NERC BA Certification
Final Report
Constellation Energy Control and Dispatch (CSTO)
NCRXXXXX

Site Visit Conducted
July 30-31, 2013

Final Report Date
August 27, 2013
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**Introduction**

This report presents the results of the WECC led Certification Team's (CT) efforts to endorse Constellation Energy Control and Dispatch (CSTO) (NCRXXXXX) as a Balancing Authority (BA) in the WECC Region certified by the North American Electric Reliability Corporation (NERC).

The BA operates within the metered boundaries that establish the BA 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 CSTO’s request for certification and registration as a BA, a CT was formed and a review date was selected to perform an on-site visit. The rosters for members of both the CT and the CSTO participants are listed in Attachment 1.

**Objective and Scope**

The objective of the CT review was to assess CSTO’s processes, procedures, tools, training and personnel that allow it to perform the function of a BA. The scope of the review included:

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

An on-site review was held at the CSTO’s Primary Control Center (PCC) on July 30-31, 2013.
Overall Conclusion
The certification process was completed in reasonable accordance with the NERC Rules of Procedure (ROP) to determine if CSTO has the necessary processes, procedures, tools, training and personnel to perform the function as a NERC-certified BA. CSTO presented evidence related to the applicable standards/requirements for the CT to review. Based on this evidentiary review, the CT has reasonable assurance that CSTO has the processes, procedures, tools, training and personnel in place to reliably perform the BA function.

Therefore, the CT recommends that Western Electricity Coordinating Council (WECC) approve the certification of CSTO as a NERC-certified BA, and forward such approval to NERC for final review and approval.

The CT found the CSTO operators to be equipped with the necessary operating tools, and they are prepared to perform the BA operations. CSTO currently has sixteen system operators which are all NERC-certified.

Certification Team Determinations

Items that Required Completion
At the conclusion of the site visit, two items were agreed that required completion prior to the certification of CSTO as a BA and a schedule for completion was agreed. The list of these items are 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 CSTO 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 CSTO's performance as a BA:

1. CSTO documentation and presentation
   a. CSTO used the Versify database
2. Average age of the system operators provide for above average longevity period of employment
3. CSTO project team efficiency
   a. Morning staff meetings
4. Evacuation plans and back-up capabilities for the loss of the PCC
5. Management support of operators
6. Operators have a strong sense of management support
Company History – Background

Corporate
Constellation Energy, an Exelon Company, based in Baltimore, Maryland, is the parent company of Constellation Energy Control and Dispatch, LLC (CECD). CECD is a NERC Registered Balancing Authority (Constellation Energy Control and Dispatch, LLC – BRAZ), and is also a Balancing Authority and Transmission Operator services provider on behalf of ten (10) registered Balancing Authorities and (3) Transmission Owners.

System Overview
Constellation Energy Control and Dispatch, LLC is expanding its Balancing Authority services by establishing a Constellation Energy Control and Dispatch, LLC (CSTO) NERC Registered Balancing Authority.

The CSTO Balancing Authority will consist of dynamically transferred generation from Mid-Columbia (Mid-C) hydroelectric projects and Calpine’s Hermiston Power, LLC generation facility (HERM). The dynamically transferred generation from Mid-C, represents generation capacity that was auctioned by Chelan PUD and Grant County PUD.

Generation capacity from Chelan PUD, from Rocky Reach and Rock Island generating facilities, was awarded to Constellation Energy Commodities Group (CCG). The generation capacity will be dynamically transferred via pseudo-tie to the CSTO Balancing Authority.

Generation capacity from Grant County PUD, from Priest Rapids and Wanapum, was awarded to Iberdrola (IBER). The generation capacity will be dynamically transferred via pseudo-tie to the CSTO Balancing Authority.

Calpine’s Hermiston generating facility, a natural gas fired combined cycle facility with two combustion turbines and one steam turbine will be a metered boundary for the CSTO BA. The generating facility is interconnected to the BPA Balancing Authority.

CSTO is projected to initiate operations with only the CCG Balancing Authority Area footprint on September 1, 2013, with the HERM and IBER Balancing Authority Area footprints forecasted to initiate operations within the CSTO BA on October 1, 2013.

Company Details – Operating Facility

Control Center/SCADA System Description
CECD operates from a control center in Houston, Texas, which is staffed 24 x 7 with appropriately NERC certified System Operators and utilizes redundant data centers in Maryland. CECD uses an Alstom Energy Management System to operate the Balancing Authority, monitor actual interchange and scheduled interchange, calculate ACE, calculate CPS, calculate DCS, monitor frequency, and monitor contingency reserves.
Documentation List

Copies of all of the supporting CSTO documents were collected as evidence of CSTO’s preparedness, and will be kept as a record of evidence to support the CT’s recommendation. These documents will be retained at the WECC offices in Salt Lake City, Utah for a period of six 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 WECC offices after proper authorization is obtained through WECC and NERC:

- CSTO BA Questionnaire
- CSTO BA Master Matrix
- CSTO various BA evidence files
- Presentations made by the CT and CSTO
- Internal Controls Documentation
## Attachment 1 – Certification Team

### BA Certification Team

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul W. Rice: CTL</td>
<td>Assistant Director, Operations</td>
<td>WECC</td>
</tr>
<tr>
<td>Clyde Melton</td>
<td>Senior Engineer of Organization Registration &amp; Certification</td>
<td>NERC</td>
</tr>
<tr>
<td>Dave Thomas</td>
<td>WECC RC Operations Compliance Specialist</td>
<td>WECC</td>
</tr>
<tr>
<td>Albert Peters</td>
<td>Section Leader</td>
<td>Arizona Public Service</td>
</tr>
<tr>
<td>Timothy Reynolds</td>
<td>Reliability Vulnerability Staff Specialist</td>
<td>WECC</td>
</tr>
<tr>
<td>Matt Hunsaker</td>
<td>Manager Operations</td>
<td>WECC</td>
</tr>
</tbody>
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### CSTO Personnel

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>James Thompson</td>
<td>Managing Director, Control Area</td>
</tr>
<tr>
<td>Denise Ayers</td>
<td>Managing Director, OPS &amp; Dispatch</td>
</tr>
<tr>
<td>CJ Ingersoll</td>
<td>Manager Compliance</td>
</tr>
<tr>
<td>David Jones</td>
<td>Manager, Dispatch</td>
</tr>
<tr>
<td>Nick Hall</td>
<td>Associate, CCG MGMT SVCS</td>
</tr>
<tr>
<td>James MacQueen</td>
<td>Lead Analyst, IT</td>
</tr>
<tr>
<td>Kendall Wyatt</td>
<td>Lead, Dispatcher</td>
</tr>
<tr>
<td>Aaron Stewart</td>
<td>Lead, Dispatcher</td>
</tr>
</tbody>
</table>
Attachment 2 – Certification Process Steps

Documentation Review
Using the BA Questionnaire, BA Master Matrix and documents requested based on professional judgment, the CT reviewed the appropriate documentation that provided reasonable assurance that CSTO has the processes, procedures, tools, training and personnel to operate as a NERC-certified BA.

The BA Questionnaire template is available on NERC’s website. 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 CSTO. 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 CSTO document references in which evidence provided by CSTO met the applicable Standards and Requirements.

Applications Review
The site visit focused on documentation review, interview of CSTO’s operators, and evaluation of the BA applications and operator toolset that CSTO has available for their operators. Finally, the CT reviewed CSTO’s online applications that are used to perform the BA requirements.

Attachment 3 – Items Required to be Completed for Operation
All items listed below requiring completion prior to the certification of CSTO as a BA were closed to the satisfaction of the CT prior to the issuance of this Final Report:

1. CSTO will provide the certification team with completed operator training logs for the CSTO BA - PER-005-1
   a. Documentation presented, reviewed and approved on: August 26, 2013

2. CSTO will provide the certification team with documentation that the development EMS screens have been moved into Production and are operational - TOP-006-2
   a. Documentation presented, reviewed and approved on: August 26, 2013