bias obligation. The load-resource balance is measured by the BA's Area Control Error (ACE). NERC's Reliability Standards require that the Balancing Authority maintain its ACE within acceptable limits.

Maintaining resource-demand balance within the Balancing Authority Area requires four types of resource management, all of which are the Balancing Authority's responsibility:

- Frequency control through tie-line bias
- Regulation service deployment
- Load-following through economic dispatch
- Interchange implementation

Certification Team

Following notification of Southwest Power Pool's request for Certification and Registration, which was received on August 9, 2012 as a BA, a CT was formed and a Certification evaluation date was selected to perform an on-site visit. The rosters for members of both the CT and the Southwest Power Pool participants are listed in Attachment 1.

Objective and Scope

The objective of the CT evaluation was to assess Southwest Power Pool's processes, procedures, tools, training, and personnel that allow it to perform the function of a BA. The scope of the evaluation included:

1. Interviewing Southwest Power Pool's management and reviewing pertinent documentation for verification of basic requirements for BA operation;
2. Reviewing procedures and other documentation developed by Southwest Power Pool to meet the applicable Standards/Requirements;
3. Interviewing Southwest Power Pool system operations personnel;
4. Reviewing Southwest Power Pool's primary capabilities, Energy Management System (EMS), communication facilities, operator displays, etc.; and
5. Performing other validation reviews as considered necessary.

An on-site review was held at the Southwest Power Pool's primary Control Center (PCC) on November 5-6, 2013.

Overall Conclusion

The Certification process was completed in reasonable accordance with the NERC Rules of Procedure (ROP) to determine if Southwest Power Pool has the necessary processes, procedures, tools, training, and personnel to perform the function as a NERC-certified BA. Southwest Power Pool presented evidence related to the applicable Standards/Requirements for the CT to review. Based on this evidentiary review, the CT has reasonable assurance that Southwest Power Pool has the processes, procedures, tools, training, and personnel in place to reliably perform the BA function.

Therefore, the CT recommends that SERC Reliability Corporation (SERC) and Midwest Reliability Organization (MRO) approve Certification of Southwest Power Pool as a NERC-certified BA, and forward such approval to NERC for final review and approval.

The CT found the Southwest Power Pool operators to be equipped with the necessary operating tools, and they are prepared to perform the BA operations. All of Southwest Power Pool's operators are NERC-certified operators.

Certification Team Determinations

The CT found that Southwest Power Pool is prepared and qualified to operate as a NERC-certified BA based on its review of the evidence presented by Southwest Power Pool. The CT recommends that Southwest Power Pool be certified by NERC to operate as a BA.

Items that Required Completion

At the conclusion of the site visit, it was agreed that certain items required completion prior to the Certification of SPP as a BA; and a tentative schedule for completion was agreed upon. The list of these items is included as Attachment 3. As noted in Attachment 3, evidence of completion of these items was provided to the CT for review and confirmation. Each item was closed to the satisfaction of the CT prior to the issuance of this Final Report.

Findings

No findings, which would prevent SPP from being certified as a NERC-certified BA, were identified by the CT as of the issuance of this Final Report.

Positive Observations

The CT noted the following positive aspects that will enhance Southwest Power Pool's performance as a BA:

1. Executive officers of the company attending the Certification presentations show support at the highest levels.
2. Continued unstructured testing to include the transition from Daylight Savings Time.
3. Outstanding situation awareness tools for BA Console.
 - a. Unit dispatch delta bar graph
 - b. Ability to drill down to substation single line from alarm page
 - c. Pre-populating log book from the alarm page
 - d. Ability to share log book entries with other consoles
 - e. Tie Line Validation display
4. Majority of BA operators and supervision have BA experience.

Company History – Background

Corporate

In North America, Southwest Power Pool is one of nine Independent System Operators/Regional Transmission Organizations (ISOs/RTOs) and one of eight NERC Regional Entities. SPP is mandated by the Federal Energy Regulatory Commission to ensure reliable supplies of power, adequate transmission infrastructure, and competitive wholesale prices of electricity. ISOs/RTOs are the "air traffic controllers" of the electric power grid. ISOs/RTOs do not own the power grid; they independently operate the grid minute-by-minute to ensure that power gets to customers and to eliminate power shortages.

SERC's CMEP Relationship with SPP

When FERC conditionally approved the delegation agreements of the eight Regional Entities, it expressed concern over potential conflicts of interest in several of the Regional Entities affiliated with a Registered Entity; and directed NERC to remedy these independence concerns by either assuming the compliance oversight itself or to find alternative parties. In this way the Regional Entity that also had Registered Entity functions would not monitor compliance of its own Registered Entity functions.

As a result of this, the SERC-SPP Agreement was approved by FERC on July 12, 2010. This provided that SERC would act as Compliance Enforcement Authority for matters where SPP was also the Registered Entity. (*Order Conditionally Accepting Compliance Monitoring and Enforcement Program Agreements and Revised Delegation Agreements, and Ordering Compliance Filing*, 132FERC/61,024 Docket No. RR10-7-000, issued July 12, 2010)

System Overview

The SPP BA is part of SPP's move to an Integrated Marketplace model of resource management. The Integrated Marketplace includes establishing a Day-Ahead Market, Day-Ahead Reliability Unit Commitment, Intra-Day Real-Time Unit Commitment, a Real-Time Balancing Market, and Market Settlement. The SPP BA consolidates the independent operation of 16 SPP area BAs into one consolidated Balancing Authority Area to implement these changes.

Company Details – Operating Facility

Control Center/SCADA System Description

The BA operations is located at SPP's Chenal Operations Center in Little Rock, AR, and is staffed by 7 Balancing Coordinators (BC) who operate on a rotating schedule. These operators primarily utilize a Market Operations System (MOS) and Energy Management System (EMS), which includes RTGEN capability and Automatic Generation Control (AGC). These tools, and others, are utilized to monitor Operating, Regulating, and Contingency Reserves in multiple Reserve Zones. This information includes load forecasts from multiple providers, hourly expected wind output forecast, hourly total wind power forecast, and generation and transmission outage information supplied by a CROW system. The BC monitors the deployment of reserves; and works with the TOP, GOP, and LSE to resolve issues. The SPP BC also coordinates its current-day, next-day, and seasonal operations with its TOP; and participates in the planned outage coordination of transmission and generation equipment. During emergencies, the BC will coordinate with the TOP and RC to immediately take action to restore Real and Reactive Power balance.

Documentation List

Copies of all of the supporting SPP documents were collected as evidence of SPP's preparedness, and will be kept as a record of evidence to support the CT's recommendation. These documents will be retained at the SERC offices in Charlotte, NC for a period of six (6) years.

None of the documents listed below are included with the distribution of this Final Report. Per the NERC Rules of Procedure, and due to the confidential nature of this material, these documents are available for review at the SERC offices after proper authorization is obtained through SERC and NERC:

- SPP BA Questionnaire
- SPP BA Master Matrix
- SPP's various BA evidence files
- Presentations made by the CT and SPP
- Internal Compliance Program and Internal Controls Documentation

Attachment 1 – Certification Team

SERC Certification Team

Table 1: BA Certification Team		
Name	Position	Organization
Fred Rains	Lead	SERC Reliability Corporation
Mike Kuhl	Member	SERC Reliability Corporation
Lonnie Ratliff	Member	SERC Reliability Corporation
Steve Corbin	Member	SERC Reliability Corporation
Jeff Rooker	Observer	SPP RE
Jim Williams	Observer	SPP RE
Mike Cruz-Montes	Member	CenterPoint Energy
Chris Wakefield	Member	Southern Company
David Dockery	Member	Associated Electric Cooperative, Inc.
Russ Mountjoy	Member	MRO
Ryan Mauldin	Member	NERC
Denise Hunter	Member	NERC

SPP Personnel

Table 2: SPP Personnel Participants	
Name	Position
Philip Propes	Director, Compliance
C.J. Brown	Manager, System Operations - Systems Operations
Carl Stelly	Manager, Balancing Authority Administration
Jimmy Womack	Manager, Operations Analysis and Performance Support
Sherry Farrow	Senior Performance Support Trainer - Operations Analysis & Performance Support
Darrell Anthony	Shift Supervisor - Systems Operations
Glenn Bethea	Senior Balancing Coordinator - Systems Operations
Jim Price	Senior Balancing Coordinator - Systems Operations
Lesley Bingham	Senior Security Analyst
Jason Smith	Manager, Operations Analysis and Engineering Support
Will Tootle	Supervisor, Operational Planning - Operational Planning
Robert Garcia	Lead Network/Telecom Security Administrator

Ryan McCon	Lead Network /Telecom Security Administrator
Chris Karmales	Engineer II - Tariff Administration & AFC Support EIT Program
Scott Jordan	Lead Engineer - Transmission Engineering & Modeling
Shari Brown	Manager, Tariff and Administration
Lonnie Lindekugel	Lead Compliance Analyst BA/IM
Mark Robinson	Lead Compliance Analyst, Operations
Jonathan Hayes	Senior Compliance Analyst Engineering
Alison Hayes	Senior Compliance Analyst/Tariff and Criteria
Melissa Rinehart	Compliance Analyst II
Kim Van Brimer	Compliance Outreach Coordinator
Kevin Molder	Security Analyst II
Keith Dover	Technical Documentation Specialist II

Attachment 2 – Certification Process Steps

Documentation Review

Using professional judgment, the CT reviewed the BA Questionnaire, the BA Master Matrix, and requested documents to determine the submitted documentation provided assurance that SPP has the processes, procedures, tools, training, and personnel to operate as a NERC-certified BA.

The BA Master Matrix is a spreadsheet created using the VRF Matrix available on NERC's website under the Standards link and eliminating all functions other than the BA function. Using the BA Master Matrix spreadsheet, the CT cataloged the documentation evidence provided by SPP. The spreadsheet contains all the applicable NERC Standards and associated Requirements for an entity to be evaluated as a NERC-certified BA. In the Certification Process, the CT inserted the appropriate SPP document references in which evidence provided by SPP met the applicable Standards and Requirements.

Applications Review

The on-site visit focused on reviewing documentation, evaluating control centers' configurations, interviewing of SPP's operators, and evaluating the BA EMS and MOS applications and operator toolsets that SPP has available for its operators.

Attachment 3 – Items Required to be Completed for Operation

All items listed below requiring completion prior to the certification of SPP as a BA were closed to the satisfaction of the CT prior to the issuance of this Final Report.

1. Evidence of completion of AGC dispatch testing
2. Syllabus and training records to validate BC training, including protection system knowledge and job tasks
3. Finalized copy of SPP BA EOP 100313
4. Two examples of Mitigation Plans (Op Guides)
5. Finalized copy of a BA – BA First Tier non-RSG Neighbor Coordination agreement