FRCC
AGENT OPERATIONAL AUDIT REPORT

FLORIDA RELIABILITY COORDINATING COUNCIL

May 15, 2005
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FRCC AGENT OPERATIONAL AUDIT REPORT

1.0 Introduction

The Security Process for the FRCC Bulk-Power Electric System was created to ensure the reliability of the FRCC Region and defines the roles and responsibilities of the FRCC Security Coordinator (SC). The FRCC is the Security Coordinator for the FRCC Region and utilizes agents to carry out the functions of the Security Coordinator.

The Monitoring Procedures for FRCC Agents, adopted in April 1998 by the FRCC Board of Directors and last revised in December 2003, require an operational audit of each FRCC Security Process Agent every two years. The last operational audit was performed in early 2002. The operational audit that was scheduled for October 29, 2004 was delayed due to the four hurricanes experienced in Florida during August and September.

2.0 Purpose and Scope

The FRCC Agent Audit Task Force was charged with auditing the FRCC Security Coordinator Agents and the FRCC Security Process. The FRCC Security Process identifies three primary functions of the Security Coordinator. These functions are the Real Time Operating Function, the Operations Planning Function, and the State Capacity Emergency Coordination Function. The agent performing the State Capacity Emergency Coordination function has changed since the last operational audit performed in 2002. At that time Progress Energy Florida performed that function. Florida Power and Light took over this responsibility in January 2004.

The FRCC Security Process Agents are:

- Real-Time Operating Function: Florida Power & Light Company
- Operations Planning Function: Progress Energy Florida
- State Capacity Emergency Coordination Function: Florida Power & Light Company

As a result of the August 14, 2003 northeast blackout, NERC implemented a Readiness Audit program for Reliability Coordinators and Control Areas. FRCC was scheduled for a NERC Reliability Coordinator Readiness Audit the week of October 25, 2004 preceding the FRCC Agent Audit. NERC also delayed the Readiness Audit until 2005 due to the hurricanes experienced.

The scope of the operational audit includes the following primary activities:

- Review of the FRCC Security Process for needed change
- Request of comments on performance of FRCC Agents from entities operating in the FRCC Region
- An on-site visit to review the FRCC Agents internal procedures for fulfilling its responsibilities and duties
The Audit Task Force did not perform an on-site visit of the Progress Energy Florida (PEF) facilities during this audit. Since PEF is now only performing the Operations Planning function, the audit team determined it would be more efficient to have the PEF personnel travel to the Florida Power & Light (FPL) facilities for interview purposes. The task force was satisfied that PEF had demonstrated in past on-site visits that there were sufficient procedures and processes used in fulfilling their responsibilities so it was not necessary to perform the on-site portion of the audit at PEF this year.

3.0 Executive Summary

The Audit Task Force found no problems or concerns related to the FRCC Agent’s performance of their responsibilities. The task force reviewed previous Agent Audit Reports and found that issues identified in the past have been appropriately addressed. It was apparent to the task force that both FPL and PEF take their FRCC Agent responsibility very seriously and work to perform the functions in the most efficient and effective manner possible.

The recommendations resulting from this 2005 Agent Audit are primarily directed to the FRCC. The task force has included 14 recommendations that the FRCC should consider to improve and enhance its security process. While there is no priority implied in the order of the recommendations, the task force believes that several of the recommendations are more important in terms of protecting the reliability of the FRCC Bulk Electric System. Others are included for enhancement or clarification of processes that exist today. The task force believes that the FRCC should evaluate all of the recommendations, and prioritize them for implementation based on reliability needs.

4.0 Operational Audit Task Force Membership

The Monitoring Procedures for FRCC Agents require that each industry sector utilizing the functions performed by the FRCC Agent(s) shall be appropriately represented on the task force. Past audits have included an Observer from the Florida Public Service Commission staff. They were asked to participate this year, and due to budgetary constraints along with a satisfaction on the process from participating in previous audits, declined to actively participate in this year’s audit. The task force members were as follows:

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<tr>
<th>Name</th>
<th>Industry/Position</th>
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<tbody>
<tr>
<td>Linda Campbell</td>
<td>FRCC, Chair</td>
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<tr>
<td>*Mike Antonell</td>
<td>Reliant Energy Services</td>
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<tr>
<td>*Wally Whiting</td>
<td>Florida Energy Marketing (OUC/FMPP)</td>
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<tr>
<td>Eric Grant</td>
<td>Progress Energy Florida</td>
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<tr>
<td>Bernie Budnik</td>
<td>Reedy Creek Improvement District</td>
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<tr>
<td>Alan Gale</td>
<td>City of Tallahassee</td>
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<td>Steve Wallace</td>
<td>Seminole Electric Cooperative</td>
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<td>*Jose Quintas</td>
<td>Tampa Electric Company</td>
</tr>
<tr>
<td>*Tom Deedy</td>
<td>Calpine Corporation</td>
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<tr>
<td>Amy Long</td>
<td>FRCC (observer)</td>
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</table>
Donna Howard  FRCC (observer)
(* indicates Merchant Function Participant)

5.0 Audit Process and Procedure

As in past agent audits, the task force members agreed to the following governance:

Each member of the task force will have one vote. The Chair votes only in the event of a tie. A quorum of six (6) members is required for voting with a majority to pass. The final report will be a majority view; however, any task force member may include an unedited minority opinion in the report.

Each member of the task force executed both a FRCC Confidentiality Agreement for Security Coordinator Audit and a NERC Confidentiality Agreement for NERC Readiness Audit Team. The NERC confidentiality agreement was required by NERC to enable use of information collected in their Readiness Audit process.

Prior to the on-site visit, a question arose regarding possible FERC concerns related to merchant employees participating on the Agent Audit Task Force. FERC staff was contacted to provide guidance on this issue. The audit process was described in detail and documents were provided for review to enable FERC staff to make a determination. However, FERC staff did not respond to our request for guidance, so a decision was made to allow the merchant representatives to participate, but to not allow them into the FPL control room. This was done strictly as a precautionary measure, and this issue should be further explored for future audits.

Notification was made to all FRCC members of the pending audit to request comments and concerns regarding the performance of each FRCC Security Process Agent. A letter was sent to the members of the FRCC Engineering Committee, Operating Committee, Market Interface Committee, and the FRCC Board of Directors on February 9, 2005. Market participants were encouraged to provide comments that would be included in the final report and a request for market participant input was also placed on the FRCC Website. The FRCC did not receive any comments from market participants. The task force agreed that anonymous comments would not be posted or included in the final report.

To begin the data collection process, a letter was sent to both FPL and PEF requesting specific information be provided to the task force prior to the on-site visit. An Adjacent Security Coordinator Audit Questionnaire was also sent to the Security Coordinator for the Southern sub-region of SERC. In addition, since the audit task force intended to utilize information collected as part of the NERC Reliability Coordinator Readiness Audit, the task force reviewed the response to the Reliability Coordinator Readiness Audit Questionnaire. NERC also sent questionnaires to each of the Operating Authorities in the FRCC to gather information from their perspective. The task force received the responses to each of these submittals as well. After review of all the...
information received, the task force developed an additional data request for each agent and asked that the responses be provided at the on-site visit.

An on-site visit to the FPL control center was scheduled. PEF was asked to send their representative for the Operations Planning function to the FPL control center. The on-site visit took place on Friday March 11, 2005.

6.0 Observations and Discussions

The task force specifically recognizes and expresses its appreciation to the FRCC agents for their openness, honesty, and responsiveness in answering some very difficult questions and in responding to data requests. The agent’s cooperation made the task easier and allowed the task force to do a thorough and effective audit in a condensed time frame.

The Audit Task Force found no problems or concerns related to the FRCC Agent’s performance of their responsibilities. It was apparent to the task force that both FPL and PEF take their FRCC Agent responsibility very seriously and work to perform the functions in the most efficient and effective manner possible.

A part of the audit preparation was the review of previous Agent Audit Reports. The task force was pleased to discover that issues identified in the past audits have been appropriately addressed. The task force noted several positive observations that demonstrated the agent’s commitment to fulfilling their responsibility. Among the positive observations are:

- FPL management commitment to providing training to their system operators above and beyond that to meet system operator certification requirements
- Development of customized Energy Management System (EMS) applications to help facilitate FRCC focus for the System Operators performing the Security Coordinator function
- Development of a one hour delay for their emergency backup EMS updating process, designed to identify and prevent replication of problems or errors experienced on the primary EMS

7.0 Recommendations

The audit reviewed both; the agents performance of the Security Coordination functions, and the FRCC Security Process. The task force found no deficiencies in the agent’s performance; however, the task force identified several areas where recommendations for the FRCC were appropriate. The Task Force presents the following recommendations to enhance the FRCC Security Process:

1. FPL has built a completely redundant emergency backup facility that is not dependent on the primary facility. While this is very positive, the FRCC should discuss the event of a double contingency loss of both control centers. When the Security Coordinator Agent was asked what they would do, they had some ideas, but no real plans. The task force
recommends that the FRCC develop a plan for how essential Security Coordinator functions would be carried out if both sites should be lost.

2. Security Coordinator communications facilities are important at the emergency backup site as well as the primary control center facility. The Security Coordinator Agent indicated they did not have all communication tools at their backup locations. To enable the Security Coordinator to continue essential communication with FRCC operating entities, the FRCC should install the FRCC Satellite phone (FRCC talk group capability) and the FRCC hotline at both backup locations.

3. During the on-site visit, the task force listened to a recording of the conversations of the Security Coordinator during a disturbance that occurred in Tallahassee on July 13, 2004. It was evident that not all operating entities communicate in the same fashion. Since the FRCC Security Process does require affirmation of directives, the task force recommends that FRCC consider developing a communication protocol, in particular for FRCC Hotline discussions. This protocol should be included as a topic for training at the FRCC System Operator Seminar.

4. As part of the audit, the task force viewed the Security Coordinator logs for the day of the Tallahassee disturbance and for several days during the hurricanes experienced last summer. The task force noted some inconsistency in events that are recorded in the Security Coordinator logs. The task force recommends that the FRCC review the Security Coordinator Procedure for Reporting Operational Events and clarify what should be documented in the logs especially in regard to calls for operating reserves and loss of communication with operating entities. These seemed to be missing from the logs reviewed.

5. The task force understands that PEF’s interim backup of the real-time security coordination function is limited (primarily monitoring of the Florida-Southern interface), but it is unclear exactly what is expected of them during such events. The FRCC should formalize and document the responsibilities and expectations of Progress Energy Florida when providing the “20-minute” backup function.

6. When the Security Coordinator was asked if they were provided notification from FRCC SPS owners when SPS are armed or disarmed, the SC indicated they received some information electronically, some verbally and were aware of others that were “hardwired” and assumed to be always on. The 2002 Agent Audit report included a recommendation that SPS status should be monitored electronically. It appears that this recommendation may not be implemented to the extent practical in the FRCC. FRCC should follow up on this and ensure that all SPS owners are providing data as required. The FRCC Special Protection System Review and Coordination Procedure should also be updated to reflect this monitoring requirement.

7. The Operations Planning agent indicated that populating the OPC study cases is a manual process relying on information from a variety of sources. The task force believes the FRCC should consider utilizing the FTMS to automatically populate the OPC cases. In
considering this alternative, FRCC may also need to add additional information as inputs to the FTMS, such as non-firm interchange schedules (both short and long term) for improved accuracy in operations planning.

8. When the State Capacity Emergency Coordinator Agent was asked how confident they were in the accuracy of the data supplied in the Daily Capacity Assessment Process, it was indicated that the data provided by control areas for in-state interchange very rarely appears to be complete and that there is no process to deal with mismatches in reported data. The task force recommends that the FRCC review the data input requirements for the Daily Capacity Assessment report to ensure the appropriateness and consistency of the data and to ensure that there is clear understanding of what is to be provided. A review process should also be established to identify significant (to reliability) reporting errors that result in misstatement of operating reserves.

9. During the interview with a FPL System Operator performing the FRCC Security Coordinator function, it was indicated that it would be helpful to have an alarm on the FTMS system when critical information changes. This could be especially important if Capacity Assessment data changes on a day with limited capacity margin, or if an outage status changes. The task force recommends that the FRCC consider adding an alarm capability to the FTMS for those items that the Security Coordinator personnel should be made aware of right away.

10. In a response to the NERC Readiness Audit Questionnaire, the FRCC Security Coordinator Agent indicated that there were several areas within the FRCC where more real time data would be helpful. When probing this further at the on-site visit, it appeared to the task force that there might have been misunderstandings in the process for requesting reliability data, particularly in following up on a request. The task force recommends that the FRCC review its process for requesting reliability data from member systems, ensure that requests are documented appropriately and that a “follow-up” or tracking mechanism is included in the process.

11. The task force reviewed information that was being supplied in real time to the FRCC Security Coordinator Agent. It appeared there was some data that the SC was not real clear about what the values indicated, especially in the area of reserve values. The task force recommends that the FRCC review their real-time data requirements to ensure understanding of, and consistency in, the calculated data that is being reported. Also, during this review the FRCC should consider requiring the update of actual generator MVAR capability on a daily basis.

12. The task force discussed the extraordinary 2004 hurricane season with the Security Coordinator Agent during the on-site visit. When asked about lessons learned, or if any coordination or reliability issues could have been avoided, it was identified that “pre-storm” unit shutdown coordination presented the most challenge. The task force recommends that the FRCC review the 2004 Hurricane lessons learned and develop any
needed procedures or processes. In particular, focus should be given to the area of coordination during “pre-storm” conditions.

13. In review of a response to the NERC Readiness Audit Questionnaire, the FRCC Security Coordinator Agent indicated that the operating status of generator Power System Stabilizers (PSS), and trip set points for frequency and voltage are not currently being requested as part of reliability data. When the task force probed this further at the on-site visit, it appeared that the need for this information may become important as new generation is built in certain areas. While the task force recognizes that this may not be a near term issue, it recommends that the FRCC evaluate the need for the data and develop a method for providing the operating status of PSS’s and the generator trip set points for frequency and voltage.

14. In reviewing the operations planning and the daily capacity assessment processes, the task force realized that the FRCC does not currently look at reserve margin on a week or month ahead basis except for the Operating Committee’s review of the projected FRCC Weekly Operating Margin. There did not seem to be any mechanism in place to identify a potential capacity deficiency where mitigation actions might be developed ahead of time. The task force recommends that FRCC explore the idea of developing a mechanism within the operations planning function to assess potential capacity deficiency situations on a week or month ahead basis.