

December 31, 2012

Ms. Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

**Re: NERC Full Notice of Penalty regarding Entergy,  
FERC Docket No. NP13-\_-000**

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby provides this Notice of Penalty<sup>1</sup> regarding Entergy, NERC Registry ID# NCR01234,<sup>2</sup> in accordance with the Federal Energy Regulatory Commission's (Commission or FERC) rules, regulations and orders, as well as NERC's Rules of Procedure including Appendix 4C (NERC Compliance Monitoring and Enforcement Program (CMEP)).<sup>3</sup>

Entergy is an integrated energy company engaged primarily in electric power production and retail distribution operations. Entergy is headquartered in New Orleans, Louisiana. The overall Entergy corporate structure includes utility operating companies that generate, transmit, distribute and sell electric power. The Entergy operating companies are: Entergy Arkansas, Inc.; Entergy Gulf States Louisiana, LLC; Entergy Louisiana, LLC; Entergy Mississippi, Inc.; Entergy New Orleans, Inc.; and Entergy Texas Inc.

<sup>1</sup> *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards* (Order No. 672), III FERC Stats. & Regs. ¶ 31,204 (2006); *Notice of New Docket Prefix "NP" for Notices of Penalty Filed by the North American Electric Reliability Corporation*, Docket No. RM05-30-000 (February 7, 2008). See also 18 C.F.R. Part 39 (2011). *Mandatory Reliability Standards for the Bulk-Power System*, FERC Stats. & Regs. ¶ 31,242 (2007) (Order No. 693), *reh'g denied*, 120 FERC ¶ 61,053 (2007) (Order No. 693-A). See 18 C.F.R § 39.7(c)(2).

<sup>2</sup> NERC Reliability Corporation confirmed that Entergy was included on the NERC Compliance Registry as a Balancing Authority (BA), Distribution Provider (DP), Generator Operator (GOP), Generator Owner (GO), Load Serving Entity (LSE), Planning Authority (PA), Purchasing-Selling Entity (PSE), Resource Planner (RP), Transmission Operator (TOP), Transmission Owner (TO), Transmission Planner (TP), and Transmission Service Provider (TSP) on May 31, 2007 and as a Interchange Authority (IA) on March 20, 2008. As a GO and TO, Entergy is subject to the requirements of NERC Reliability Standard PRC-005-1.

<sup>3</sup> See 18 C.F.R § 39.7(c)(2).

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Entergy, as a GOP, operates 85 generators with a net generation capacity of approximately 30,000 MW.

Entergy, as a TO and TOP, owns and operates 15,691 miles of transmission lines consisting of the following: 2,040 miles of 500 kV, 97 miles of 345 kV, 2,321 miles of 230 kV, 1,517 miles of 161 kV, 2,252 miles of 138 kV, 5,877 miles of 115 kV, and 1,587 miles of 69 kV.

This Notice of Penalty is being filed with the Commission because SERC Reliability Corporation (SERC) and Entergy Services, Inc. on behalf of the Entergy operating companies (referred to hereinafter as Entergy) have entered into a Settlement Agreement to resolve all outstanding issues arising from SERC's determination and findings of the violations<sup>4</sup> of PRC-005-1. According to the Settlement Agreement, Entergy neither admits nor denies the violations, but has agreed to the assessed penalty of two hundred seventy-five thousand dollars (\$275,000), in addition to other remedies and actions to mitigate the instant violations and facilitate future compliance under the terms and conditions of the Settlement Agreement. Accordingly, the violations identified as NERC Violation Tracking Identification Numbers SERC200900275, SERC200900298, SERC201000636, and SERC201000637 are being filed in accordance with the NERC Rules of Procedure and the CMEP.

### **Statement of Findings Underlying the Violations**

This Notice of Penalty incorporates the findings and justifications set forth in the Settlement Agreement executed on December 18, 2012, by and between SERC and Entergy, which is included as Attachment a. The details of the findings and basis for the penalty are set forth in the Settlement Agreement and herein. This Notice of Penalty filing contains the basis for approval of the Settlement Agreement by the NERC Board of Trustees Compliance Committee (NERC BOTCC). In accordance with Section 39.7 of the Commission's regulations, 18 C.F.R. § 39.7 (2012), NERC provides the following summary table identifying each violation of a Reliability Standard resolved by the Settlement Agreement, as discussed in greater detail below.

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<sup>4</sup> For purposes of this document, each violation at issue is described as a "violation," regardless of its procedural posture and whether it was a possible, alleged or confirmed violation.

Region	Registered Entity	NOC ID	NERC Violation ID	Reliability Std.	Req. (R)	VRF	Total Penalty
SERC Reliability Corporation	Entergy	NOC-1625	SERC200900298	PRC-005-1	R1	High <sup>5</sup>	\$275,000
			SERC200900275		R2.1	High <sup>6</sup>	
			SERC201000636		R1	High	
			SERC201000637		R2	High	

PRC-005-1

The purpose statement of Reliability Standard PRC-005-1 provides: “To ensure all transmission and generation Protection Systems affecting the reliability of the Bulk Electric System (BES) are maintained and tested.”

PRC-005-1 provides:

R1. Each Transmission Owner and any Distribution Provider that owns a transmission Protection System<sup>[7]</sup> and each Generator Owner that owns a generation Protection System shall have a Protection System maintenance and testing program for Protection Systems that affect the reliability of the BES. The program shall include:

R1.1. Maintenance and testing intervals and their basis.

R1.2. Summary of maintenance and testing procedures.

<sup>5</sup> When NERC filed Violation Risk Factors (VRFs) for PRC-005-1, NERC originally assigned a “Medium” VRF to PRC-005-1 R1. In the Commission’s May 18, 2007 Order on Violation Risk Factors, the Commission approved the VRF as filed but directed modifications. On June 1, 2007, NERC filed a modified “High” VRF for PRC-005 R1 for approval. On August 9, 2007, the Commission issued an Order approving the modified VRF. Therefore, the “Medium” VRF was in effect from June 18, 2007 until August 9, 2007 and the “High” VRF has been in effect since August 9, 2007.

<sup>6</sup> PRC-005-1 R2 has a “Lower” VRF; R2.1 and R2.2 each have a “High” VRF. During a final review of the standards subsequent to the March 23, 2007 filing of the Version 1 VRFs, NERC identified that some standards requirements were missing VRFs; one of these included PRC-005-1 R2.1. On May 4, 2007, NERC assigned PRC-005 R2.1 a “High” VRF. In the Commission’s June 26, 2007 Order on Violation Risk Factors, the Commission approved the PRC-005-1 R2.1 “High” VRF as filed. Therefore, the “High” VRF was in effect from June 26, 2007.

<sup>7</sup> *The NERC Glossary of Terms Used in Reliability Standards* defines Protection System as “Protective relays, associated communication systems, voltage and current sensing devices, station batteries and DC control circuitry.”

R2. Each Transmission Owner and any Distribution Provider that owns a transmission Protection System and each Generator Owner that owns a generation Protection System shall provide documentation of its Protection System maintenance and testing program and the implementation of that program to its Regional Reliability Organization<sup>[8]</sup> on request (within 30 calendar days). The documentation of the program implementation shall include:

R2.1. Evidence Protection System devices were maintained and tested within the defined intervals.

R2.2. Date each Protection System device was last tested/maintained.

[Footnotes added.]

PRC-005-1 R1 has a “High” Violation Risk Factor (VRF) and a “High” Violation Severity Level (VSL). The subject violations apply to Entergy’s GO function. PRC-005-1 R2 has a “Lower” VRF and a “Severe” VSL. The subject violation applies to Entergy’s GO and TO functions. PRC-005-1 R2.1 has a “High” VRF and a “Lower” VSL. The subject violation applies to Entergy’s GO and TO functions.

PRC-005-1 R1 SERC200900298

On March 25, 2009, SERC notified Entergy of a SERC on-site Compliance Audit (Audit) of Entergy scheduled for September 21, 2009 through September 25, 2009. On August 6, 2009, Entergy, as a GO, self-reported that it had not documented the basis for battery maintenance and testing intervals at its fossil plants. During the scheduled Audit, Entergy was unable to identify the basis for testing intervals for batteries, DC control circuits, current transformers (CTs), and potential transformers (PTs) testing intervals from June 18, 2007 through July 15, 2009. Because the Audit finding was directly related to the August 6, 2009 Self-Report, SERC utilized a single tracking number for both issues.

SERC reviewed Entergy’s procedure, which was in effect at the beginning of the mandatory and enforceable period. The procedure did not include the maintenance and testing interval, its basis or the summary of maintenance and testing procedures for batteries. The procedure did not list the basis of maintenance and testing intervals for PTs, CTs and DC control circuits. The procedure also failed to include a summary of maintenance and testing procedures for DC control circuits. At the time of the Audit, the GO stated that it did not have any associated communication system devices. After this violation was processed, Entergy discovered that it had associated communication system devices at

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<sup>8</sup> Consistent with applicable FERC precedent, the term ‘Regional Reliability Organization’ in this context refers to SERC.

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TO and GO interface that were not accounted for in either TO or GO programs. At that time, the GO reported the associated communication devices to SERC in violation SERC201000636, discussed below.

SERC determined that Entergy was in violation of PRC-005-1 R1 because its generation Protection System procedure did not include: (1) the maintenance and testing interval, the basis, or the summary for batteries; (2) the basis for PTs, CTs, and DC control circuits; and (3) the summary for DC control circuits.

SERC determined the duration of the violation to be from June 18, 2007, the date the Standard became mandatory and enforceable, through July 15, 2009, the effective date of Entergy's revised generation Protection System program.

SERC determined that this violation posed a moderate risk and did not pose a serious or substantial risk to the reliability of the bulk power system (BPS) because not having a maintenance and testing procedure for its batteries could prohibit other Protective System devices from operating. While Entergy's maintenance and testing program was incomplete, it did have the following components: (1) a maintenance and testing program for relays; (2) a maintenance and testing interval and summary for PTs and CTs; and (3) a maintenance and testing interval for DC control circuits. Finally, Entergy did test all devices since the start of the enforceable period.

#### PRC-005-1 R2.1 SERC200900275

On May 29, 2009, Entergy, as a GO, self-reported a violation of PRC-005-1 R2 due to missing work records for some of its Protection System devices. While SERC was performing its assessment and determining the scope of the violation, Entergy submitted an addendum concerning a possible violation of PRC-005-1 R2 for its TO function. SERC requested information from Entergy regarding its Protection System program, including its procedure and a spreadsheet that included each TO and GO Protection System device.

SERC learned that Entergy's transmission Protection System maintenance program allowed for the deferral of maintenance tasks. Each year, Entergy issued a Letter of Instruction (LOI) to its transmission departments establishing the maintenance tasks that would be performed for that year. Prior to 2008, LOIs did not require the deferred maintenance tasks to be completed in addition to the list of maintenance tasks for that year. This resulted in some of the transmission Protection System devices being tested outside of the following defined intervals: (1) for protective relays, four years for the GO function and two, eight and twelve years for the TO functions; (2) for associated communication systems, none for the GO function and two and four months, one, four, eight and 12 years for the TO function; (3) for the PTs and CTs, five and ten years for the GO function and two, four,

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eight and 12 years for the TO function; (4) for the station batteries, none for the GO function and six months and five years for the TO function; and (5) for the DC control circuits, two years for the GO function and four, eight and 12 years for the TO function.

The TO submitted its spreadsheet on September 2, 2009, and the GO submitted its spreadsheet on March 4, 2010. The PRC-005-1 spreadsheets listed Protection System tasks rather than Protection System devices because the data was taken from Entergy's work management system, which was designed to track and assign maintenance activity at the panel level, rather than by device. Entergy was not able to provide Protection System device counts. According to the spreadsheets, Entergy had 5,191 generation Protection System tasks and 7,960 transmission Protection System tasks.

SERC determined Entergy, as a GO and TO, was in violation of PRC-005-1 R2.1 for failing to have evidence that its generation and transmission Protection System devices were maintained and tested within the defined intervals established by its Protection System maintenance program. Based on the information provided by Entergy, a total of 445 out of 13,151 Protective System devices, approximately 3.4%, were tested outside of their defined intervals. Entergy was out of compliance for the following: 40 relays, 21 associated communication systems (TO devices), 230 CTs/PTs, 10 batteries and 144 DC control circuits. In addition, when SERC reviewed the evidence regarding mitigation of this violation, it determined that Entergy had not mitigated the violation. SERC found that the scope of this violation included additional issues as described in the second violation of PRC-005-1 R2 (SERC201000637) in this Notice of Penalty. This violation was mitigated in conjunction with SERC201000637, thus the risk to the BPS is the same for both violations.

SERC determined the duration of the violation to be from June 18, 2007, the date the Standard became mandatory and enforceable, through October 7, 2012, when Entergy completed its Mitigation Plan for the second violation of PRC-005-1 R2 in violation SERC201000637.

SERC determined that this violation posed a serious and substantial risk to the reliability of the BPS because of the following reasons:

1. A total of 7,692 devices were maintained and tested outside the defined intervals or no previous test records were available. This is a significant number of Protection System devices for a 30,000 MW entity with such a considerable impact on the SERC region and is indicative of a broad inattention to maintenance and testing of Protection System devices;
2. The missed due dates for relays ranged from 18 years to one month; and
3. Entergy did not have an accurate inventory of its Protection System devices.

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PRC-005-1 R1 SERC201000636

On October 2, 2010, Entergy, GO, self-reported a violation of PRC-005-1 R1. Entergy did not have documentation for the maintenance and testing of at least one device in accordance with PRC-005 R1. The Self-Report was submitted in response to an inquiry from SERC during its assessment of Entergy's SERC200900298 PRC-005 R1 violation. During Entergy's assessment of SERC200900298, Entergy discovered approximately 660 devices at the interface of the TO and GO that were not accounted for by either function. Nine of the devices discovered, located at eight generating units with an average capacity of 170 MW, were associated communication devices whose maintenance and testing were the responsibility of the GO.

SERC reviewed the GO's Protection System maintenance and testing procedures, which contained the interval, the basis and the summary of procedure for protective relays, CTs, PTs, batteries and DC control circuits. The GO's maintenance and testing program did not include the interval, the basis or the summary for associated communication devices because it did not believe that it had such devices. SERC reviewed the TO's maintenance and testing procedures and did not find a violation of the Standard.

SERC determined that Entergy was in violation of PRC-005 R1 for failing to have a Protection System maintenance and testing program for associated communication systems.

SERC determined the duration of the violation to be from June 18, 2007, the date the Standard became mandatory and enforceable, through October 7, 2012, when Entergy completed its Mitigation Plan.

SERC determined that this violation posed a minimal risk and did not pose a serious or substantial risk to the reliability of the BPS because of the following mitigating factors:

1. The nine associated communication devices are alarmed, which should have allowed for a timely response in the event of a failure;
2. The eight generating units had an average capacity of 170 MW and are used for peaking purposes; and
3. All of the associated communication systems were subsequently maintained and tested. Subsequent testing showed no issues, therefore, the associated communication systems should have performed their intended function.

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PRC-005-1 R2 SERC201000637

On October 5, 2010, Entergy, as a GO, self-reported a violation of PRC-005-1 R2. Entergy did not have documentation for the maintenance and testing of at least one generation Protection System device in accordance with PRC-005 R1 and R2. The Self-Report was submitted in response to an inquiry from SERC during its validation of Entergy's SERC200900275 PRC-005 R2 Mitigation Plan. Entergy was unable to provide evidence that it had been performing monthly periodic maintenance on batteries in accordance with its maintenance and testing program. On March 16, 2011, Entergy, as a TO, also self-reported two violations of PRC-005-1 R2. SERC expanded the scope of the first violation to cover both the GO and the TO functions and utilized a single tracking number of SERC201000637. Entergy discovered 660 Protection System devices at the interface of the TO and GO that had not been accounted for by either function.

Each year, Entergy issued an LOI to its transmission departments establishing the maintenance tasks that would be performed for that year. Prior to 2008, LOIs did not require the deferred maintenance tasks to be completed in addition to the list of maintenance tasks for that year. This resulted in some of the transmission Protection System devices being tested outside of the defined intervals, as in the SERC200900275 violation. In 2009, the LOI was revised in the SERC200900275 Mitigation Plan to ensure that maintenance was not indefinitely deferred. However, the revised LOI still allowed deferrals for one year, which could result in transmission Protection System devices being tested outside of their defined intervals. In addition, the 2011 LOI included a goal of less than 100% regarding the completion of the tasks that were due.

Additionally, the TO's substation work maintenance system database was organized by communication devices, substation batteries and "panels," which consisted of any number of DC control circuits, PTs and CTs, protective relays and associated communication systems. Testing and maintenance was scheduled and tracked on a panel basis, rather than for each individual component within a panel.

Entergy had 7,692 out of 42,921 (17.9%) Protection System devices tested outside of the defined interval or had no previous test record. For the GO function, the following devices were affected by the violation: out of a total of 1,056 protective relays, 23 were tested outside of defined interval and 198 had no prior testing records; out of a total nine associated communication devices, all nine devices had no previous test records; out of a total of 2,869 CTs and PTs, 333 were tested outside defined intervals and 1,706 had no previous test records; out of a total of 68 station batteries, two were tested outside defined intervals and seven had no previous test records; and out of 1,098 DC circuits, 44 were tested outside defined intervals and 411 had no previous test records. For the TO function, the following devices were affected by the violation: out of a total of 10,060 protective relays, 588 were tested outside of defined interval and 41 had no prior testing records; out of a total 1,345 associated

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communication devices, 68 were tested outside of defined interval and six had no prior testing records; out of a total of 14,120 CTs and PTs, 2,108 were tested outside defined intervals and 71 had no previous test records; out of a total of 550 station batteries, 137 were tested outside defined intervals; and out of 11,746 DC circuits, 1,878 were tested outside defined intervals and 62 had no previous test records.

SERC determined that Entergy, as a GO and TO, was in violation of PRC-005-1 R2 for failing to have documentation that its generation and transmission Protection System devices were maintained and tested within the defined intervals and/or the date each Protection System device was last tested and maintained. Specifically, a total of 7,692 protective relays, CTs and PTs, batteries, associated communication systems and DC control circuits were maintained and tested outside of the defined interval or had no previous test record available.

SERC determined the duration of the violation to be from June 18, 2007, the date the Standard became mandatory and enforceable, through October 7, 2012, when Entergy completed its Mitigation Plan.

SERC determined that this violation posed a serious and substantial risk to the reliability of the BPS because of the following factors:

1. A total of 7,692 devices were maintained and tested outside the defined intervals or no previous test records were available. This is a significant number of Protection System devices for a 30,000 MW entity with such a considerable impact on the SERC region and is indicative of a broad inattention to maintenance and testing of Protection System devices;
2. The missed due dates for relays ranged from 18 years to one month; and
3. Entergy did not have an accurate inventory of its Protection System devices.

#### Regional Entity's Basis for Penalty

According to the Settlement Agreement, Entergy has assessed a penalty of two hundred seventy-five thousand dollars (\$275,000) for the referenced violations. In reaching this determination, SERC considered the following factors: (1) SERC considered Entergy's violations of PRC-005-1 R1 and R2 in SERC201000636 and SERC201000637, included in this Settlement Agreement, to constitute repetitive conduct warranting aggravation;<sup>9</sup> (2) there is no evidence that Entergy attempted to conceal the

<sup>9</sup> SERC determined that Entergy's violations of PRC-005-1 R1 and R2 in SERC200900298 and SERC200900275 in the instant Settlement Agreement constituted prior violations and an aggravating factor in the penalty determination.

Entergy had a previous violation of FAC-003-1 R2, which was filed with FERC in NP10-22-000 on December 30, 2009. FERC issued its Notice on January 29, 2010, stating it would take no further action. Entergy also had a previous violation of BAL-

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violations; (3) Entergy was cooperative throughout SERC's evaluation of its compliance with the Reliability Standards and the enforcement process; (4) there is no evidence that Entergy's violations were intentional; (5) Entergy had a compliance program which SERC considered a mitigating factor;<sup>10</sup> (6) SERC determined that the violations of PRC-005-1 R1 (SERC200900298 and SERC201000636) did not pose a serious or substantial risk to the reliability of the BPS and the violations of PRC-005-1 R2 (SERC200900275 and SERC201000637) posed serious and substantial risks to the BPS; (7) Entergy provided useful information in the Self-Reports, which were submitted prior to the Audit detail letter, that was a mitigating factor; and (8) there were no other mitigating or aggravating factors or extenuating circumstances that would affect the assessed penalty.

After consideration of the above factors, SERC determined that, in this instance, the penalty amount of two hundred seventy-five thousand dollars (\$275,000) is appropriate and bears a reasonable relation to the seriousness and duration of the violations.

### **Status of Mitigation Plans<sup>11</sup>**

#### PRC-005-1 R1 and R2.1 SERC200900298 and SERC200900275

Entergy's Mitigation Plan to address its violations of PRC-005-1 R1 and R2 was submitted to SERC on November 20, 2009 with a proposed completion date of December 31, 2009. The Mitigation Plan was accepted by SERC on December 3, 2009 and approved by NERC on December 4, 2009. The Mitigation

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005-0 R8, which was filed with FERC in NP10-78-000 on March 31, 2010. FERC issued its Notice on April 30, 2010, stating it would take no further action. Entergy had a previous violation of FAC-008-1 R1 and FAC-009-1 R1, which was filed with FERC in NP12-41-000 on August 31, 2012. The Notice of Penalty also included five violations of COM-002-2 R2. FERC issued its Notice on September 28, 2012 stating it would take no further action.

SERC determined that the prior violations should not serve as a basis for aggravating the penalty because they involved Standards that are not the same or similar to the instant Standards. Moreover, there was nothing in the record to suggest that broader corporate issues were implicated.

<sup>10</sup> Entergy has had a documented internal compliance program (ICP) since 2003. Entergy's ICP has the following factors: the ICP consists of multiple system policies for all areas of compliance including NERC Reliability Standards; the ICP is reviewed on an as-needed basis, the last review took place in the fourth quarter of 2011; the ICP requires that all senior management be responsible for ensuring that their subordinates cooperate, are aware of, and understand the ICP; the Corporate Compliance Committee (CCC) oversees the ongoing development and maintenance of Entergy's policies and procedures concerning legal compliance issues and business ethics and oversees activities undertaken to promote adherence with such policies and procedures; the CCC meets quarterly and is responsible for the development and the promotion of Entergy's compliance and business ethics policies and procedures; Entergy's Corporate Compliance Officer, the Vice-President, Ethics and Compliance, reports directly to the Vice-President and General Counsel, and has independent access to Entergy's Board of Directors Audit Committee and is a member of the CCC.

<sup>11</sup> See 18 C.F.R § 39.7(d)(7).

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Plan for this violation is designated as MIT-07-2159 and was submitted as non-public information to FERC on December 4, 2009 in accordance with FERC orders.

Entergy's Mitigation Plan required Entergy to:

1. Issue its Battery Acceptance, Testing and Maintenance Procedure, which established uniform inspections, tests, and maintenance of the station battery systems;
2. Perform relay calibrations, DC trip tests, PT/CT inspections and testing, and battery preventative maintenance;
3. Instruct designated personnel on the acceptable level of documentation to show compliance with PRC-005;
4. Communicate documentation and record retention requirements on battery maintenance;
5. Train the Fossil Compliance Group to develop the following status reports that will provide:
  - a. Status of work requests and their last completed date;
  - b. Status of preventive maintenance triggers last performed and next due date; and
  - c. Determination of any preventive maintenance triggers;
6. Modified the Transmission maintenance procedure;
7. Senior Management reemphasized expectations for complying with NERC Reliability Standards and continuing to foster a compliance culture;
8. Establish a standardized maintenance program for the generator Protective Relays and instrument transformers and reporting requirements for the protective relay misoperations;
9. Develop a process for the newly-issued and revised compliance procedures that includes notification that the procedure was received and understood by responsible plant personnel and training regarding the requirements that must be included in the issuance of compliance procedures;
10. Adopt a new reporting tool to identify maintenance tasks and train applicable personnel on the use of the new tool;
11. Revise the Entergy transmission maintenance procedure to include provisions to manage the extent to which maintenance of Protection Systems can be deferred; and
12. Maintain assets with carry-over tasks in accordance with the 2009 maintenance plan.

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Entergy certified on January 11, 2010 that the above Mitigation Plan requirements were completed on December 31, 2009. As evidence of completion of its Mitigation Plan, Entergy submitted the following:

1. Entergy's *Battery Acceptance, Testing and Maintenance Procedure*;
2. Documentation of relay calibrations, DC trip tests, PT/CT inspections and testing, and battery preventative maintenance;
3. E-mail to designated personnel at each fossil plant responsible for coordinating the NERC requirements on the acceptable level of documentation to show compliance with PRC-005;
4. *Revised Battery Maintenance and Testing Procedure* to establish uniform means of inspecting, testing and maintaining the station battery systems;
5. Training document for the use of the Management System and the training attendance sheet;
6. An inter-office correspondence from the Senior Vice-President of fossil generation to all department employees addressing the reason for compliance, accountability and expectations;
7. *Revised Generator Protection System Maintenance Procedure* to document the basis of testing intervals for DC circuitry and CTs and PTs;
8. *Process for Notification of New Revised Regulatory Procedures*, which outlines the responsibilities and the process for communicating new and revised procedures to employees;
9. Training materials for applicable personnel and the attendance records training on the new maintenance task reporting tool;
10. Revised transmission maintenance procedure and the revised LOI; and
11. Worksheets identifying the dates the carryover tasks were completed.

On July 28, 2011, after reviewing Entergy's submitted evidence, SERC verified that Entergy's Mitigation Plan was completed on December 31, 2009.<sup>12</sup>

PRC-005-1 R1 and R2 SERC201000636 and SERC201000637

Entergy's Mitigation Plan to address its violations of PRC-005-1 R1 and R2 was submitted to SERC on June 20, 2012 with a proposed completion date of June 29, 2012. The Mitigation Plan was accepted by SERC on June 30, 2012 and approved by NERC on July 24, 2012. The Mitigation Plan for this violation is designated as SERCMIT004802 and was submitted as non-public information to FERC on July 24, 2012 in accordance with FERC orders.

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<sup>12</sup> The Disposition Document serves as SERC's Verification of Mitigation Plan Completion.

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Entergy's Mitigation Plan required Entergy to:

1. Create plant specific equipment lists at the Independence Steam Electric Station ;
2. Revise the maintenance and testing procedure to reflect the basis and maintenance and testing intervals for associated communication systems;
3. Clarify and document the basis for identifying PRC-5 devices and trained the appropriate personnel on the clarifications;
4. Develop unit specific equipment lists based on the clarifications;
5. Redesign the protection system maintenance program by removing the LOI, creating bright line maximum maintenance intervals and updating the work management system to accommodate program changes;
6. Change its Protection System inventory so that it reflects devices on a component level instead of panels;
7. Perform comprehensive Protection System device inventory; and
8. Perform maintenance on all Protection System devices that had missed maintenance/testing intervals or were newly identified as Protection System devices.

Entergy certified on July, 17, 2012 that the above Mitigation Plan requirements were completed on June 25, 2012.<sup>13</sup> As evidence of completion of its Mitigation Plan, Entergy submitted the following:

1. The Independence Steam Electric Station equipment lists;
2. The revised maintenance and testing procedure;
3. A flow diagram that instructs the user on how to identify devices that should be considered a part of the Protection System;
4. Training documents and the training attendance records;
5. Unit specific equipment lists;
6. The redesigned maintenance and testing procedure and an outline of the process used to revise the work management system;

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<sup>13</sup> Although Entergy certified on July 27, 2012 that the Mitigation Plan had been completed on June 25, 2012, SERC determined that Entergy had not fully completed the Mitigation Plan activities by that date. Entergy failed to complete one action at that time. One work order for a newly identified Protection System device was completed late. SERC later verified that Entergy completed this action on October 7, 2012.

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7. Spreadsheets establishing the database conversion from panels to individual Protection System devices;
8. A spreadsheet containing newly identified Protection System devices in addition to spreadsheets submitted to SERC during its assessment; and
9. Completed work orders and related documentation.

On October 9, 2012, after reviewing Entergy submitted evidence, SERC verified that Entergy's Mitigation Plan was completed on October 7, 2012.

### **Statement Describing the Assessed Penalty, Sanction or Enforcement Action Imposed<sup>14</sup>**

#### **Basis for Determination**

Taking into consideration the Commission's direction in Order No. 693, the NERC Sanction Guidelines and the Commission's July 3, 2008, October 26, 2009 and August 27, 2010 Guidance Orders,<sup>15</sup> the NERC BOTCC reviewed the Settlement Agreement and supporting documentation on December 10, 2012. The NERC BOTCC approved the Settlement Agreement, including SERC's assessment of a two hundred seventy-five thousand dollar (\$275,000) financial penalty against Entergy and other actions to facilitate future compliance required under the terms and conditions of the Settlement Agreement. In approving the Settlement Agreement, the NERC BOTCC reviewed the applicable requirements of the Commission-approved Reliability Standards and the underlying facts and circumstances of the violations at issue.

In reaching this determination, the NERC BOTCC considered the following factors:

1. the violations SERC201000636 and SERC201000637, included in this Settlement Agreement, constituted Entergy's second occurrence of violations of the subject NERC Reliability Standards;<sup>16</sup>
2. Entergy provided useful information in the Self-Reports, which were submitted prior to the Audit detail letter, which SERC considered a mitigating factor;

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<sup>14</sup> See 18 C.F.R. § 39.7(d)(4).

<sup>15</sup> *North American Electric Reliability Corporation*, "Guidance Order on Reliability Notices of Penalty," 124 FERC ¶ 61,015 (2008); *North American Electric Reliability Corporation*, "Further Guidance Order on Reliability Notices of Penalty," 129 FERC ¶ 61,069 (2009); *North American Electric Reliability Corporation*, "Notice of No Further Review and Guidance Order," 132 FERC ¶ 61,182 (2010).

<sup>16</sup> *Supra* fn. 9.

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3. SERC reported that Entergy was cooperative throughout the compliance enforcement process;
4. Entergy had a compliance program at the time of the violation which SERC considered a mitigating factor, as discussed above;
5. there was no evidence of any attempt to conceal a violation nor evidence of intent to do so;
6. there was no evidence that the violations were intentional;
7. SERC determined that the violations of PRC-005-1 R1 (SERC200900298 and SERC201000636) did not pose a serious or substantial risk to the reliability of the BPS and the violations of PRC-005-1 R2 (SERC200900275 and SERC201000637) posed a serious and substantial risk to the BPS as discussed above; and
8. SERC reported that there were no other mitigating or aggravating factors or extenuating circumstances that would affect the assessed penalty.

For the foregoing reasons, the NERC BOTCC approved the Settlement Agreement and believes that the assessed penalty of two hundred seventy-five thousand dollars (\$275,000) is appropriate for the violations and circumstances at issue, and is consistent with NERC's goal to promote and ensure reliability of the BPS.

Pursuant to 18 C.F.R. § 39.7(e), the penalty will be effective upon expiration of the 30 day period following the filing of this Notice of Penalty with FERC, or, if FERC decides to review the penalty, upon final determination by FERC.

#### **Attachments to be Included as Part of this Notice of Penalty**

The attachments to be included as part of this Notice of Penalty are the following documents:

- a) Settlement Agreement by and between SERC and Entergy executed December 18, 2012, included as Attachment a;
  1. SERC's Disposition of Violation: Information Common to Instant Violations, included as Attachment A to the Settlement Agreement;
  2. SERC's Disposition of Violation for PRC-005-1 R1 and R2, SERC200900298 and SERC200900275, included as Attachment B to the Settlement Agreement; and
  3. SERC's Disposition of Violation for PRC-005-1 R1 and R2, SERC201000636 and SERC201000637, included as Attachment C to the Settlement Agreement.

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- b) Record documents for the violations of PRC-005-1 R1 and R2, SERC200900298 and SERC200900275, included as Attachment b:
1. Entergy's Self-Report for SERC200900298 dated August 6, 2009;
  2. Entergy's Self-Report for SERC200900275 dated May 29, 2009;
  3. Entergy's Mitigation Plan for SERC200900298 and SERC200900275 designated as MIT-07-2159 submitted November 20, 2009; and
  4. Entergy's Certification of Mitigation Plan Completion dated January 11, 2010.
- c) Record documents for the violations of PRC-005-1 R1 and R2, SERC201000636 and SERC201000637, included as Attachment c:
1. Entergy's Self-Report for SERC201000636 dated October 2, 2010;
  2. Entergy's Self-Report for SERC201000637 dated October 5, 2010;
  3. Entergy's Mitigation Plan for SERC201000636 and SERC201000637 designated as SERCMIT004802 submitted June 20, 2012; and
  4. Entergy's Certification of Mitigation Plan Completion dated July 17, 2012.

**A Form of Notice Suitable for Publication<sup>17</sup>**

A copy of a notice suitable for publication is included in Attachment d.

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<sup>17</sup> See 18 C.F.R § 39.7(d)(6).

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 Entergy  
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**Notices and Communications:** Notices and communications with respect to this filing may be addressed to the following:

<p>Gerald W. Cauley          President and Chief Executive Officer          North American Electric Reliability Corporation          3353 Peachtree Road NE          Suite 600, North Tower          Atlanta, GA 30326          (404) 446-2560</p>	<p>Rebecca J. Michael*          Associate General Counsel for Corporate and          Regulatory Matters          Sonica C. Mendonça*          Attorney          North American Electric Reliability Corporation          1325 G Street N.W.          Suite 600          Washington, DC 20005          (202) 400-3000          (202) 644-8099 – facsimile          rebecca.michael@nerc.net          sonia.mendonca@nerc.net</p>
<p>Charles A. Berardesco*          Senior Vice President and General Counsel          North American Electric Reliability Corporation          1325 G Street N.W., Suite 600          Washington, DC 20005          (202) 400-3000          (202) 644-8099 – facsimile          Charles.Berardesco@nerc.net</p>	<p>Richard Riley*          VP, Energy Delivery          Entergy Services, Inc.          6540 Watkins Drive          M-THQ-3A          Jackson, MS 39213          (601)485-2925          (601)985-2923 – facsimile          rriley2@entergy.com</p>
<p>Gregory Camet*          Associate General Counsel          David Fishel*          Assistant General Counsel          Entergy Services, Inc.          101 Constitution Ave NW          Suite 200 East          Washington, DC 20001          (202) 530-7317          (202) 530-7350 – facsimile          gcamet@entergy.com          dfishel@entergy.com</p>	<p>Mark McCulla*          VP, Transmission Regulatory Compliance          Entergy Services, Inc.          639 Loyola Ave          L-ENT-24A          New Orleans, LA 70113          (504)576-6123          (504)576-5123 - facsimile          mmccul1@entergy.com</p>

<p>Neil Jansonius*          Entergy Services, Inc.          VP, Ethics &amp; Compliance          425 W. Capitol          A-TCBY-27B          Little Rock, AR 72203-0551          (501)377-5552          njanson@entergy.com</p> <p>Rick J. King *          Director, Electric Reliability Standards          Entergy Services, Inc.          901 Rosedale Road          Port Allen, LA 70767          (225) 389-7152          (225)389-7157- facsimile          rking@entergy.com</p> <p>Greg Pierce*          Director, Transmission Compliance          Entergy Services, Inc.          639 Loyola Avenue          New Orleans, LA 70113          (504)576-4993          (504)576-5123 - facsimile          gpierc2@entergy.com</p> <p>Tim Gaudet*          Director, Fossil Compliance          Entergy Services, Inc.          10055 Grogan’s Mill Road          T-PKWD-5D          The Woodlands, TX 77380          (281)297-3484          tgaudet@entergy.com</p>	<p>Michael A. Vaughan*          VP, T&amp;D Asset Management          6540 Watkins Drive          M-THQ-3A          Jackson, MS 39213          (601)985-2800          (601)985-2923 – facsimile          mvaugha@entergy.com</p> <p>Marisa A. Sifontes*          General Counsel          Maggie A. Sallah          Senior Counsel*          SERC Reliability Corporation          2815 Coliseum Centre Drive, Suite 500          Charlotte, NC 28217          (704) 494-7775          (704) 357-7914 – facsimile          msifontes@serc1.org          msallah@serc1.org</p> <p>John R. Twitchell*          VP and Chief Program Officer          SERC Reliability Corporation          2815 Coliseum Centre Drive, Suite 500          Charlotte, NC 28217          (704) 940-8205          (704) 357-7914 – facsimile          jtwitchell@serc1.org</p>
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Andrea B. Koch\*  
Manager, Compliance Enforcement  
SERC Reliability Corporation  
2815 Coliseum Centre Drive, Suite 500  
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(704)940-8219  
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\*Persons to be included on the Commission’s service list are indicated with an asterisk. NERC requests waiver of the Commission’s rules and regulations to permit the inclusion of more than two people on the service list.

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**Conclusion**

NERC respectfully requests that the Commission accept this Notice of Penalty as compliant with its rules, regulations and orders.

Respectfully submitted,

/s/ Rebecca J. Michael

Rebecca J. Michael  
Associate General Counsel for Corporate  
and Regulatory Matters  
Sonica C. Mendonça  
Attorney  
North American Electric Reliability  
Corporation  
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President and Chief Executive Officer  
North American Electric Reliability Corporation  
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Charles A. Berardesco  
Senior Vice President and General Counsel  
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Charles.Berardesco@nerc.net

cc: Entergy  
SERC Reliability Corporation

Attachments

**Attachment a**

**Settlement Agreement by and between SERC  
and Entergy executed December 18, 2012**

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**SETTLEMENT AGREEMENT**  
**OF**  
**SERC RELIABILITY CORPORATION**  
**AND**  
**ENTERGY SERVICES, INC.**

**I. INTRODUCTION**

1. SERC Reliability Corporation (SERC) and Entergy Services, Inc. on behalf of Entergy Operating Companies<sup>1</sup> (Entergy) enter into this Settlement Agreement (Settlement Agreement) to resolve all outstanding issues arising from a preliminary and non-public assessment resulting in SERC's determination and findings, pursuant to the North American Electric Reliability Corporation (NERC) Rules of Procedure, of seven confirmed violations.

Reliability Standard	Requirement	SERC Tracking No.	NERC Violation ID
PRC-005-1	R2	09-031	SERC200900275
PRC-005-1	R1	09-058	SERC200900298
PRC-005-1	R1	SERC2010-400765	SERC201000636
PRC-005-1	R2	SERC2010-400766	SERC201000637

2. Entergy neither admits nor denies the four violations and has agreed to the proposed penalty of two hundred seventy-five thousand dollars (\$275,000) in addition to other remedies and actions to mitigate the instant violations and to ensure future compliance under the terms and conditions of the Settlement Agreement.

**II. STIPULATION**

3. The facts stipulated herein are stipulated solely for the purpose of resolving between Entergy and SERC the matters discussed herein and do not constitute stipulations or admissions for any other purpose. Entergy and SERC hereby stipulate and agree to the following:

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<sup>1</sup> Entergy Operating Companies consist of Entergy Arkansas, Inc.; Entergy Gulf States Louisiana, LLC; Entergy Louisiana, LLC; Entergy Mississippi, Inc.; Entergy New Orleans, Inc.; and Entergy Texas, Inc.

## **Background**

4. See Section I of the Common Disposition document (Attachment A) for a description of Entergy.

## **Violations of NERC Reliability Standards**

5. See Section I of the relative Disposition documents (Attachments B and C) for the description of the violations.

## **III. PARTIES' SEPARATE REPRESENTATIONS**

### **Statement of SERC and Summary of Findings**

6. SERC staff determined Entergy, as a Generator Owner (GO) and Transmission Owner (TO), was in violation of PRC-005-1 R2 for failing to have evidence that its Protection System devices were maintained and tested within the defined intervals established by its Protection System maintenance program. Based on the information provided by Entergy, a total of 445 out of 13,151 Protective System devices, approximately 3.4%, were tested outside of their defined intervals.
7. SERC staff determined that Entergy, as a GO, was in violation of PRC-005-1 because its procedure did not include the maintenance and testing interval, the basis and the summary for batteries as well as the basis for voltage and current sensing devices and DC control circuits and the summary for DC control circuits.
8. SERC staff determined that Entergy, as a GO, was in violation of PRC-005 R1 for failing to have a Protection System maintenance and testing program for associated communication systems. This is a repeat violation.
9. SERC staff determined that Entergy, as a GO and TO, was in violation of PRC-005-1 R2 for failing to have documentation that its Protection System devices were maintained and tested within the defined intervals and/or the date each Protection System device was last tested/maintained. Specifically, a total of 7,692 protective relays, voltage and current sensing devices, batteries, associated communication systems and DC control circuits were maintained and tested outside of the defined interval or had no previous test record available. This is a repeat violation.
10. SERC staff addresses the risk of each violation to the bulk power system (BPS) in the Disposition documents.
11. SERC agrees that this Settlement Agreement is in the best interest of the parties and in the best interest of BPS reliability.

### **Statement of Entergy**

12. Entergy neither admits nor denies that the facts set forth and agreed to by the parties for purposes of this Settlement Agreement constitute violations of PRC-005-1 R1 and R2.
13. Entergy has agreed to enter into this Settlement Agreement with SERC to avoid extended litigation with respect to the matters described or referred to herein, to avoid uncertainty, and to effectuate a complete and final resolution of the issues set forth herein. Entergy agrees that this Settlement Agreement is in the best interest of the parties and in the best interest of BPS reliability.
14. In addition to the specific mitigating steps taken by Entergy to address the concerns identified in this settlement, Entergy has implemented improvements to its processes. Through the implementation of a thorough, robust Root and Apparent Cause evaluation process, past programmatic/process issues have been minimized and current day issues are for the most part isolated and low risk issues. The electric reliability compliance program, along with the compliance programs within the relevant business units, continue to reinforce and sustain openness in identifying and timely self reporting potential noncompliance issues.
15. The enhancements to Entergy's protection system maintenance and testing program include: increased communication and coordination between the business units responsible for protection system maintenance and testing; standardization of testing and maintenance procedures, and preventive maintenance hierarchy, across generation facilities; improved compliance activity tracking; re-training of field personnel; and improved compliance documentation and recordkeeping.
16. Entergy's electric reliability compliance program improvements include: efforts by Entergy's senior management to reemphasize reliability compliance and the importance of building a positive culture of compliance, strengthening the compliance unit for Entergy's fossil generation business unit, enhanced compliance training, improvements in the distribution and promulgation of new compliance procedures, and improvements to the compliance organization structure.

### **IV. MITIGATING ACTIONS, REMEDIES AND SANCTIONS**

17. SERC and Entergy agree that Entergy has completed and SERC has verified the completion of the mitigating actions set forth in Section III of the relative Disposition documents (Attachments B and C). However, Entergy completed one mitigating action late in Attachment C. The Mitigating Actions, Remedies and Sanctions are discussed in detail in the relative Disposition documents (Attachment B and C).
18. SERC staff also considered the specific facts and circumstances of the violations and Entergy's actions in response to the violations in determining a proposed penalty that meets the requirement in Section 215 of the Federal Power Act that "[a]ny penalty

imposed under this section shall bear a reasonable relation to the seriousness of the violation and shall take into consideration the efforts of an entity to remedy the violation in a timely manner.”<sup>2</sup> The factors considered by SERC staff in the determination of the appropriate penalty are set forth in Section II of the Common Disposition document.

19. Based on the above factors, as well as the mitigation actions and preventative measures taken, Entergy shall pay two hundred seventy-five thousand dollars (\$275,000) to SERC as set forth in this Settlement Agreement. Entergy shall remit the payment to SERC via check, or by wire transfer to an account to be identified by SERC within thirty days after the Agreement is either approved by the Federal Energy Regulatory Commission (Commission) or by operation of law. SERC shall notify NERC, and NERC shall notify the Commission, if the payment is not timely received. If Entergy does not remit the payment by the required date, interest payable to SERC will begin to accrue pursuant to the Commission’s regulations at 18 C.F.R. §35.19a(a)(2)(iii) from the date that payment is due, and shall be payable in addition to the payment.
20. Failure to make a timely penalty payment or to comply with any of the terms and conditions agreed to herein, or any other conditions of this Settlement Agreement shall be deemed to be either the same alleged violations that initiated this Settlement Agreement and/or additional violations and may subject Entergy to new or additional enforcement, penalty or sanction actions in accordance with the NERC Rules of Procedure. Entergy shall retain all rights to defend against such additional enforcement actions in accordance with NERC Rules of Procedure.

#### V. ADDITIONAL TERMS

21. The signatories to the Settlement Agreement agree that they enter into the Settlement Agreement voluntarily and that, other than the recitations set forth herein, no tender, offer or promise of any kind by any member, employee, officer, director, agent or representative of SERC or Entergy has been made to induce the signatories or any other party to enter into the Settlement Agreement. The signatories agree that the terms and conditions of this Settlement Agreement are consistent with the Commission’s regulations and orders, and NERC’s Rules of Procedure.
22. SERC shall report the terms of all settlements of compliance matters to NERC. NERC will review the settlement for the purpose of evaluating its consistency with other settlements entered into for similar violations or under other, similar circumstances. Based on this review, NERC will either approve the settlement or reject the settlement and notify SERC and Entergy of changes to the settlement that would result in approval. If NERC rejects the settlement, NERC will provide

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<sup>2</sup> 16 U.S.C. § 824o(e)(6).

specific written reasons for such rejection and SERC will attempt to negotiate a revised settlement agreement with Entergy including any changes to the settlement specified by NERC. If a settlement cannot be reached, the enforcement process shall continue to conclusion. If NERC approves the settlement, NERC will (i) report the approved settlement to the Commission for the Commission's review and approval by order or operation of law and (ii) publicly post this Settlement Agreement.

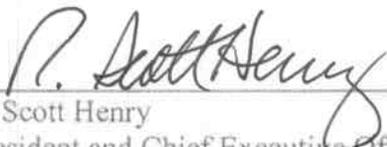
23. This Settlement Agreement shall become effective upon the Commission's approval of the Settlement Agreement by order or operation of law as submitted to it or as modified in a manner acceptable to the parties.
24. Entergy agrees that this Settlement Agreement, when approved by NERC and the Commission, shall represent a final settlement of all matters set forth herein and Entergy waives its right to further hearings and appeal, unless and only to the extent that Entergy contends that any NERC or Commission action on the Settlement Agreement contains one or more material modifications to the Settlement Agreement. SERC reserves all rights to initiate enforcement, penalty or sanction actions against Entergy in accordance with the NERC Rules of Procedure in the event that Entergy does not comply with the Mitigation Plans and compliance program agreed to in this Settlement Agreement. In the event Entergy fails to comply with any of the stipulations, remedies, sanctions or additional terms, as set forth in this Settlement Agreement, SERC will initiate enforcement, penalty, or sanction actions against Entergy to the maximum extent allowed by the NERC Rules of Procedure, up to the maximum statutorily allowed penalty. Except as otherwise specified in this Settlement Agreement, Entergy shall retain all rights to defend against such enforcement actions, also according to the NERC Rules of Procedure.
25. Entergy consents to the use of SERC's determinations, findings, and conclusions set forth in this Settlement Agreement for the purpose of assessing the factors, including the factor of determining the company's history of violations, in accordance with the NERC Sanction Guidelines and applicable Commission orders and policy statements. Such use may be in any enforcement action or compliance proceeding undertaken by NERC and/or any Regional Entity; provided, however, that Entergy does not consent to the use of the specific acts set forth in this Settlement Agreement as the sole basis for any other action or proceeding brought by NERC and/or SERC, nor does Entergy consent to the use of this Settlement Agreement by any other party in any other action or proceeding.
26. Each of the undersigned warrants that he or she is an authorized representative of the entity designated, is authorized to bind such entity and accepts the Settlement Agreement on the entity's behalf.
27. The undersigned representative of each party affirms that he or she has read the Settlement Agreement, that all of the matters set forth in the Settlement Agreement are true and correct to the best of his or her knowledge, information and belief, and

that he or she understands that the Settlement Agreement is entered into by such party in express reliance on those representations, provided, however, that such affirmation by each party's representative shall not apply to the other party's statements of position set forth in Section III of this Settlement Agreement.

28. The Settlement Agreement may be signed in counterparts.

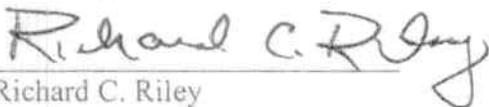
29. If this Settlement Agreement is executed in duplicate, each of which so executed shall be deemed to be an original.

Agreed to and accepted:



R. Scott Henry  
President and Chief Executive Officer  
**SERC RELIABILITY CORPORATION**

12/18/2012  
Date



Richard C. Riley  
VP, Energy Delivery  
**ENTERGY SERVICES, INC.**

12/18/12  
Date

## **SERC's Disposition of Violation: Information Common to Instant Violations**

**DISPOSITION OF VIOLATION<sup>1</sup>**  
**INFORMATION COMMON TO INSTANT VIOLATIONS**  
**Dated December 18, 2012**

REGISTERED ENTITY  
**Entergy Corporation**

NERC REGISTRY ID  
**NCR01234**

NOC#  
**NOC-1712**

REGIONAL ENTITY  
**SERC Reliability Corporation (SERC)**

**I. REGISTRATION INFORMATION**

ENTITY IS REGISTERED FOR THE FOLLOWING FUNCTIONS IN THE SERC  
REGION (BOTTOM ROW INDICATES REGISTRATION DATE):

BA	DP	GO	GOP	IA	LSE	PA	PSE	RC	RP	RSG	TO	TOP	TP	TSP
X	X	X	X	X	X	X	X		X		X	X	X	X
5/31/07	5/31/07	5/31/07	5/31/07	3/20/08	5/31/07	5/31/07	5/31/07		5/31/07		5/31/07	5/31/07	5/31/07	5/31/07

**DESCRIPTION OF THE REGISTERED ENTITY**

Entergy Corporation (Entergy) is an integrated energy company engaged primarily in electric power production and retail distribution operations. Entergy Corporation is the parent company headquartered in New Orleans, Louisiana. The overall Entergy corporate structure includes utility operating companies that generate, transmit, distribute and sell electric power.<sup>2</sup>

Entergy, as a Generator Operator, operates 85 generators with a net generation capacity of approximately 30,000 MWs.

Entergy, as a Transmission Owner and Transmission Operator, owns and operates 15,691 miles of Transmission lines consisting of the following: 2,040 miles of 500 kV, 97 miles of 345 kV, 2,321 miles of 230 kV, 1,517 miles of 161 kV, 2,252 miles of 138 kV, 5,877 miles of 115 kV and 1,587 miles of 69 kV.

IS THERE A SETTLEMENT AGREEMENT      YES         NO  

<sup>1</sup> For purposes of this document and attachments hereto, each violation at issue is described as a "violation," regardless of its procedural posture and whether it was a possible, alleged or confirmed violation.

<sup>2</sup> The Entergy Operating Companies are Entergy Arkansas, Inc.; Entergy Gulf States Louisiana, LLC; Entergy Louisiana, LLC; Entergy Mississippi, Inc.; Entergy New Orleans, Inc. and Entergy Texas Inc.

WITH RESPECT TO THE VIOLATION(S), REGISTERED ENTITY

NEITHER ADMITS NOR DENIES IT (SETTLEMENT ONLY) YES   
ADMITS TO IT YES   
DOES NOT CONTEST IT (INCLUDING WITHIN 30 DAYS) YES

WITH RESPECT TO THE ASSESSED PENALTY OR SANCTION, REGISTERED ENTITY

ACCEPTS IT/ DOES NOT CONTEST IT YES

**II. PENALTY INFORMATION**

TOTAL ASSESSED PENALTY OR SANCTION OF **TWO HUNDRED SEVENTY-FIVE THOUSAND DOLLARS (\$275,000)** FOR **FOUR** VIOLATIONS OF RELIABILITY STANDARDS.

(1) REGISTERED ENTITY'S COMPLIANCE HISTORY

PREVIOUSLY FILED VIOLATIONS OF ANY OF THE INSTANT RELIABILITY STANDARD(S) OR REQUIREMENT(S) THEREUNDER IN THE SERC REGION  
YES  NO

LIST VIOLATIONS AND STATUS

ADDITIONAL COMMENTS

PREVIOUSLY FILED VIOLATIONS OF OTHER RELIABILITY STANDARD(S) OR REQUIREMENTS THEREUNDER IN THE SERC REGION  
YES  NO

LIST VIOLATIONS AND STATUS

A Settlement Agreement covering a violation of FAC-003-1 R2 for Entergy (NOC-086) was filed with FERC under NP10-22-000 on December 30, 2009. On January 29, 2010, FERC issued an order stating it would not engage in further review of the Notice of Penalty.

A Settlement Agreement covering a violation of BAL-005-0 R8 for Entergy (NOC-382) was filed with FERC under NP10-78-000 on March 31, 2010. On April 30, 2010, FERC issued an order stating it would not engage in further review of the Notice of Penalty.

A Settlement Agreement covering violations of FAC-008-1 R1, FAC-009-1 R1 and COM-002-2 R2 for Entergy (NOC-1484) was filed with FERC under NP12-41-000 on

August 31, 2012. On September 28, 2012, FERC issued an order stating it would not engage in further review of the Notice of Penalty.

#### ADDITIONAL COMMENTS

(2) THE DEGREE AND QUALITY OF COOPERATION BY THE REGISTERED ENTITY (IF THE RESPONSE TO FULL COOPERATION IS “NO,” THE ABBREVIATED NOP FORM MAY NOT BE USED.)

FULL COOPERATION      YES       NO   
IF NO, EXPLAIN

(3) THE PRESENCE AND QUALITY OF THE REGISTERED ENTITY’S COMPLIANCE PROGRAM

IS THERE A DOCUMENTED COMPLIANCE PROGRAM  
YES       NO   
EXPLAIN

Based on Entergy’s September 28, 2010 responses to SERC’s Compliance Culture Questionnaire (CCQ), since 2003 Entergy has had documented internal compliance program (ICP), which consists of multiple system policies for all areas of compliance including NERC Reliability Standards. The ICP is reviewed on an as-needed basis. The last review took place in the fourth quarter of 2011. The ICP requires that all senior management be responsible for ensuring that their subordinates cooperate, are aware of, and understand the ICP.

EXPLAIN SENIOR MANAGEMENT’S ROLE AND INVOLVEMENT WITH RESPECT TO THE REGISTERED ENTITY’S COMPLIANCE PROGRAM, INCLUDING WHETHER SENIOR MANAGEMENT TAKES ACTIONS THAT SUPPORT THE COMPLIANCE PROGRAM, SUCH AS TRAINING, COMPLIANCE AS A FACTOR IN EMPLOYEE EVALUATIONS, OR OTHERWISE.

Based on Entergy’s September 28, 2010 responses to SERC’s CCQ, the Corporate Compliance Committee (CCC) oversees the ongoing development and maintenance of Entergy’s policies and procedures concerning legal compliance issues and business ethics and oversees activities undertaken to promote adherence with such policies and procedures. The CCC meets quarterly and is responsible for the development and the promotion of Entergy’s compliance and business ethics policies and procedures. Entergy’s Corporate Compliance Officer, the Vice-President, Ethics & Compliance, reports directly to the Vice-president & General Counsel, and has independent access to Entergy’s Board of Directors Audit Committee and is a member of the Corporate Compliance Committee. The existence of Entergy’s compliance program was a mitigating factor in determining the penalty.

(4) ANY ATTEMPT BY THE REGISTERED ENTITY TO CONCEAL THE VIOLATION(S) OR INFORMATION NEEDED TO REVIEW, EVALUATE OR INVESTIGATE THE VIOLATION.

YES  NO   
IF YES, EXPLAIN

(5) ANY EVIDENCE THE VIOLATION(S) WERE INTENTIONAL (IF THE RESPONSE IS "YES," THE ABBREVIATED NOP FORM MAY NOT BE USED.)

YES  NO   
IF YES, EXPLAIN

(6) ANY OTHER MITIGATING FACTORS FOR CONSIDERATION

YES  NO   
IF YES, EXPLAIN

(7) ANY OTHER AGGRAVATING FACTORS FOR CONSIDERATION

YES  NO   
IF YES, EXPLAIN

SERC201000636 and SERC201000637 are repeat violations.

(8) ANY OTHER EXTENUATING CIRCUMSTANCES

YES  NO   
IF YES, EXPLAIN

OTHER RELEVANT INFORMATION:

NOTICE OF ALLEGED VIOLATION AND PROPOSED PENALTY OR SANCTION ISSUED

DATE: OR N/A

SETTLEMENT DISCUSSIONS COMMENCED

DATE: 6/19/12 OR N/A

NOTICE OF CONFIRMED VIOLATION ISSUED

DATE: OR N/A

SUPPLEMENTAL RECORD INFORMATION

DATE(S) OR N/A

REGISTERED ENTITY RESPONSE CONTESTED

FINDINGS  PENALTY  BOTH  NO CONTEST

HEARING REQUESTED

YES  NO

DATE

OUTCOME

APPEAL REQUESTED

SETTLEMENT AGREEMENT BETWEEN SERC AND Entergy, executed  
December 18, 2012

**SERC's Disposition of Violation for PRC-005-1  
R1 and R2, SERC200900298 and  
SERC200900275**

## DISPOSITION OF VIOLATION<sup>1</sup>

**Dated December 18, 2012**

NERC TRACKING NO.	SERC TRACKING NO.
SERC200900275	09-031
SERC200900298	09-058

### **I. VIOLATION INFORMATION**

RELIABILITY STANDARD	REQUIREMENT(S)	SUB-REQUIREMENT(S)	VRF(S)	VSL(S)
PRC-005-1	1		High	High
PRC-005-1	2		High	Lower

VIOLATION(S) APPLIES TO THE FOLLOWING FUNCTIONS IN THE SERC REGION:

BA	DP	GO	GOP	IA	LSE	PA	PSE	RC	RP	RSG	TO	TOP	TP	TSP
		X									X			

PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)

The purpose statement of PRC-005-1 provides:

“To ensure all transmission and generation Protection Systems affecting the reliability of the Bulk Electric System (BES) are maintained and tested.”

PRC-005-1 R1 provides:

**R1.** Each Transmission Owner and any Distribution Provider that owns a transmission Protection System and each Generator Owner that owns a generation Protection System shall have a Protection System maintenance and testing program for Protection Systems that affect the reliability of the BES. The program shall include:

**R1.1.** Maintenance and testing intervals and their basis.

**R1.2.** Summary of maintenance and testing procedures.

PRC-005-1 R2 provides:

**R2.** Each Transmission Owner and any Distribution Provider that owns a transmission Protection System and each Generator Owner that owns a generation Protection System shall provide documentation of its Protection System maintenance and testing program and the

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<sup>1</sup> For purposes of this document and attachments hereto, each violation at issue is described as a “violation,” regardless of its procedural posture and whether it was a possible, alleged or confirmed violation.

implementation of that program to its Regional Reliability Organization on request (within 30 calendar days). The documentation of the program implementation shall include:

**R2.1.** Evidence Protection System devices were maintained and tested within the defined intervals.

**R2.2.** Date each Protection System device was last tested/maintained.

## VIOLATION DESCRIPTION

### PRC-005-1 R2 (SERC200900275):

On May 29, 2009, Entergy, as a Generator Owner (GO), self-reported a possible violation of PRC-005-1 R2 due to missing work records for some of its Protection System devices. While SERC was performing its assessment and determining the scope of the violation, Entergy submitted an addendum concerning a possible violation of PRC-005-1 R2 for its Transmission Owner (TO) function. SERC requested information from Entergy regarding its Protection System program, including its procedure and a spreadsheet that included each TO and GO Protection System device.

SERC learned that Entergy's transmission Protection System maintenance program allowed for the deferral of maintenance tasks. Each year, Entergy would issue a Letter of Instruction (LOI) to its transmission departments establishing the maintenance tasks that would be performed for that year. Prior to 2008, LOIs did not require the deferred maintenance tasks to be completed in addition to the list of maintenance tasks for that year. This resulted in some of the transmission Protection System devices being tested outside of the defined intervals.

The TO submitted its spreadsheet on September 2, 2009 and the GO submitted its spreadsheet on March 4, 2010. The PRC-005 spreadsheets listed Protection System tasks rather than Protection System devices because the data was taken from Entergy's work management system, which was designed to track and assign maintenance activity at the panel level, rather than by device. Entergy was not able to provide Protection System device counts. According to the spreadsheets, Entergy had 5191 generation Protection System tasks and 7960 transmission Protection System tasks.

The instances of the GO's and the TO's noncompliance with PRC-005-1 R2 are listed below:

#### Protective Relays:

Total of 3717 tasks (TO - 2, 8 & 12 year intervals; GO - 4 year interval)

- 3677 relays in compliance
- 40 relays outside of interval
- 0 relays with no previous test record

#### Associated Communication Systems:

Total of 1877 tasks (TO - 2 & 4 month, 1, 4, 8 & 12 year intervals; GO - had no associated communication systems)

- 1856 associated communication systems in compliance
- 21 associated communication systems outside of interval
- 0 associated communication systems with no previous test record

Voltage and Current Sensing devices (PT/CT):

Total of 2467 tasks (TO - 2, 4, 8, & 12 year intervals; GO – 5 and 10 year intervals)

- 2237 PT/CT in compliance
- 230 PT/CT outside of interval
- 0 PT/CT with no previous test record

Station Batteries:

Total of 1161 tasks (TO - 6 month & 5 year intervals; GO – had no battery intervals)

- 1151 batteries in compliance
- 10 batteries outside of interval
- 0 batteries with no previous test record

DC control circuits:

Total of 3929 tasks (TO - 4, 8 & 12 year intervals; GO – 2 year interval)

- 3785 DC control circuits in compliance
- 144 DC control circuits outside of interval
- 0 DC control circuits with no previous test record

SERC determined Entergy, as a GO and TO, was in violation of PRC-005-1 R2.1 for failing to have evidence that its Protection System devices were maintained and tested within the defined intervals established by its Protection System maintenance program. Based on the information provided by Entergy, a total of 445 out of 13,151 Protective System devices, approximately 3.4%, were tested outside of their defined intervals. When SERC reviewed the evidence regarding mitigation of this violation, it determined that Entergy had not mitigated the violation. SERC found that the scope of this violation included additional issues as described in the second violation of PRC-005-1 R2 (SERC201000637) in Attachment C. This violation was mitigated in conjunction with SERC201000637, thus the risk to the BPS is the same for both violations.

SERC assessed a VSL of “Lower” in accordance with the June 4, 2012 VSL Matrix because Entergy lacked testing records for 445 of the 13,151 total generation and transmission Protection System devices, which is less than 5% of its applicable devices.

PRC-005-1 R1 (SERC200900298):

On March 25, 2009, SERC notified Entergy of a SERC on-site compliance audit of Entergy scheduled for September 21 - 25, 2009. On August 6, 2009, Entergy, as a GO, self-reported that it had not documented the basis for battery maintenance and testing intervals at its fossil plants. During the scheduled audit, Entergy was unable to identify the basis for batteries, DC control circuits and CT and PTs testing intervals from June 18, 2007 through July 15, 2009. Because the audit finding, 09-087, was directly related to the August 6, 2009 Self-Report, SERC utilized a single tracking number for both issues.

SERC reviewed Entergy’s procedure, which was in effect at the beginning of the mandatory and enforceable period. The procedure did not include the maintenance and testing interval, its basis or the summary for batteries. The procedure did not list the basis for PT/CTs and DC control circuits. The procedure also failed to include a summary for DC control circuits.

At the time of the audit, the GO stated that it did not have any associated communication system devices. After this violation was processed, Entergy discovered some associated communication system devices at the TO and GO interface that were not accounted for in either program. At that time, the GO reported the associated communication system devices to SERC in violation SERC201000636; discussed in Attachment C.

SERC determined that Entergy, as a GO, was in violation of PRC-005-1 because its procedure did not include the maintenance and testing interval, the basis and the summary for batteries as well as the basis for PT/CTs and DC control circuits and the summary for DC control circuits.

SERC assessed a Violation Severity Level (VSL) of “High” in accordance with the June 4, 2012 VSL Matrix because Entergy had a Protection System maintenance and testing program for Protection Systems but the maintenance and testing intervals and their basis were missing or incomplete.

#### RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

##### PRC-005-1 R2 (SERC200900275):

SERC determined that this violation posed a serious and substantial risk to the reliability of the BPS because of the following reasons:

1. A total of 7,692 devices were maintained and tested outside the defined intervals or no previous test records were available. This is a significant number of Protection System devices for a 30,000 MW entity with such a considerable impact on the SERC region and is indicative of a broad inattention to maintenance and testing of Protection System devices;
2. The missed due dates for relays ranged from 18 years to one month; and
3. Entergy did not have an accurate inventory of its Protection System devices.

##### PRC-005-1 R1 (SERC200900298):

SERC determined that this violation posed a moderate risk and not a serious or substantial risk to the reliability of the bulk power system because not having a maintenance and testing procedure for its batteries could prohibit other Protective System devices from operating. While Entergy’s maintenance and testing program was incomplete, it did have the following components: (1) a maintenance and testing program for relays; (2) a maintenance and testing interval and summary for PTs and CTs; and (3) a maintenance and testing interval for DC control circuits. Finally, Entergy did test all devices since the start of the enforceable period

**II. DISCOVERY INFORMATION**

## METHOD OF DISCOVERY

SELF-REPORT	<input checked="" type="checkbox"/>
SELF-CERTIFICATION	<input type="checkbox"/>
COMPLIANCE AUDIT	<input checked="" type="checkbox"/>
COMPLIANCE VIOLATION INVESTIGATION	<input type="checkbox"/>
SPOT CHECK	<input type="checkbox"/>
COMPLAINT	<input type="checkbox"/>
PERIODIC DATA SUBMITTAL	<input type="checkbox"/>
EXCEPTION REPORTING	<input type="checkbox"/>

## DURATION DATE(S)

PRC-005-1 R2 (SERC200900275): 6/18/07 (the mandatory and enforceable date of the Standard) through 10/7/12 (Mitigation Plan completion)

PRC-005-1 R1 (SERC200900298): 6/18/07 (when the Standard became mandatory and enforceable) through 7/15/09 (effective date of version two of the procedure)

## DATE DISCOVERED BY OR REPORTED TO REGIONAL ENTITY

PRC-005-1 R2 (SERC200900275): 5/29/09

PRC-005-1 R1 (SERC200900298): 8/06/09

PRC-005-1 R1 (09-087): 9/24/09

IS THE VIOLATION STILL OCCURRING      YES       NO   
IF YES, EXPLAIN

REMEDIAL ACTION DIRECTIVE ISSUED      YES       NO   
PRE TO POST JUNE 18, 2007 VIOLATION      YES       NO

**III. MITIGATION INFORMATION**

FOR FINAL ACCEPTED MITIGATION PLAN for SERC200900275 and SERC200900298:

MITIGATION PLAN NO.	MIT-07-2159
DATE SUBMITTED TO REGIONAL ENTITY	11/20/09
DATE ACCEPTED BY REGIONAL ENTITY	12/3/09
DATE APPROVED BY NERC	12/4/09
DATE PROVIDED TO FERC	12/4/09

IDENTIFY AND EXPLAIN ALL PRIOR VERSIONS THAT WERE ACCEPTED OR REJECTED, IF APPLICABLE N/A

MITIGATION PLAN COMPLETED      YES       NO

EXPECTED COMPLETION DATE Submitted as complete.  
EXTENSIONS GRANTED  
ACTUAL COMPLETION DATE 12/31/09

DATE OF CERTIFICATION LETTER 01/11/10  
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF 12/31/09

VERIFIED COMPLETE BY REGIONAL ENTITY AS OF 7/28/11<sup>2</sup>

#### ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE

Entergy completed the following actions detailed in its Mitigation Plan:

1. Issued its Battery Acceptance, Testing and Maintenance Procedure, which established uniform inspections, tests, and maintenance of the Station Battery Systems.
2. Performed relay calibrations, DC trip tests, PT/CT inspections & testing, and Battery Preventative Maintenance.
3. Instructed designated personnel on the acceptable level of documentation to show compliance for PRC-005.
4. Communicated documentation and record retention requirements on battery maintenance.
5. Trained the Fossil Compliance Group to develop status reports that will provide:  
regarding work requests.
  - a. Status of work requests and their last completed date.
  - b. Status of preventive maintenance triggers last performed and next due date.
  - c. Determination of any preventive maintenance triggers.
6. Senior Management reemphasized expectations for complying with NERC Reliability Standards and continuing to foster a compliance culture.
7. Established a standardized maintenance program for the generator Protective Relays and instrument transformers and reporting requirements for the protective relay misoperations.
8. Developed a process for the newly issued and revised compliance procedures that includes notification that the procedure was received and understood by responsible plant personnel and training regarding the requirements that must be included in the issuance of compliance procedures.
9. Adopted a new reporting tool to identify maintenance tasks and trained applicable personnel on the use of the new tool.

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<sup>2</sup> This Disposition Document serves as SERC's Verification of Mitigation Plan Completion.

10. Revised the Entergy transmission maintenance procedure to include provisions to manage the extent to which maintenance of Protection Systems can be deferred.
11. Assets with carry-over tasks will be maintained in accordance with the 2009 maintenance plan.

LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO EVALUATE COMPLETION OF MITIGATION PLAN OR MILESTONES (FOR CASES IN WHICH MITIGATION IS NOT YET COMPLETED, LIST EVIDENCE REVIEWED FOR COMPLETED MILESTONES)

1. Entergy's Battery Acceptance, Testing and Maintenance Procedure.
2. Documentation of relay calibrations, DC trip tests, PT/CT inspections & testing, and Battery Preventative Maintenance.
3. Email to designated personnel at each fossil plant responsible for coordinating the NERC requirements on the acceptable level of documentation to show compliance with PRC-005.
4. Revised the Battery Maintenance and Testing Procedure to establish uniform means of inspecting, testing and maintaining the Station Battery Systems.
5. Training document for the use of the Management System and the training attendance sheet.
6. An interoffice correspondence from the Sr. VP of fossil generation to all department employees addressing the reason for compliance, accountability, and expectations.
7. Revised Generator Protection System Maintenance Procedure to document the basis of testing intervals for DC circuitry and CTs & PTs.
8. Process for Notification of New Revised Regulatory Procedures, which outlines the responsibilities and the process for communicating new and revised procedures to employees.
9. Training materials for applicable personnel and the attendance records training on the new maintenance task reporting tool.
10. The revised transmission maintenance procedure and the revised LOI.
11. Worksheets identifying the dates the carryover tasks were completed.

EXHIBITS:

SOURCE DOCUMENT

Entergy Self-Report dated 5/29/09

Entergy Self-Report dated 8/6/09

SERC Audit Screening Worksheet dated 9/24/09

MITIGATION PLAN

Entergy Mitigation Plan submitted on 11/20/09

CERTIFICATION BY REGISTERED ENTITY

Entergy Certification of Completion of Mitigation Plan 1/11/10

VERIFICATION BY REGIONAL ENTITY

This Disposition Document serves as SERC's verification of completed Mitigation Plan.

**SERC's Disposition of Violation for PRC-005-1  
R1 and R2, SERC201000636 and  
SERC201000637**

## DISPOSITION OF VIOLATION<sup>1</sup>

### Dated December 18, 2012

NERC TRACKING NO.   SERC TRACKING NO.  
 SERC201000636       SERC2010-400765  
 SERC201000637       SERC2010-400766

#### I. VIOLATION INFORMATION

RELIABILITY STANDARD	REQUIREMENT(S)	SUB-REQUIREMENT(S)	VRF(S)	VSL(S)
PRC-005-1	R1		High	High
PRC-005-1	R2		High	Severe

VIOLATION(S) APPLIES TO THE FOLLOWING FUNCTIONS IN THE SERC REGION:

BA	DP	GO	GOP	IA	LSE	PA	PSE	RC	RP	RSG	TO	TOP	TP	TSP
		X									X			

PURPOSE OF THE RELIABILITY STANDARD AND TEXT OF RELIABILITY STANDARD AND REQUIREMENT(S)/SUB-REQUIREMENT(S)

The purpose statement of PRC-005-1 provides:

“To ensure all transmission and generation Protection Systems affecting the reliability of the Bulk Electric System (BES) are maintained and tested.”

PRC-005-1 provides: **R1.** Each Transmission Owner and any Distribution Provider that owns a transmission Protection System and each Generator Owner that owns a generation Protection System shall have a Protection System maintenance and testing program for Protection Systems that affect the reliability of the BES. The program shall include:

**R1.1.** Maintenance and testing intervals and their basis.

**R1.2.** Summary of maintenance and testing procedures.

**R2.** Each Transmission Owner and any Distribution Provider that owns a transmission Protection System and each Generator Owner that owns a generation Protection System shall provide documentation of its Protection System maintenance and testing program and the implementation of that program to its Regional Reliability Organization on request (within 30 calendar days). The documentation of the program implementation shall include:

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<sup>1</sup> For purposes of this document and attachments hereto, each violation at issue is described as a “violation,” regardless of its procedural posture and whether it was a possible, alleged or confirmed violation.

**R2.1.** Evidence Protection System devices were maintained and tested within the defined intervals.

**R2.2.** Date each Protection System device was last tested/maintained.

#### VIOLATION DESCRIPTION

##### PRC-005-1 R1 (SERC201000636):

On October 2, 2010, Entergy, as a GO, self-reported that it did not have documentation for the maintenance and testing of at least one device in accordance with PRC-005 R1 and R2. The Self-Report was submitted in response to an inquiry from SERC during its assessment of Entergy's SERC200900298 PRC-005 R1 violation.

During Entergy's assessment of SERC200900298, it discovered approximately 660 devices at the interface of the TO and GO that were not accounted for by either function. Nine of the devices, located at eight generating units with an average capacity of 170 MW, discovered were associated communication devices, whose maintenance and testing were the responsibility of the GO.

SERC reviewed the GO's maintenance and testing procedures, which contained the interval, the basis and the summary of procedure for protective relays, CT, PT, batteries and DC control circuits. The GO's maintenance and testing program did not include the interval, the basis or the summary for associated communication devices because it did not believe that it had such devices.

SERC reviewed the TO's maintenance and testing procedures back to the start of the enforceable period and found them to be compliant with the Standard.

SERC determined that Entergy, as a GO, was in violation of PRC-005 R1 for failing to have a Protection System maintenance and testing program for associated communication systems. This is a repeat violation.

SERC assessed a VSL of "High" in accordance with the June 4, 2012 VSL Matrix because Entergy had a maintenance and testing plan but the maintenance and testing intervals and their basis was missing or incomplete.

##### PRC-005-1 R2 (SERC201000637):

On October 5, 2010, Entergy, as GO, self-reported that it did not have documentation for the maintenance and testing of at least one device in accordance with PRC-005 R1 and R2. The Self-Report was submitted in response to an inquiry from SERC during its validation of Entergy's SERC200900275 PRC-005 R2 Mitigation Plan. Entergy was unable to provide evidence that it had been performing monthly periodic maintenance on batteries in accordance with its maintenance and testing program.

At the request of SERC, Entergy prepared a spreadsheet for its GO function and one for its TO function. Each spreadsheet contained the defined maintenance and testing intervals, the most recent test date, and the previous test date for each Protection System device. While Entergy was preparing the spreadsheets, it discovered 660 Protection

System devices at the interface of the TO and GO that had not been accounted for by either function. Entergy determined that the Protection System devices should have been the responsibility of the TO. On March 16, 2011, the TO self-reported two possible violations of PRC-005-1 R2, which were designated as SERC tracking numbers SERC2011-400937 and SERC2011-400938. In response to the TO's Self-Reports, SERC expanded the scope of its assessment to cover the GO and the TO functions. Therefore, a single tracking number, SERC201000637, was utilized.

In light of the new discovery, Entergy requested more time to complete the spreadsheets to accurately reflect the Protection System devices found at the interface of the TO and the GO. On May 16, 2011, Entergy provided SERC with the TO's spreadsheet, which contained task counts instead of Protection System device counts because Entergy's maintenance and testing program was task-based. On August 31, 2011, Entergy provided SERC with the GO's spreadsheet, which contained the Protection System device counts.

SERC compared the intervals listed in the spreadsheets to those included in Entergy's maintenance and testing procedures to ensure consistency. On September 15, 2011, SERC found an anomaly pertaining to the May 16, 2011 TO spreadsheet. As a result SERC Compliance Enforcement management and staff and members of the legal department met with Entergy senior management and staff in New Orleans, LA and Jackson, MS on September 28, 2011, and October 11–12, 2011, respectively, in order to fully understand the TO's Protection System maintenance and testing procedures and practices.

In the meeting, SERC and Entergy discussed Entergy's practice of issuing a Letter of Instruction (LOI) to its transmission departments, which established the maintenance tasks that would be performed for that year. Prior to 2008, LOIs did not require the deferred maintenance tasks to be completed in addition to the list of maintenance tasks for that year. This resulted in some of the transmission Protection System devices being tested outside of the defined intervals. (SERC200900275) In 2009, the LOI was revised in the SERC200900275 Mitigation Plan to ensure that maintenance wasn't indefinitely deferred. However, the revised LOI still allowed deferrals for one year, which could result transmission Protection System devices being tested outside of their defined intervals. In addition, the 2011 LOI included a goal of less than 100% regarding the completion of the tasks that were due.

Additionally, the TO's substation work maintenance system database was organized by communication devices, substation batteries and "panels," which consisted of any number of DC control circuits, PTs and CTs, protective relays and associated communication systems. Testing and maintenance was scheduled and tracked on a panel basis, rather than for each individual component within a panel. Because of the task-based design of the work management software, the TO was not able to provide an accurate Protection System device-by-device account in the spreadsheets it had provided to SERC. Entergy committed to submit a complete inventory of Protection System devices for the TO by December 15, 2011. Entergy provided SERC with the device count on December 15, 2011, followed by an updated version on December 21, 2011, in

order to provide additional clarity and to address issues that had been found with the spreadsheet.

On January 18, 2012, the GO informed SERC that while performing DC trip testing it identified three relays and their associated DC circuits and CTs that had not been included in the August 31, 2011 spreadsheet. Entergy submitted the updated spreadsheet on January 19, 2012.

While Entergy, as a GO, was implementing its Mitigation Plan, it self-reported an additional possible violation because nine visual inspections for CTs occurred outside of interval. Entergy self-reported the discovery on May 18, 2012. The visual inspections were due on October 27, 2011 but were not completed until April 26, 2012. There were no deficiencies observed during the visual inspections. Entergy stated that the reason for the delay was that the preventative maintenance task was not scheduled. The Self-Report was designated as SERC2012-401411. Because the Self-Report was directly related to SERC201000637, SERC utilized a single tracking number for the May 18, 2012 Self-Report.

The instances of noncompliance and gaps in compliance with PRC-005-1 R2 are listed below: (Entergy's previous PRC-005-1 R2 instances of noncompliance, SERC200900275, are not included in the following numbers.)

Device count for the GO:

Protective Relays:

1056 (4 year interval)

- 835 relays in compliance
- 23 relays outside of interval
- 198 relays with no previous test record

Associated Communication Systems:

9 (3 month & 4 year intervals)

- 0 associated communication systems in compliance
- 0 associated communication systems outside of interval
- 9 associated communication systems without previous test record

PTs & CTs:

2869 (5 & 10 year intervals)

- 830 PT/CT in compliance
- 333 PT/CT outside of interval
- 1706 PT/CT with no previous test record

Station Batteries:

68 (monthly, quarterly, yearly & 5 year intervals)

- 59 batteries in compliance
- 2 batteries outside of interval
- 7 batteries with no previous test record

DC Control Circuits:

1098 (4 year interval)

- 643 devices in compliance
- 44 devices outside of interval
- 411 devices with no previous test record

Device count for the TO:

Protective Relays:

10,060 (2, 4, 8 & 12 year intervals)

- 9431 relays in compliance
- 588 relays outside of interval
- 41 relays with no previous test record

Associated Communication Systems:

1345 (2 & 4 month, 1, 4, 8 & 12 year intervals)

- 1271 associated communication systems in compliance
- 68 associated communication systems outside of interval
- 6 associated communication systems without previous test record

PTs & CTs:

14,120 (2, 4, 8 & 12 year intervals)

- 11,941 PT/CT in compliance
- 2108 PT/CT outside of interval
- 71 PT/CT with no previous test record

Station Batteries:

550 (6 month & 5 year intervals)

- 413 batteries in compliance
- 137 batteries outside of interval
- 0 batteries with no previous test record

DC Control Circuits:

11,746 (2, 4, 8 & 12 year intervals)

- 9806 devices in compliance
- 1878 devices outside of interval
- 62 devices with no previous test record

Entergy has 42,921 total Protection System devices; 7,692 out of 42,921 (17.9%) were tested outside of the defined interval or had no previous test record.

SERC determined that Entergy, as a GO and TO, was in violation of PRC-005-1 R2 for failing to have documentation that its Protection System devices were maintained and tested within the defined intervals and/or the date each Protection System device was last tested/maintained. Specifically, a total of 7,692 protective relays, CTs & PTs, batteries, associated communication systems and DC control circuits were maintained and tested

outside of the defined interval or had no previous test record available. This is a repeat violation.

SERC assessed a Violation Severity Level (VSL) of “Severe” in accordance with the December 20, 2011 VSL Matrix because evidence that Protection System devices were maintained and tested within the defined intervals was missing more than 15% of the applicable devices.

**RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL**

**PRC-005-1 R1 (SERC201000636):**

SERC determined that the violation posed a minimal risk and did not pose a serious or substantial risk to the reliability of the bulk power system because:

1. Only the 9 associated communication devices are alarmed, which should allow for a timely response in the event of a failure;
2. The 8 generating units had an average capacity of 170 MW and are used for peaking purposes; and
3. All of the associated communication systems were subsequently maintained and tested and should have performed their intended function.

**PRC-005-1 R2 (SERC201000637):**

SERC determined that the violation posed a serious and substantial risk to the reliability of the BPS because:

1. A total of 7,692 devices were maintained and tested outside the defined intervals or no previous test records were available. This is a significant number of Protection System devices for a 30,000 MW entity with such a considerable impact on the SERC region;
2. The missed due dates for relays ranged from 18 years to 1 month and; and
3. Entergy did not have an accurate inventory of its protection system devices.

**II. DISCOVERY INFORMATION**

**METHOD OF DISCOVERY**

- |                                    |                                     |
|------------------------------------|-------------------------------------|
| SELF-REPORT                        | <input checked="" type="checkbox"/> |
| SELF-CERTIFICATION                 | <input type="checkbox"/>            |
| COMPLIANCE AUDIT                   | <input type="checkbox"/>            |
| COMPLIANCE VIOLATION INVESTIGATION | <input type="checkbox"/>            |
| SPOT CHECK                         | <input type="checkbox"/>            |
| COMPLAINT                          | <input type="checkbox"/>            |
| PERIODIC DATA SUBMITTAL            | <input type="checkbox"/>            |
| EXCEPTION REPORTING                | <input type="checkbox"/>            |

**DURATION DATE(S)**

**PRC-005-1 R1 (SERC201000636):**

6/18/07 (the beginning of the enforceable period) until 10/7/12 (Mitigation Plan completion)

PRC-005-1 R2 (SERC201000637):

6/18/07 (the date the standard became mandatory and enforceable) until 10/7/12  
(Mitigation Plan completion)

Entergy did not return to compliance from the original PRC-005-1 R2 violation prior to this Self-Report; therefore, the violations are concurrent.

DATE DISCOVERED BY OR REPORTED TO REGIONAL ENTITY

PRC-005-1 R1 (SERC201000636): 10/5/10  
 PRC-005-1 R2 (SERC201000637): 10/2/10  
 PRC-005-1 R2 (SERC2011-400937): 3/16/11  
 PRC-005-1 R2 (SERC2011-400938): 3/16/11  
 PRC-005-1 R2 (SERC2012-401411): 5/18/12

IS THE VIOLATION STILL OCCURRING      YES       NO       IF  
 YES, EXPLAIN

REMEDIAL ACTION DIRECTIVE ISSUED      YES       NO   
 PRE TO POST JUNE 18, 2007 VIOLATION      YES       NO

**III. MITIGATION INFORMATION**

FOR FINAL ACCEPTED MITIGATION PLAN for the SERC201000636 and SERC201000637 violations:

MITIGATION PLAN NO.      SERCMIT004802  
 DATE SUBMITTED TO REGIONAL ENTITY      6/20/12  
 DATE ACCEPTED BY REGIONAL ENTITY      6/30/12  
 DATE APPROVED BY NERC      7/24/12  
 DATE PROVIDED TO FERC      7/24/12

IDENTIFY AND EXPLAIN ALL PRIOR VERSIONS THAT WERE ACCEPTED OR REJECTED, IF APPLICABLE:

MITIGATION PLAN COMPLETED      YES       NO

EXPECTED COMPLETION DATE      6/29/12  
 EXTENSIONS GRANTED  
 ACTUAL COMPLETION DATE      10/7/12

DATE OF CERTIFICATION LETTER 7/17/12  
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF 6/25/12

VERIFIED COMPLETE BY REGIONAL ENTITY AS OF 10/9/12<sup>2</sup>

**ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE**

Entergy completed the following actions detailed in its Mitigation Plan:

1. Created plant specific equipment lists at the Independence Steam Electric Station;
2. Revised the maintenance and testing procedure to reflect the basis and maintenance and testing intervals for associated communication systems;
3. Clarified and documented the basis for identifying PRC-5 devices and trained the appropriate personnel on the clarifications;
4. Developed unit specific equipment lists based on the clarifications;
5. Redesigned the protection system maintenance program by removing the letter of instruction, creating bright line maximum maintenance intervals and updating the work management system to accommodate program changes;
6. Changed its protection system inventory so that it reflects devices on a component level instead of panels;
7. Performed comprehensive Protection System device inventory;
8. Performed maintenance on all Protection System devices that had missed maintenance/testing intervals or were newly identified as Protection System devices.

**LIST OF EVIDENCE REVIEWED BY REGIONAL ENTITY TO EVALUATE COMPLETION OF MITIGATION PLAN (FOR CASES IN WHICH MITIGATION IS NOT YET COMPLETED, LIST EVIDENCE REVIEWED FOR COMPLETED MILESTONES)**

1. The Independence Steam Electric Station equipment lists;
2. The revised maintenance and testing procedure;
3. A flow diagram that instructs the user on how to identify devices that should be considered a part of the Protection System;
4. Training documents and the training attendance records;
5. Unit specific equipment lists;
6. The redesigned maintenance and testing procedure and an outline of the process used to revise the work management system;
7. Spreadsheets establishing the database conversion from panels to individual Protection System devices;
8. A spreadsheet containing newly identified Protection System devices in addition to spreadsheets submitted to SERC during its assessment;
9. Completed work orders and related documentation.

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<sup>2</sup> This Disposition Document serves as SERC's Verification of Mitigation Plan Completion. One work order for a newly identified Protection System device (Action #8) was completed late.

**EXHIBITS:**

**SOURCE DOCUMENT**

Entergy Self-Report dated October 2, 2010  
Entergy Self-Report dated October 5, 2010  
Entergy Self-Reports dated March 16, 2011  
Entergy Self-Report dated May 18, 2012

**MITIGATION PLAN**

Entergy Mitigation Plan submitted on 6/20/12

**CERTIFICATION BY REGISTERED ENTITY**

Entergy Certification of Completed Mitigation Plan dated 6/25/12

**VERIFICATION BY REGIONAL ENTITY**

This Disposition document serves as SERC's Verification of Mitigation Plan Completion.

## **Attachment b**

**Record documents for the violation of  
PRC-005-1 R1 and R2, SERC200900298 and  
SERC200900275**

- 1. Entergy's Self-Report for  
SERC200900298 dated August 6, 2009**
  - 2. Entergy's Self-Report for  
SERC200900275 dated May 29, 2009**
  - 3. Entergy's Mitigation Plan for  
SERC200900298 and SERC200900275  
designated as MIT-07-2159 submitted  
November 20, 2009; and**
  - 4. Entergy's Certification of Mitigation  
Plan Completion dated January 11, 2010.**
-



**Non-Public and CONFIDENTIAL  
(until filed with FERC)**

## Self-Reporting Form

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Date Submitted by Registered Entity: 11 August 2009

Region: SERC

NERC Registry ID: NCR 01234

Joint Registration Organization (JRO) ID: n/a

Registered Entity: Entergy

Registered Entity Contact Name: Mark O'Donnell

Registered Entity Contact Email: Modonne@Entergy.com

Registered Entity Contact Telephone: 504-576-4595

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Function(s) Applicable to Self-Report: TO

Standard: FAC-009-1 'Establish and Communicate Facility Ratings'  
Requirement: R1

Has this possible alleged violation previously been reported or discovered:  Yes  No  
If Yes selected: Provide NERC Violation ID (if known):

Date violation occurred: 11 August 2009

Date violation discovered: 11 August 2009

Is the violation still occurring?  Yes  No

Detailed explanation and cause of violation: Measure M1 of the FAC-009 standard states: "The Transmission Owner and Generator Owner shall each be able to demonstrate that it developed its Facility Ratings consistent with its Facility Ratings Methodology."

Entergy discovered potential gaps in the documentation used to demonstrate that its transmission facility ratings were established in accordance with the applicable facility ratings methodology. Preliminary findings indicate that documentation for the ratings of certain discreet components may not be readily available.

Reliability Impact: Minimal

Reliability Impact Description: The reliability impact is minimal due to the fact that the issue appears to be related to documentation associated with facility ratings.

Additional Comments: none

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**Non-Public and CONFIDENTIAL  
(until filed with FERC)**

**NOTE:** *While submittal of a mitigation plan is not required until after a determination of a violation is confirmed, early submittal of a mitigation plan to address and remedy an identified deficiency is encouraged. Submittal of a mitigation plan shall not be deemed an admission of a violation. (See NERC Rules of Procedure, Appendix 4C, Section 6.4.)*

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**SERC Staff will contact the person providing the report as soon as possible.  
If you do not receive a response from SERC Staff within 2 business days please contact  
the SERC office (704-357-7372).**

Please complete the form as completely as possible and email to [serccomply@serc1.org](mailto:serccomply@serc1.org).



**SERC Reliability Corporation**  
**Self-Reporting / Complaint Form Template**  
**Revision 1 (10-25-07)**

Report Type (please check):  Self-Report       Complaint

Date of Report: May 29, 2009

NAME OF PERSON REPORTING POSSIBLE STANDARD VIOLATION(S)		
CONTACT NAME	CONTACT TELEPHONE NUMBER	
Hassan Shah	(281) 297-3454	
CONTACT E-MAIL	CONTACT FAX	
mshah@entergy.com	(281) 297-3154	
REPORTING COMPANY NAME	ANONYMOUS? (Y/N)	
Entergy Corporation (NCR01234)	N	
NERC OR REGIONAL STANDARD(S) AND SPECIFIC REQUIREMENT(S) POSSIBLY VIOLATED		
NAME OF COMPANY POSSIBLY VIOLATING STANDARD(S)		ENTITY FUNCTION TYPE(S)
Entergy Corporation (NCR01234)		GO
STANDARD # AND VERSION	MEASURE / REQUIREMENT	DATE OF POSSIBLE VIOLATION(S)
PRC-005-1	R2.1.	May 29, 2009
<b>POSSIBLE VIOLATION DESCRIPTION, REASON FOR COMPLAINT, OR QUESTION</b>		
<p>PRC-005-1, "Transmission and Generation Protection System Maintenance and Testing" requirement 2.1 requires that Generator Owners provide documentation on request of its Protection System maintenance and testing program to include: "Evidence Protection System devices were maintained and tested within the defined intervals."</p> <p>During a programmatic review, it was discovered that certain units at our fossil plants were missing specific work records documenting routine maintenance. All but one of the units has been restored to a fully compliant condition. The remaining unit will be fully restored as of May 30, 2009.</p>		
<b>RELIABILITY IMPACT (IF KNOWN)</b>		
<p>Inspections or tests established that the equipment was in normal operational condition both before and after the documentation lapse periods. This demonstrates that the equipment was functional and did not have the potential to adversely affect the BES.</p>		

**SERC Staff will contact the person providing the report as soon as possible.**

**If you do not receive a response from SERC Staff within 2 business days please contact the SERC office (704-357-7372).**

Please complete the form as completely as possible and email to [serccomply@serc1.org](mailto:serccomply@serc1.org).



# Mitigation Plan Submittal Form

**Please refer to  
SERC Guidelines for Mitigation Plan Submission.pdf available at  
<http://www.serc1.org/Application/ContentPageView.aspx?ContentId=22>**

Date this Mitigation Plan is being submitted: 11/20/2009

If this Mitigation Plan has already been completed:

- Check this box  and
- Provide the Date of Completion of the Mitigation Plan:

## **Section A: Compliance Notices**

- Section 6.2 of the CMEP<sup>1</sup> sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:
  - (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section 2.0.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date

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<sup>1</sup> "Uniform Compliance Monitoring and Enforcement Program of the North American Electric Reliability Corporation;" a copy of the current version approved by the Federal Energy Regulatory Commission is posted on NERC's website.



of submission. Additional violations could be determined for not completing work associated with accepted milestones.

- (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self-Certification or Self Reporting submittals.
- This submittal form shall be used to provide a required Mitigation Plan for review and approval by SERC and NERC.
  - The Mitigation Plan shall be submitted to SERC and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related violations of one Reliability Standard. A separate mitigation plan is required to address violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is approved by SERC and NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission in accordance with applicable Commission rules, regulations and orders.
  - SERC or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.

**Section B: Registered Entity Information**

B.1 Identify your organization:

Company Name: Entergy  
Company Address: 639 Loyola Ave., New Orleans, LA 70113  
NERC Compliance Registry ID *[if known]*: NCR01234

B.2 Identify the individual in your organization who will serve as the Contact to SERC regarding this Mitigation Plan. This person shall be technically knowledgeable regarding this Mitigation Plan and authorized to respond to SERC regarding this Mitigation Plan.

Name:	Hassan Shah	Neil Saia
Title:	Manager, Fossil Compliance	Transmission Compliance
Email:	mshah@entergy.com	nsaia@entergy.com
Phone:	281-297-3454	504-576-4792



**Section C: Identity of Reliability Standard Violations Associated with this Mitigation Plan**

This Mitigation Plan is associated with the following violation(s) of the reliability standard listed below:

C.1 Standard: PRC-005-1  
*[Identify by Standard Acronym (e.g. FAC-001-1)]*

C.2 Requirement(s) violated and violation dates:  
*[Enter information in the following Table]*

NERC Violation ID # [if known]	SERC Violation ID # [if known ]	Requirement Violated (e.g. R3.2)	Violation Date <sup>(*)</sup>
	2009-031	R1.1	08/10/2009
		R2.1	05/29/2009
		R2.1 <sup>1</sup>	08/07/09
		R1.1 <sup>2</sup>	9/24/09

<sup>1</sup> Transmission's addendum.

<sup>2</sup> Possible violation (past gap) identified during the September 21, 2009 SERC compliance audit (Fossil).

(\*) Note: The Violation Date shall be: (i) the date that the violation occurred; (ii) the date that the violation was self-reported; or (iii) the date that the violation has been deemed to have occurred on by SERC. Questions regarding the date to use should be directed to SERC.

C.3 Identify the cause of the violation(s) identified above:

See Attachment A for Fossil's response.  
 See Attachment B for Transmission's response.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

C.4 **[Optional]** Provide any relevant additional information regarding the violations associated with this Mitigation Plan:

See Attachment B for Transmission's response.  
 [Provide your response here; additional detailed information may be provided as an attachment as necessary]



**Section D: Details of Proposed Mitigation Plan**

**Mitigation Plan Contents**

D.1 Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violations identified above in Part C.2 of this form:

See Attachment A for Fossil's response.  
See Attachment B for Transmission's response.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

***Check this box  and proceed to Section E of this form if this Mitigation Plan, as set forth in Part D.1, has already been completed; otherwise respond to Part D.2, D.3 and, optionally, Part D.4, below.***

**Mitigation Plan Timeline and Milestones**

D.2 Provide the timetable for completion of the Mitigation Plan, including the completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected: See Attachment A for Fossil's response. See Attachment B for Transmission's response.

D.3 Enter Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Proposed Completion Date* (shall not be more than 3 months apart)
See Attachment A for Fossil's response. See Attachment B for Transmission's response.	

(\*) Note: Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined for not completing work associated with accepted milestones.

[Note: Provide your response here; additional detailed information may be provided as an attachment as necessary]



### **Additional Relevant Information (Optional)**

D.4 If you have any relevant additional information that you wish to include regarding the mitigation plan, milestones, milestones dates and completion date proposed above you may include it here:

See Attachment A for Fossil's response.

See Attachment B for Transmission's response.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

### **Section E: Interim and Future Reliability Risk**

***Check this box  and proceed and respond to Part E.2 and E.3, below, if this Mitigation Plan, as set forth in Part D.1, has already been completed.***

#### **Abatement of Interim BPS Reliability Risk**

E.1 While your organization is implementing the Mitigation Plan proposed in Part D of this form, the reliability of the Bulk Power System may remain at higher risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are, or may be, known or anticipated: (i) identify any such risks or impacts; and (ii) discuss any actions that your organization is planning to take or is proposing as part of the Mitigation Plan to mitigate any increased risk to the reliability of the bulk power system while the Mitigation Plan is being implemented:

See Attachment A for Fossil's response.

See Attachment B for Transmission's response.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

#### **Prevention of Future BPS Reliability Risk**

E.2 Describe how successful completion of the Mitigation Plan as laid out in Part D of this form will prevent or minimize the probability that your organization incurs further violations of the same or similar reliability standards requirements in the future:

See Attachment A for Fossil's response.

See Attachment B for Transmission's response.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]



E.3 Your organization may be taking or planning other action, beyond that listed in the Mitigation Plan, as proposed in Part D.1, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements listed in Part C.2, or of other reliability standards. If so, identify and describe any such action, including milestones and completion dates:

See Attachment A for Fossil's response.

See Attachment B for Transmission's response.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]

**[Continued on Next Page](#)**



## **Section F: Authorization**

An authorized individual must sign and date this Mitigation Plan Submittal Form. By doing so, this individual, on behalf of your organization:

- a) Submits the Mitigation Plan, as laid out in Section D of this form, to SERC for acceptance by SERC and approval by NERC, and
- b) If applicable, certifies that the Mitigation Plan, as laid out in Section D of this form, was completed (i) as laid out in Section D of this form and (ii) on or before the date provided as the 'Date of Completion of the Mitigation Plan' on this form, and
- c) Acknowledges:
  1. I am VP of Transmission Regulatory Compliance of Entergy.
  2. I am qualified to sign this Mitigation Plan on behalf of Entergy Fossil and Transmission.
  3. I have read and understand Entergy obligations to comply with Mitigation Plan requirements and ERO remedial action directives as well as ERO documents, including, but not limited to, the NERC Rules of Procedure, including Appendix 4(C) (Compliance Monitoring and Enforcement Program of the North American Electric Reliability Corporation" (NERC CMEP)).
  4. I have read and am familiar with the contents of the foregoing Mitigation Plan.
  5. Entergy agrees to be bound by, and comply with, the Mitigation Plan, including the timetable completion date, as approved by SERC and approved by NERC.

*Mark F. McCulla*

### **Authorized Individual Signature**

\_\_\_\_\_  
(Electronic signatures are acceptable; see CMEP)

Name (Print): Mark F. McCulla

Title: VP of Transmission Regulatory Compliance

Date: September 30, 2009



**Section G: Comments and Additional Information**

You may use this area to provide comments or any additional relevant information not previously addressed in this form.

See Attachment A for Fossil's response.

[Provide your response here; additional detailed information may be provided as an attachment as necessary]



**Attachment A**  
**PRC-005 Fossil Mitigation Plan**  
Generation Owner

**C.3 Identify the cause of the violation(s) identified above.**

An element of Entergy's culture of compliance is causal analysis performed in accordance with a formal procedure specified in the Entergy Operations Management Manual. A team of Entergy personnel performed a causal determination in Fossil for the PRC-005 self-reported conditions. The causes of these incidents were determined by documenting the timeline of events leading to the self report, conducting interviews of plant personnel and performing a Cause and Effect analysis utilizing the Cause Mapping Method. The Cause Mapping Method concentrates on all possible causes that resulted in an issue. The philosophy considers if one or more of the causes were corrected; the probability of recurrence would be eliminated or reduced.

**Major Causes:**

The root cause analysis (RCA) revealed two major groupings of causes and one contributing cause. The two major causes were:

1. Work Process Change Management
2. Measures

The contributing cause was determined to be Communications. Each of these cause categories will be discussed separately along with proposed solutions. A summary of corrective actions are provided at the end of the Mitigation Plan.

**1. Work Process Change Management:**

The RCA revealed multiple causes related to the change management process and the implementation of the maintenance activities related to the NERC protection system components. The plant's maintenance program within the Automated Integrated Maintenance Management (AIMM) production system was not consistent from plant to plant. This RCA revealed the importance of having a consistent Fossil Operation procedure that clearly states the maintenance testing intervals and basis for the maintenance activities and intervals.

**2. Measures:**

Work Request (WR) priority as managed by the AIMM production system is based upon the component's condition and classification. Due to this reason, all Preventive Maintenance (PMs) are given the default priority level of 6. These



metrics allow the preventive maintenance activities to slip off the schedule due to their priority of 6 and not be completed due to other higher priority activities. Station Battery maintenance practices prior to the release of the Battery Acceptance, Testing and Maintenance Procedure (EF-PR-NERC-14) have relied solely upon the AIMM production system and the Routine Maintenance Process (RMP) process. The RMP & the AIMM production system currently in place limit the ability to apply high priorities for NERC standards to station batteries PMS.

Contributing Cause:

Communications

The RCA revealed a lack of communication, miscommunication of tasks, or the misunderstanding of the requirements for performing preventive maintenance on protection system components and maintaining documentation of completion.

**C.4 [Optional] Provide any relevant additional information regarding the violations associated with this mitigation plan.**

These conditions represent a documentation issue and did not impact the intended design function of the Station Battery Systems. The CTs and PTs were tested and visually inspected; the results indicated that the CT/PTs were capable of performing their intended design function. DC circuit trip tests were performed and there were no issues identified that would prevent the circuit from performing its intended design function. Inspections or tests established that the equipment was in normal operational condition both before and after the documentation lapse periods. This demonstrates that the equipment was functional and the past risk to the Bulk Power System before the items were corrected was minimal.

**D.1 Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violations identified above in Part C.2 of this form.**

Actions Taken:

1. The fossil plants were restored to a compliant condition on June 2, 2009 when the Battery Acceptance, Testing and Maintenance Procedure (EF-PR-NERC-14) was issued to establish uniform inspections, tests, and maintenance of the Station Battery Systems and to meet the inspection and criterion established by the IEEE-450-2002 Standard. This procedure consolidated the individual plant battery testing programs into one



program procedure. The basis for system wide battery maintenance intervals is now clearly documented (R1.1).

2. Corrected identified conditions: On May 31, 2009, performed relay calibrations, DC trip tests, PT/CT inspections & testing, and Battery PMs and ensured all batteries were in working order, inspections and tests were completed with satisfactory results and adequate documentation is retained (R2.1).

Note: As of March 28, 2007, the protection system maintenance activities for Entergy's Fossil Plants were documented and performed in accordance with the Generator Relay Maintenance Program Procedure (EF-PR-NERC-01) to cover relays, current transformers, potential transformers and direct current circuit trip tests. Preventive Maintenance tasks for battery maintenance at each plant are generated by the AIMM production system.

3. Instructed on May 31, 2009, the Fossil Plant NERC Champions (designated personnel at each fossil plant responsible for coordinating the NERC requirements) on the acceptable level of documentation to show compliance for PRC-005 (Work Process).
4. Provided better guidance for documentation and record retention requirements on battery maintenance (Communications).
5. Trained Fossil Compliance Group to develop a report that will provide (Measures):
  - a) Status of NERC PRC-005 WRs and their last completed date.
  - b) Status of NERC PRC-005 PMs triggers last performed and next due date.
  - c) Trigger report to determine any trigger failures for the NERC compliance based on a selected time frame.
6. Senior Management reemphasized expectations for complying with NERC Reliability Standards and continuing to foster a compliance culture. This included expectations that personnel understand their responsibilities for completing NERC PMs, accountability for completing NERC related PMs and read and follow procedures. (Culture/Communications).
7. The fossil plants were restored to a compliant condition on July 15, 2009 when Revision 2 of the Generator Protection System Maintenance Procedure (EF-PR-NERC-001) was issued to establish a standardized maintenance program for the generator protective relays and instrument transformers and reporting requirements for the protective relay misoperations. This procedure clearly documents the basis of testing intervals for DC circuitry and CT/PT's (R1.1).



Future Actions:

8. Develop a process for the newly issued and revised compliance procedures that would include:
  - a) Feedback that the procedure was received and understood by responsible plant personnel
  - b) Training and/or clear identification of requirements to be included in the issuance of compliance procedures. (Work Process)
9. Develop a consistent method to configure Preventive Maintenance (PM) activities in the AIMM production system across the plants to aid in determining NERC maintenance activities, status and retrieval of PMs/WRs (Work Process).

**D.2 Provide the timetable for completion of the Mitigation Plan, including completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected.**

All actions specified in this Mitigation Plan will be completed by December 15, 2009.

**D.3 Enter Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan.**

Milestone Activity	Proposed Completion Date* (shall not be more than 3 months apart)
1. Issued Battery Acceptance, Testing and Maintenance Procedure	Complete
2. Correct identified conditions	Complete
3. Instructed Fossil Plant NERC Champions	Complete
4. Provided better guidance for documentation and record retention requirements on battery maintenance (Communications).	Complete
5. Trained Fossil Compliance Group to develop report	Complete
6. Senior management set expectations for compliance with NERC requirements	Complete
7. Issued Generator Protection System Maintenance Procedure	Complete
8. Process for newly issued and revised compliance procedures	12/15/09
9. Configure NERC Preventive Maintenance activities in the AIMM production system	12/15/09



**D.4 If you have any relevant additional information that you wish to include regarding the mitigation plan, milestones, milestone dates and completions date proposed above you may include it here.**

All pertinent information regarding the mitigation plan, associated actions and milestones are contained in Sections D.1, D.2 and D.3.

**E.1 While your organization is implementing the Mitigation Plan proposed in Part D of this form, the reliability of the Bulk Power System may remain at higher risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are, or may be known or anticipated: (i) identify any such risks or impacts, and (ii) discuss any actions that your organization is planning to take or proposing as part of the Mitigation Plan to mitigate any increased risk to the reliability of the bulk power system while the Mitigation Plan is being implemented.**

Milestones 1 & 2 corrected the identified conditions, so there is no increased risk to the Bulk Power Systems while implementing this plan. Also, when the R2.1 items were corrected, the systems were all found to be in good working condition, so the past risk to the Bulk Power System before the items were corrected was minimal.

**E.2 Describe how successful completion of the Mitigation Plan as laid out in Part D of this form will prevent or minimize the probability that your organization incurs further violations of the same or similar reliability standards requirements in the future.**

Milestones 8 through 9 are process enhancements that should minimize potential noncompliances of this standard. This includes having plant NERC champions that are responsible for this work at each site, ensuring feedback that the procedures are clear and understood, ensuring consistency on how the work and documentation is configured and maintained, and enhancing the compliance culture of the Fossil Organization.

**E.3 Your organization may be taking or planning other action, beyond that listed in the Mitigation Plan, as proposed in Part D.1, to prevent or minimize the probability of incurring violations of the same or similar standards requirements listed in Part C.2 or of other reliability standards. If so, identify and describe any such action, including milestones and completions dates.**

The actions described in Section E2 adequately address the issue. No further actions are planned.



## F. Authorization

1. I am Sr. VP of Fossil Generation and Supply Chain of Entergy.
2. I am qualified to sign this Mitigation Plan on behalf of Entergy.
3. I have read and understand Entergy obligations to comply with Mitigation Plan requirements and ERO remedial action directives as well as ERO documents, including, but not limited to, the NERC Rules of Procedure, including Appendix 4(C) (Compliance Monitoring and Enforcement Program of the North American Electric Reliability Corporation" (NERC CMEP)).
4. I have read and am familiar with the contents of the foregoing Mitigation Plan.
5. Entergy agrees to be bound by, and comply with, the Mitigation Plan, including the timetable completion date, as approved by SERC and approved by NERC.

*M. D. Bakewell*

Authorized Individual Signature

\_\_\_\_\_  
(Electronic signatures are acceptable; see CMEP)

Name (Print): Michael D. Bakewell

Title: Sr. VP of Fossil Generation and Supply Chain

Date: September 30, 2009

## G. Comments and Additional Information

Entergy had quickly and accurately provided information as requested by SERC. Entergy has completed a thorough analysis of the event and believes the documented corrective actions will greatly reduce the chance of reoccurrence. Entergy would like to take this opportunity to reaffirm its commitment to do the right thing in all circumstances and believes it has handled this situation in accordance with the "Code of Entegrity."



**Attachment B**  
**PRC-005 Transmission Mitigation Plan**  
Transmission Owner

**C.3 Identify the cause of the violation(s) identified above.**

An element of Entergy's culture of compliance is causal analysis performed in accordance with a formal procedure specified in the Entergy Operations Management Manual. Entergy Transmission personnel performed a causal determination for the missed maintenance intervals of elements of Transmission Protections Systems using elements of organizational and programmatic analysis as well as components of event and causal factor analysis. The analysis identified one root cause and two contributing causes. The mitigation plan directly addresses the identified root cause and contributing causes.

**Root Cause:**

The causal analysis concluded that Entergy Transmission's SERC System Protection Maintenance and Testing Procedure (SSPMTP), AM-ERS-PRC-002, failed to adequately address deferred maintenance tasks prior to the 2009 maintenance plan year. The root cause was determined to be programmatic deficiencies in that the program design was inadequate.

Entergy Transmission's SSPMTP had two deficiencies regarding deferred maintenance tasks. First, the procedure requires the Director, Transmission and Substations Asset Management (Director TSAM), to issue a Letter of Instruction (LOI) to the various Entergy jurisdictions defining the maintenance plan's goals and performance measures for the year. The SSPMTP allowed a certain number of maintenance tasks could be deferred if circumstances prevented the maintenance task. In years prior to 2008, the LOI did not require deferred maintenance tasks to be completed. The 2008 LOI required tasks deferred from 2007 to be completed. The 2009 LOI was more restrictive, requiring either that all remaining deferred tasks to be completed during 2009, or that they receive appropriate management approval for a later completion date if circumstances prevent completion during the year.

Second, the tool used to plan and track completion of maintenance tasks for the upcoming year failed to track deferred tasks from prior years. Furthermore, the tool listed only the first occurrence of a task requiring completion multiple times in a year, such as relay communication channel tests. Consequently, subsequent occurrences of these tasks may have been overlooked.

**Contributing Cause:**

1. The causal analysis concluded that a contributing cause was Entergy Transmission's belief that the SSPMTP was sufficient to meet the mandatory reliability requirements of PRC-005. This contributing cause was determined to be misjudgment based upon



habit intrusion, where tasks continued to be performed based on past experience without fully comprehending the current or present situation.

The major tools and practices used as part of the SSPMTP have been in place since 1995, and the Director TSAM has issued an LOI since 2004. Because these components have been in place for years, and combined with a decrease in equipment failures, implementation of Entergy's program was incorrectly deemed to meet the requirements of PRC-005.

2. The causal analysis concluded that a second contributing cause was staff turnover. This contributing cause was determined to be inadequate skills or knowledge, specifically in that the necessary training was not complete, not detailed enough, or dependent on informal methods that were insufficient.

There was no formal training on the tools used to track tasks associated with the SSPMTP. Instead, employees were trained "on the job" using every day work processes. Consequently, knowledge of these systems and their intent was diminished with each personnel departure.

**C.4 [Optional] Provide any relevant additional information regarding the violations associated with this mitigation plan.**

The following provides historical or background information regarding the development of the Entergy Transmission's SSPMTP and events leading up to the Transmission self report.

Central to the SSPMTP is a computerized Substation Work Management System (SWMS) which tracks required, scheduled and completed maintenance tasks. SWMS, which had its first version commissioned in the 1995 timeframe, lists all equipment found at Entergy substations and generates work maintenance tickets for substation equipment based on maintenance intervals included in its database. Field Technicians apply actual time spent to these tasks and electronically close the work ticket when the task is complete. After completion these closed work tickets are approved by local management and stored as historical data in SWMS.

Entergy consists of six service territories located in Arkansas, Louisiana, Mississippi and Texas. For maintenance purposes, each of these service territories is further reduced into several regions overseen by an Area Maintenance Supervisor. In years prior to 2009, regional Planner/Schedulers were provided a SWMS "Snapshot" in December. The Snapshot listed SERC required maintenance tasks due to be completed during the upcoming year. The Planner/Schedulers, as directed by the Area Maintenance Supervisor, would then schedule these maintenance tasks when possible throughout the year and request any necessary equipment outages.



Early in the maintenance plan year, the Director TSAM issues an LOI to the Entergy personnel in the service territories defining the maintenance plan's goals and performance measures. Although the target is 100% completion, circumstances may arise which prevent a task or tasks from being completed at its assigned time, and the task may not be able to be rescheduled in the current year. For this reason, the LOI allows a certain percentage of maintenance tasks to be deferred. For example, the 2007 and 2008 LOI's each allowed for a possible deferment of 15%, while the 2009 LOI reduced the possible deferment to 10%.

With an effort to improve the SSPMTP, Entergy's Asset Management group modified the 2008 LOI to require completion of all deferred tasks from 2007. Continuing the improvement, in late December 2008 Asset Management completed development of a more comprehensive reporting tool. This tool, first used in January 2009, identified 303 assets which had deferred and uncompleted SERC applicable maintenance tasks scheduled in years prior to 2007. The 2009 LOI required completion of these tasks in the 2009 maintenance program. Finally, recognizing the diminished knowledge and experience, Entergy Asset Management also created formal training regarding SWMS and the SWMS reports.

The total number of SERC applicable transmission assets that were not maintained during their required intervals was 250, representing 3.1% of the total population. As of September 16, 2009, there are a total of 32 assets out of 8015 SERC applicable transmission assets with outstanding tasks. It is also important to note that there were no known equipment failures as a result of these assets not being maintained within the defined intervals.

**D.1 Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the violations identified above in Part C.2 of this form.**

1. The SWMS Snapshot will no longer be used to identify maintenance tasks as part of the maintenance program. The new reporting tool will be used instead.
2. The Entergy Transmission maintenance procedure AM-ERS-PRC-002 will be modified to specify the LOI include the following details:
  - Justifiably constrained carryover SERC maintenance tasks, carried over from the previous year, that cannot be completed in the current year must be approved by the Manager, Process Controls.
  - Requests must be submitted to the Manager, Process Controls in writing and must specify the reason why the carryover task cannot be completed.
  - The Manager, Process Controls will approve justifiably constrained carryover SERC maintenance tasks and document within associated SWMS work request why the carryover task cannot be completed in the current year.
  - A carryover task can only be approved by the Manager, Process Controls one time.



3. Entergy Asset Management will provide training on use of SWMS and the new SWMS reporting tool to Area Maintenance Supervisors and Planner/Schedulers by the end of November 2009. This training will also include Lessons Learned for the Transmission PRC-005 Self Report associated with this Mitigation Plan. Additionally, the training will be required for any “new in position” Planner/Scheduler or Area Maintenance Supervisor. An Asset Management procedure to be included in Entergy’s Transmission Management Manual will be created to document the training process.
4. Assets with carry-over tasks will be maintained in accordance with the 2009 maintenance plan.

**D.2 Provide the timetable for completion of the Mitigation Plan, including completion date by which the Mitigation Plan will be fully implemented and the violations associated with this Mitigation Plan are corrected.**

All actions specified in this Mitigation Plan will be completed by December 31, 2009.

**D.3 Enter Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan.**

Milestone Activity	Proposed Completion Date* (shall not be more than 3 months apart)
Train all Planner/Schedulers and Maintenance Supervisors	11/30/09
Develop training procedure for “new in position” Planner/Schedulers and Area Maintenance Supervisors.	11/30/09
Modify procedure number AM-ERS-PRC-002 to address deferred tasks as stated in item 2 in section D.1 above.	11/30/09
Maintain assets per the 2009 maintenance plan	12/31/09

**D.4 If you have any relevant additional information that you wish to include regarding the mitigation plan, milestones, milestone dates and completions date proposed above you may include it here.**

All pertinent information regarding the mitigation plan, associated actions and milestones are contained in Section D.1, D.2 and D.3.

**E.1 While your organization is implementing the Mitigation Plan proposed in Part D of this form, the reliability of the Bulk Power System may remain at higher risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are, or may be known or**



**anticipated: (i) identify any such risks or impacts, and (ii) discuss any actions that your organization is planning to take or proposing as part of the Mitigation Plan to mitigate any increased risk to the reliability of the bulk power system while the Mitigation Plan is being implemented.**

The main risk associated with the implementation of this mitigation plan is an equipment failure on a Protection System device with a deferred task, and to date there have been no known equipment failures associated with uncompleted maintenance tasks. Entergy has addressed the maintenance of assets with carry-over tasks in the 2009 SSPMTP and has worked diligently throughout the year to complete tasks associated with these assets. In January 2009, only 3.1% of all SERC applicable assets had incomplete tasks, and only 0.4% remains as of September 16, 2009. Further reducing the risk to the Bulk Power System is the fact that these remaining assets are dispersed across the Entergy system and are not located within any one region.

**E.2 Describe how successful completion of the Mitigation Plan as laid out in Part D of this form will prevent or minimize the probability that your organization incurs further violations of the same or similar reliability standards requirements in the future.**

Modification of the Entergy maintenance procedure AM-ERS-PRC-002 to specify that the LOI require completion of tasks deferred in the previous year(s) will ensure that necessary emphasis is placed on these tasks. Furthermore, modifying the LOI to require appropriate management approval for any deferred tasks will ensure proper justification for deferment.

Training Planner/Schedulers, Area Maintenance Supervisors and employees new in these positions on use of SWMS and the new SWMS reporting tool will help create an understanding on how the maintenance process works. By including Lessons Learned for the Transmission PRC-005 Self Report associated with this Mitigation Plan in this training, employees will better understand the reliability regulatory requirements behind the maintenance program.

Creating a procedure to document the SWMS training program will help ensure that employees needing the training have received it.

Finally, completion of this mitigation plan will ensure that all identified assets with carry-over tasks prior to 2007 have been maintained.

**E.3 Your organization may be taking or planning other action, beyond that listed in the Mitigation Plan, as proposed in Part D.1, to prevent or minimize the probability of incurring violations of the same or similar standards requirements listed in Part C.2 or of other reliability standards. If so,**



**identify and describe any such action, including milestones and completions dates.**

The actions described in Section E2 adequately address the issue. No further actions are planned.

#### **F. Authorization**

6. I am VP of Transmission Regulatory Compliance of Entergy.
7. I am qualified to sign this Mitigation Plan on behalf of Entergy.
8. I have read and understand Entergy obligations to comply with Mitigation Plan requirements and ERO remedial action directives as well as ERO documents, including, but not limited to, the NERC Rules of Procedure, including Appendix 4(C) (Compliance Monitoring and Enforcement Program of the North American Electric Reliability Corporation" (NERC CMEP)).
9. I have read and am familiar with the contents of the foregoing Mitigation Plan.
10. Entergy agrees to be bound by, and comply with, the Mitigation Plan, including the timetable completion date, as approved by SERC and approved by NERC.

*Mark F. McCulla*

Authorized Individual Signature

\_\_\_\_\_  
(Electronic signatures are acceptable; see CMEP)

Name (Print): Mark F. McCulla  
Title: VP of Transmission Regulatory Compliance  
Date: September 17, 2009

#### **Submittal Instructions:**

Please convert the completed and signed document to a text-searchable Adobe .pdf document using the following naming convention:

[(MP Entity Name (STD-XXX) MM-DD-YY).pdf]

Email the pdf file to [serccomply@serc1.org](mailto:serccomply@serc1.org).

Please direct any questions regarding completion of this form to:



Ken Keels  
Manager, Compliance Enforcement  
SERC Reliability Corporation  
704-357-7372  
[kkeels@serc1.org](mailto:kkeels@serc1.org)



Entergy Services, Inc.  
Mail Unit L-ENT-24A  
630 Loyola Ave.  
New Orleans, LA 70113  
Tel 504-576-6123

**Mark McCulla**  
Vice President, Transmission Regulatory Compliance

## Certification of a Completed Mitigation Plan

### SERC Reliability Corporation Violation Mitigation Plan Closure Form

Name of Registered Entity submitting certification: [Entergy](#)

Date of Certification: [January 11, 2010](#)

Name of Standard and the Requirement(s) of mitigated violation(s): [PRC-005-1, R1 & R2.1](#)

SERC Tracking Number (contact SERC if not known): 09-031, 09-058

NERC Violation ID Number (if assigned): SERC200900275, SERC200900298

**Date of completion of the Mitigation Plan:** December 31, 2009

**The following applies to the Entergy Fossil Mitigation Plan, Attachment A:**

Summary of all actions described in Part D of the relevant mitigation plan:

1. The fossil plants were restored to a compliant condition on June 2, 2009 when the Battery Acceptance, Testing and Maintenance Procedure (EFPR- NERC-14) was issued to establish uniform inspections, tests, and maintenance of the Station Battery Systems and to meet the inspection and criterion established by the IEEE-450-2002 Standard. This procedure consolidated the individual plant battery testing programs into one program procedure. The basis for system wide battery maintenance intervals is now clearly documented (R1.1).
2. Corrected identified conditions: On May 31, 2009, performed relay calibrations, DC trip tests, PT/CT inspections & testing, and Battery PMs and ensured all batteries were in working order, inspections and tests were completed with satisfactory results and adequate documentation is retained (R2.1).
3. Instructed on May 31, 2009, the Fossil Plant NERC Champions (designated personnel at each fossil plant responsible for coordinating the NERC requirements) on the acceptable level of documentation to show compliance for PRC-005 (Work Process).
4. Provided better guidance for documentation and record retention requirements on battery maintenance (Communications).
5. Trained Fossil Compliance Group to develop a report that will provide
  - a) Status of NERC PRC-005 WRs and their last completed date.
  - b) Status of NERC PRC-005 PMs triggers last performed and next due date.
  - c) Trigger report to determine any trigger failures for the NERC compliance based on a selected time frame.
6. Senior Management reemphasized expectations for complying with NERC Reliability Standards and continuing to foster a compliance culture. This included expectations that personnel understand their responsibilities for completing NERC PMs, accountability for completing NERC related PMs and read and follow procedures.
7. The fossil plants were restored to a compliant condition on July 15, 2009 when Revision 2 of the Generator Protection System Maintenance Procedure (EF-PR-NERC-001) was issued to establish a standardized maintenance program for the generator protective relays and instrument transformers and reporting requirements for the protective relay misoperations. This procedure clearly documents the basis of testing intervals for DC circuitry and CT/PT's (R1.1).
8. Develop a process for the newly issued and revised compliance procedures that would include:

- a) Feedback that the procedure was received and understood by responsible plant personnel
  - b) Training and/or clear identification of requirements to be included in the issuance of compliance procedures.
9. Develop a consistent method to configure Preventive Maintenance (PM) activities in the AIMM production system across the plants to aid in determining NERC maintenance activities, status and retrieval of PMs/WRs.

Description of the information provided to SERC for their evaluation:

Action Item 1:

Battery Acceptance, Testing and Maintenance Procedure (Battery Maintenance and Testing Procedure Rev 0.pdf)

Action Item 2:

Summary of maintenance Work Requests or Inspection/Test Report (Maintenance completion Work Request Summary sheet.pdf)

Action Item 3:

3a) Memorandum to Plant NERC Champions containing instruction on acceptable level of documentation for PRC-005 (Memo to the plants1.pdf)

3b) Instructions to Complete and Furnish Documents for PRC-005 Tasks (Instructions to complete maintenance documents.pdf)

3c) Email to NERC Champions with memo mention at 3a and 3b (Email to NERC Champions - with instructions memo NERC Standards Compliance Requirements.pdf)

Action Item 4:

4a) Valve Regulated Lead Acid (VRLA) Monthly PM (VRLA Monthly Battery PM.pdf)

4b) Valve Regulated Lead Acid (VRLA) Quarterly PM (VRLA Quarterly Battery PM.pdf)

4c) Valve Regulated Lead Acid (VRLA) Yearly PM (VRLA Yearly Battery PM.pdf)

4d) Vented Lead Acid Batteries Monthly PM (VLAB Monthly Battery PM.pdf)

4e) Vented Lead Acid Batteries Quarterly PM (VLAB Quarterly Battery PM.pdf)

4f) Vented Lead Acid Batteries Yearly PM (VLAB Yearly Battery PM.pdf)

Action Item 5:

AIMM Report Production Training Attendance Roster (Compliance group AIMM Training attendance sheet.pdf)

Action Item 6:

Executive's memorandum to all Fossil Employees-- Inter-Office Correspondence Subject: Expectations Regarding NERC Electric Reliability Requirements and Implementing Procedures (Compliance Expectation Memobl1.pdf)

Action Item 7:

Generator Protection System Maintenance Procedure REV 2 (Generator Protective Relay Maintenance Procedure Rev 2.pdf)

Action Item 8:

Process for Notification for New and Revised Procedures (Process for Notification of New Revised Regulatory Procedures.pdf)

Action Item 9:

Fossil Fleet Standardization of NERC Compliance Work Management Guideline (Automated Integrated Maintenance Management (AIMM) System Standardization for NERC Compliance.pdf)

**The following applies to the Entergy Transmission Mitigation Plan, Attachment B**

Summary of all actions described in Part D of the relevant mitigation plan:

1. The Substation Work Management System (SWMS) Snapshot will no longer be used to identify maintenance tasks as part of the maintenance program. The new reporting tool will be used instead.
2. The Entergy Transmission maintenance procedure AM-ERS-PRC-002 will be modified to specify the Letter of Instruction (LOI) include the following details:
  - Justifiably constrained carryover SERC maintenance tasks, carried over from the previous year, that cannot be completed in the current year must be approved by the Manager, Process Controls.
  - Requests must be submitted to the Manager, Process Controls in writing and must specify the reason why the carryover task cannot be completed.

- The Manager, Process Controls will approve justifiably constrained carryover SERC maintenance tasks and document within associated SWMS work request why the carryover task cannot be completed in the current year.
  - A carryover task can only be approved by the Manager, Process Controls one time.
3. Entergy Asset Management will provide training on use of SWMS and the new SWMS reporting tool to Area Maintenance Supervisors and Planner/Schedulers by the end of November 2009. This training will also include Lessons Learned for the Transmission PRC-005 Self Report associated with this Mitigation Plan. Additionally, the training will be required for any “new in position” Planner/Scheduler or Area Maintenance Supervisor. An Asset Management procedure to be included in Entergy’s Transmission Management Manual will be created to document the training process.
  4. Assets with carry-over tasks will be maintained in accordance with the 2009 maintenance plan.

Description of the information provided to SERC for their evaluation:

Action Item 1:

Letter from Manager, Process Controls confirming use of new reporting tool (1\_Reporting Tool Email.pdf)

Action Item 2:

SERC System Protection and Maintenance Procedure, Revision 4 (2\_AM-ERS-PRC-002 R04.pdf)

Action Item 3:

3a) Planner/Scheduler and Substation Supervisor Training Procedure, Revision 0 (3\_AM-ERS-PRC-004 R00.pdf)

3b) Training Presentation for Mississippi Personnel (3\_20091007\_MS\_Planner\_Training.pdf)

3c) Training Presentation for Texas Personnel (3\_20091021\_TX\_Planner\_Training.pdf)

3d) Training Presentation for Louisiana Personnel (3\_20091029\_LA\_Planner\_Training.pdf)

3e) Training Presentation for Arkansas Personnel (3\_20091028\_AR\_Planner\_Training.pdf)

3f) Training Rosters (3\_200910\_PS\_SubSupv\_Training\_Roster.pdf)

Action Item 4:

4a) Carry Over Asset List Spreadsheet

(4\_TPS\_Maintenance\_and\_Testing\_Dates\_for\_Carryover\_Tasks\_prior\_to\_2009(1).pdf)

4b) ANO Unit Auxiliary Transformer Condition Report (4\_ANO UAT Report 8-27-09.pdf)

4c) ANO Transmission Relay Condition Report (4\_ANO relay condition report.msg)

4d) Management Approval to Carry Over ANO Relay Tasks

(4\_2009\_Prior\_Year\_Carryover\_SERC\_Task\_Documentation.pdf)

I certify that the mitigation plan for the above-named violation has been completed on the date shown above. In doing so, I certify that all required mitigation plan actions described in Part D of the relevant mitigation plan have been completed, compliance has been restored, the above-named entity is currently compliant with all of the requirements of the referenced standard, and that all information submitted information is complete and correct to the best of my knowledge.

Name: [Mark McCulla](#)

Title: [Vice President, Transmission Regulatory Compliance](#)

Entity: [Entergy](#)

Email: [mmccul1@entergy.com](mailto:mmccul1@entergy.com)

Phone: [504-576-6123](tel:504-576-6123)

Designated Signature *Mark McCulla* Date January 11, 2010

*[NOTE – Closure Form should be signed by same individual that signed Mitigation Plan]*

**(Form Revised August 13, 2008)**

## **Attachment c**

**Record documents for the violation of  
PRC-005-1 R1 and R2, SERC201000636 and  
SERC201000637**

- 1. Entergy's Self-Report for  
SERC201000636 dated October 2, 2010**
  - 2. Entergy's Self-Report for  
SERC201000637 dated October 5, 2010**
  - 3. Entergy's Mitigation Plan for  
SERC201000636 and SERC201000637  
designated as SERCMIT004802 submitted  
June 20, 2012**
  - 4. Entergy's Certification of Mitigation  
Plan Completion dated July 17, 2012**
-

Logged in as:  
**Sharon Solochier**

Log Out

- ▶ System Administration
- ▶ Committees
- ▶ Compliance
- ▶ Self Reports
- ▶ Complaints
- ▶ TFE Request
- ▶ Data Reporting
- ▶ Mitigation Plans
- ▶ Violation Retractions
- ▶ Reliability Assessments
- ▶ Plants/Generators Surveys
- ▶ Recommendations Meetings

### Self Report Form - 2010

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**If you need to edit data contained in this form, please contact your SERC Administrator.**

**This form was submitted on 10/2/2010.**

* Required Fields		<b>Status: Read Only</b>
<b>Region:</b>	SERC	
<b>NERC Registry ID:</b>	NCR01234	
<b>Joint Registration Organization (JRO) ID:</b>		
<b>Registered Entity:</b>	Entergy	
<b>Registered Entity Contact Information:</b>	* Dale Claudel (wclaude@entergy.com) 281-297-5417	
<b>Standard Applicable to Self-Report:</b>	PRC-005-1	
<b>Requirement Applicable to Self-Report:</b>	R1.	
<b>Sub Requirements Applicable to Self-Report:</b>		
<b>Function Applicable to Self-Report:</b>	GO	
<b>Date violation occurred:</b>	* 6/18/2007	▼
<b>Date violation discovered:</b>	* 9/15/2010	▼
<b>Is the violation still occurring?</b>	* <input checked="" type="radio"/> Yes <input type="radio"/> No	
<b>Detail explanation and cause of violation:</b>	* During an internal self-assessment, it was discovered that documentation for the maintenance and testing of at least one device in accordance with PRC-005 R1 and R2 is not adequate. The self-assessment will continue to establish the extent of condition by analyzing plant equipment against Entergy Fossil's basis for Generation Protection System equipment identification.	
<b>Reliability Impact:</b>	* Minimal	6
<b>Reliability Impact Description:</b>	* The reliability risk to the Bulk Power System is minimal.	
<b>Additional Comments:</b>		
<p><b>NOTE:</b> While submittal of a mitigation plan is not required until after a determination of a violation is confirmed, early submittal of a mitigation plan to address and remedy an identified deficiency is encouraged. Submittal of a mitigation plan shall not be deemed an admission of a violation. (See NERC Rules of Procedure, Appendix 4C, Section 6.4.)</p>		

 Submit Self Report



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**Sharon Solochier**  
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- ▶ System Administration
- ▶ Committees
- ▶ Compliance
- ▼ Self Reports
  - Search Self Reports
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- ▶ TFE Request
- ▶ Data Reporting
- ▶ Mitigation Plans
- ▶ Violation Retractions
- ▶ Reliability Assessments
- ▶ Plants/Generators Surveys
- Recommendations
- Meetings

### Self Report Form - 2010

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**This form was submitted on 10/5/2010.**

<b>* Required Fields</b>		<b>Status: Read Only</b>
<b>Region:</b>	SERC	
<b>NERC Registry ID:</b>	NCR01234	
<b>Joint Registration Organization (JRO) ID:</b>		
<b>Registered Entity:</b>	Entergy	
<b>Registered Entity Contact Information:</b>	* Dale Claudel (wclaudel@entergy.com) 281-297-5417	
<b>Standard Applicable to Self-Report:</b>	PRC-005-1	
<b>Requirement Applicable to Self-Report:</b>	R2.	
<b>Sub Requirements Applicable to Self-Report:</b>		
<b>Function Applicable to Self-Report:</b>	GO	
<b>Date violation occurred:</b>	* 6/18/2007	▼
<b>Date violation discovered:</b>	* 9/15/2010	▼
<b>Is the violation still occurring?</b>	* <input checked="" type="radio"/> Yes <input type="radio"/> No	
<b>Detail explanation and cause of violation:</b>	*	
During an internal self-assessment, it was discovered that documentation for the maintenance and testing of at least one device in accordance with PRC-005 R1 and R2 is not adequate. The self-assessment will continue to establish the extent of condition by analyzing plant equipment against Entergy Fossil's basis for Generation Protection System equipment identification.		
<b>Reliability Impact:</b>	* Minimal	6
<b>Reliability Impact Description:</b>	*	
The reliability risk to the Bulk Power System is minimal.		
<b>Additional Comments:</b>		
<p><b>NOTE:</b> While submittal of a mitigation plan is not required until after a determination of a violation is confirmed, early submittal of a mitigation plan to address and remedy an identified deficiency is encouraged. Submittal of a mitigation plan shall not be deemed an admission of a violation. (See NERC Rules of Procedure, Appendix 4C, Section 6.4.)</p>		

 Submit Self Report



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Etienne Senac

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**Edit - Mitigation Plan**

Save PDF | Return To Search Results | Prev Mit Plan Rev 4

Original Mitigation Plan

\* Required Fields

Status: Saved

**Mitigation Plan Summary**

<b>Mitigation Plan Status:</b>	Region reviewing Mitigation Plan
<b>NERC Mitigation Plan #:</b>	
<b>Associated Violations:</b>	SERC2011006474 SERC201000636 SERC201000637
<b>Mitigation Plan Due Date:</b>	
<b>Expected Completion Date:</b>	6/29/2012

**Section A: Compliance Notices & Mitigation Plan Requirements**

- A.1 Notices and requirements applicable to Mitigation Plans and this Submittal Form are set forth in "Attachment A - Compliance Notices & Mitigation Plan Requirements" to this form.
- A.2  I have reviewed Attachment A and understand that this Mitigation Plan Submittal Form will not be accepted unless this box is checked.

**Section B: Registered Entity Information**

- B.1 Identify your organization
 

Company Name:	Entergy
Company Address:	639 Loyola Avenue New Orleans, Louisiana 70113
NERC Compliance Registry ID:	NCR01234
- B.2 Identify the individual in your organization who will be the Entity Contact regarding this Mitigation Plan.
 

Name: *	<input type="text" value="Tracey Stubbs"/>
E-Mail:	tstubbs@entergy.com

**Section C: Identification of Alleged or Confirmed Violation(s) Associated with this Mitigation Plan**

- C.1 This Mitigation Plan is associated with the following Alleged or Confirmed violation(s) of the reliability standard listed below.
 

Applicable Standard, Requirement(s) and Date Reported to Region:	
Standard:	<input type="text" value="PRC-005-1"/>
<input type="checkbox"/> PRC-005-1 R1. (03/16/2011) <input type="checkbox"/> PRC-005-1 R1.[PRC-005-1 R1.1.][PRC-005-1 R1.2.] (10/02/2010) <input type="checkbox"/> PRC-005-1 R2.[PRC-005-1 R2.1.][PRC-005-1 R2.2.] (10/05/2010)	
- C.2 Identify the cause of the Alleged or Confirmed violation(s) identified above. Additional detailed information may be provided as an attachment:
 

<p>An element of Entergy's culture of compliance is to perform a causal analysis in accordance with a formal procedure specified in the Entergy Operations Management Manual. A team of Entergy personnel performed a causal analysis for the PRC-005-1 self-reported conditions. The causes of these incidents were determined by documenting the timeline of events leading to the self report, conducting interviews of plant personnel and performing a Cause and Effect analysis utilizing the Cause Mapping Method. This method begins by documenting the event</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

which is the subject of the analysis and proceeds by determining, in successive fashion, the causes that led to the occurrence of the event. The Cause Mapping Method concentrates on all possible causes that are suspected to create the conditions necessary for an undesired event to occur. The most significant causes or combination of causes are addressed in this document.

PRC-005-1 R1.

The cause was determined to be:

Fossil Generation inappropriately concluded that Generation Protection Systems within Fossil Generation did not utilize associated communication circuits in accordance with typical plant Generation Protection System schemes.

Root Cause:

The cause for not having established maintenance and testing intervals and their basis for Fossil Generation transformer line protection relay communication circuits was the assumption that such circuits did not exist. When the scope of PRC-005-1 Generation Protection System components was established and codified within Entergy Fossil Generation's Generator Protection System Maintenance Procedure (EF-PR-NERC-01), Fossil Generation only considered typical plant Generation Protection System schemes. As a result of the extent of condition evaluation associated with this event, transformer line protection relay communication circuits have been identified on certain units. Prior to the separation of the consolidated Generation and Transmission business unit in the late 1990s, these devices were maintained by the Transmission organization. Energy Delivery, formerly Transmission, has an established maintenance basis for all of its protective system components. However, the effort undertaken \* by both Fossil Generation and Energy Delivery at the time to delineate mutual responsibilities for electrical equipment maintenance did not sufficiently address the responsibility for performing maintenance on those circuits which provide the communications interface between the relays on either end of the transformer lines which are jointly owned by Fossil Generation and Energy Delivery.

PRC-005-1 R2.

Root Cause:

The root cause of the event (exceeding the required calibration periodicity) was a failure of plant personnel to develop and utilize a unit-specific controlled list of PRC-005-1 equipment. The PRC-005-1 component identification guidance that the plant utilized was the general definition of PRC-005-1 components provided in Entergy Fossil Generation's Generator Protection System Maintenance Procedure, EF-PR-NERC-01. As a result, when a Work Request (WR) was created in the Automated Integrated Maintenance Management system (AIMM) to perform the required Generator Protection System maintenance, the only instructions given within the WR was a generic instruction to calibrate the Generator Protection System relays as defined in EF-PR-NERC-01. Therefore, the identification of individual Generator Protection System relays that were calibrated by this WR was based solely on the plant relay technician's interpretation of the definition provided in EF-PR-NERC-01.

Contributing Causes:

The causal analysis revealed three contributing causes for why the calibration periodicity was exceeded. First the plant relay technician did not receive detailed technician-level, Generator Protection System design training. Although the plant relay technician was an electrician prior to assuming responsibility for Generation Protection System maintenance, his previous position did not expose him to in-depth opportunities for gaining the requisite detailed technician-level knowledge of Generator Protection System design. Second, the plant relay technician did not have access to a test plan for the ASEA relay. The plant used the Doble test set to calibrate all relays at the plant; however, no test plans for the ASEA relay were provided in this test set. Third, plant management concluded that the plant relay technician was qualified based on past electrical experience and general relay training to understand and maintain Generator Protection System equipment.

**C.3 Provide any additional relevant information regarding the Alleged or Confirmed violations associated with this Mitigation Plan.**  
**Additional detailed information may be provided as an attachment:**



THE PURPOSE OF THIS REVISION IS TO ADD THE 3RD PARAGRAPH BELOW REGARDING REX BROWN CTs.

A comprehensive initiative to improve overall compliance performance in Fossil Generation

identified the importance of improving the basis of identifying in scope equipment; developing a controlled site by site data base of in scope components; and verifying compliance of that equipment. As a result, Fossil Generation has enhanced, clarified and clearly delineated the basis for identifying Generation Protection System equipment. Fossil Generation has utilized the enhanced and clarified basis to develop unit-specific lists of equipment which clearly delineate all the equipment required for compliance with PRC-005. For each component identified, a review and validation of test history was completed to determine if continuous compliance for all items on the unit-specific equipment lists was maintained according to the requirements of EF-PR-NERC-01. Relays and any other protection system devices found to have exceeded required maintenance periodicities will have the required maintenance performed. A schedule is being developed in order to manage and control the effort required to return the applicable generation protection system devices to compliance.

Through the course of this initiative, some transformer line protection relays and backup protection relays were identified within the plant switchyards which provide a trip signal to Fossil Generation Protection System relays. These devices, which are at the interface between Entergy Fossil Generation and Entergy Energy Delivery (i.e. Transmission), were identified late in the extent of condition evaluation. Since these devices provide a specific trip signal to Fossil Generation Protection System relays, these devices will be added to the scope of this initiative so that they can be inventoried and tested according to the requirements of Energy Delivery's Transmission Protection System maintenance program. These related actions are reflected in the action plan detailed in Section D.1 of this Mitigation Plan.

Fossil Generation identified that nine visual inspections for PRC-005-01 current transformers at Rex Brown Unit 3 were over due for their five year inspection. A root cause analysis and extent of condition was performed. The root cause was insufficient use of tracking tools. There were no other missed inspections identified across the Fossil Generation fleet.

#### **Section D: Details of Proposed Mitigation Plan**

**D.1 Identify and describe the action plan, including specific tasks and actions that your organization is proposing to undertake, or which it undertook if this Mitigation Plan has been completed, to correct the Alleged or Confirmed violations identified above in Part C.1 of this form. Additional detailed information may be provided as an attachment:**

Immediate Actions Taken:

1. Created a Plant Specific Equipment List for both units at Independence Steam Electric Station. The components, location, and type for each unit are also listed in the Special Instruction of the AIMM PM for Relay Calibrations.

Completed: 10/31/2009  
(PRC-005-1, Requirement: R2.) Milestone 1

Actions to Prevent Recurrence:

1. Enhance, clarify and document Fossil Generation's basis for identifying PRC-005 components.

Completed: 9/24/2010  
(PRC-005-1, Requirement: R2.) Milestone 2

2. Develop and validate unit-specific equipment lists that are aligned with Fossil Generation's clarified basis for identifying PRC-005-1 components.

Completed: 12/17/2010  
(PRC-005-1, Requirement: R2) Milestone 3

3. Determine the extent of condition regarding compliance with maintenance requirements of EF-PR-NERC-01 for all components on unit-specific PRC-005-1 equipment lists throughout Fossil Generation.

Completed: 12/29/2010  
(PRC-005-1, Requirement: R2) Milestone 4

4. Fossil Generation will provide training to Fossil NERC Champions, Fossil Compliance Relay Technical Support Specialists and Generation Protection System maintenance contractor, PCS2000 on Fossil's clarified basis for identifying PRC-005 components.

Scheduled Completion Date: 2/28/2011  
(PRC-005-1, Requirement: R2) Milestone 5

5. Fossil Generation will establish maintenance and testing intervals, along with the basis, and

maintenance procedures for communication circuits associated with Fossil Generation line protection relays.

Scheduled Completion Date: 3/1/2011

(PRC-005-1 Requirement: R1.) Milestone 6

6. Fossil Generation will identify and schedule maintenance to be performed on all protection system devices currently exceeding the required periodicity date for testing/maintenance in accordance with EF-PR-NERC-01.

Scheduled Completion Date: 3/1/2011

(PRC-005-1, Requirement: R2) Milestone 7

7. Energy Delivery will work with Fossil Generation to identify and inventory PRC-005-1 line protection and backup protection relays located within plant switchyards that provide a trip input into Fossil Generation Protection System relays.

Scheduled Completion Date: 4/30/2011

\* (PRC-005-1, Requirement: R2) Milestone 8

8. Energy Delivery and Fossil Generation will formalize the maintenance agreement for PRC-005-1 line protection and backup protection relays located within plant switchyards that provide a trip input into Fossil Generation Protection System relays.

Scheduled Completion Date: 4/30/2011

(PRC-005-1, Requirement: R2) Milestone 9

9. Energy Delivery will expand its protection systems inventory from a panel basis to a protection system component basis (as defined by NERC) via a field inventory of NERC PRC-005-1 applicable substations.

Scheduled Completion Date: 12/15/2011

(PRC-005-1, Requirement: R2) Milestone 10

10. Energy Delivery will maintain at least 25% of the newly identified PRC-005-1 Transmission owned Protection System components identified during the inventory process in accordance with the Energy Delivery 2012 Maintenance Plan.

Scheduled Completion Date: 3/14/2012

(PRC-005-1, Requirement: R2) Milestone 11

11. Energy Delivery will maintain at least 75% of the newly identified PRC-005-1 Transmission owned Protection System components identified during the inventory process in accordance with the Energy Delivery 2012 Maintenance Plan.

Scheduled Completion Date: 6/12/2012

(PRC-005-1, Requirement: R2) Milestone 12

12. Energy Delivery will complete maintenance on newly identified PRC-005-1 Transmission owned Protection System components in accordance with the Energy Delivery 2012 Maintenance Plan. Specifically, the required maintenance for the identified devices will be completed by this date.

Scheduled Completion Date: 6/29/2012

(PRC-005-1, Requirement: R2) Milestone 13

13. Energy Delivery will redesign its Protection System Maintenance Program to:

a. Remove the Letter of Instruction

b. Include bright-line maximum maintenance intervals, using the NERC Protection System Maintenance white paper and PRC-005-2 as a basis, for protection system components within associated governing procedures as applicable.

c. Perform a program code update on the Substation Work Management System to accommodate protection system maintenance program changes .

Scheduled Completion Date: 06/29/2012

(PRC-005-1, Requirement: R1) Milestone 14

14. Inspect CTs at Rex Brown 3 to bring them into compliance with PRC-005 procedural requirements – Completed 4/26/12 with no issues identified.

15. Perform an extent of condition across Fossil Generation to determine whether there were any other missed CT inspections or tests – Completed May 30, 2012 with no other issues identified.

**D.2 Provide the date by which full implementation of the Mitigation Plan will be, or has been, completed with respect to the Alleged or Confirmed violations identified above. State whether**

the Mitigation Plan has been fully implemented:

\* 6/29/2012

**D.3 Enter Milestone Activities, with due dates, that your organization is proposing, or has completed, for this Mitigation Plan:**

Milestone	Status	Due Date	Completed Date	
Milestone 1	Milestone Completed	10/31/2009	10/31/2009	<a href="#">Detail</a>
Milestone 2	Milestone Completed	9/24/2010	9/24/2010	<a href="#">Detail</a>
Milestone 3	Milestone Completed	12/17/2010	12/17/2010	<a href="#">Detail</a>
Milestone 4	Milestone Completed	12/29/2010	12/29/2010	<a href="#">Detail</a>
Milestone 5	Milestone Completed	2/28/2011	2/24/2011	<a href="#">Detail</a>
Milestone 6	Milestone Completed	3/1/2011	2/28/2011	<a href="#">Detail</a>
Milestone 7	Milestone Completed	3/1/2011	3/11/2011	<a href="#">Detail</a>
Milestone 8	Milestone Completed	4/30/2011	4/27/2011	<a href="#">Detail</a>
Milestone 9	Milestone Completed	4/30/2011	4/19/2011	<a href="#">Detail</a>
Milestone 10	Milestone Completed	12/15/2011	12/15/2011	<a href="#">Detail</a>
Milestone 11	Milestone Completed	3/14/2012	3/13/2012	<a href="#">Detail</a>
Milestone 12	Milestone Pending	6/12/2012		<a href="#">Detail</a>
Milestone 13	Milestone Pending	6/29/2012		<a href="#">Detail</a>
Milestone 14	Milestone Pending	6/29/2012		<a href="#">Detail</a>

**Milestone Comment: Milestone Completed Date:**

[Close Current Milestone](#)

**Section E: Interim and Future Reliability Risk**

**Abatement of Interim BPS Reliability Risk**

**E.1 While your organization is implementing this Mitigation Plan the reliability of the Bulk Power System (BPS) may remain at higher risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are, or may be, known or anticipated: (i) identify any such risks or impacts; and (ii) discuss any actions that your organization is planning to take to mitigate this increased risk to the reliability of the BPS. Additional detailed information may be provided as an attachment:**

Because the Independence Unit 1 87GT1 (Unit Differential) relay was replaced on August 25, 2009, there is no additional risk to the reliability of the Bulk Power System associated with the maintenance periodicity exceedance of the previously installed relay. To mitigate any risk to the reliability of the BPS, aggressive action is being taken to identify all Protection System devices and to validate compliance with Fossil Generation and Energy Delivery maintenance requirements.

Fossil Generation will immediately inspect, test or calibrate (as applicable) any device found to currently exceed its required maintenance periodicity upon identification or schedule for the same at the earliest offline opportunity based upon the results of a documented engineering analysis. The engineering analysis will group the devices by type (i.e. electromechanical relays, solid state/multifunction relays, associated communication circuits, instrument transformers, and batteries). The engineering analysis will establish a priority by which the required maintenance will be performed on devices that are found to currently exceed their required maintenance periodicity. The purpose of the prioritization is to establish an order by which protective device maintenance should be performed to minimize risk to the BPS. In part, the prioritization will consider component type, protective function, maintenance history, and environmental factors. The required maintenance for these devices will be performed based upon the prioritization prescribed within the engineering analysis.

Energy Delivery will incorporate any newly identified Transmission owned devices into its 2012 protection system maintenance plan ensuring that the devices will be maintained as required. The impact to the BPS for these newly identified devices is minimal as these assets are typically part of a redundant system or a multi-contingency scenario.

**Prevention of Future BPS Reliability Risk**

**E.2 Describe how successful completion of this Mitigation Plan will prevent or minimize the probability that your organization incurs further risk of Alleged violations of the same or similar reliability standards requirements in the future. Additional detailed information may be provided as an attachment:**

Two key actions to be completed as outlined within this mitigation plan include clarifying Fossil Generation's basis for identifying PRC-005 Generation Protection System equipment and developing unit-specific controlled lists of equipment that are aligned with this clarified basis.

Successful completion of these actions will mitigate the variation in interpretation across Fossil Generation regarding what equipment is within the scope of PRC-005 Generation Protection System maintenance program. This variation in interpretation has been a key factor which has challenged Fossil Generation to achieve continuous compliance with PRC-005-1 on a fleet-wide basis. By establishing and validating the accuracy of unit specific lists of Fossil Generation Protection System equipment that is aligned with the clarified basis for identifying Generation Protection System devices, Fossil Generation will be able to minimize the probability of future violations of the PRC-005 Standard.

- \* Energy Delivery's conversion from a panel inventory basis to a protection system component inventory basis through the associated field inventory minimizes the possibility of components being omitted from the protection system maintenance program.

Changes to the Energy Delivery protection system maintenance program will minimize the possibility that protection system components are maintained outside of their clearly defined interval.

Fossil Generation will review the PRC-005 "Process for Sustained Compliance" (effective April 1, 2012 and which requires periodic reconciliations between unit-specific equipments lists and the work management system back-log lists) for further enhancements to mitigate potential human performance problems associated with monitoring NERC related inspections.

### **Section F: Authorization**

An authorized individual must sign and date this Mitigation Plan Submittal Form. By doing so, this individual, on behalf of your organization:

- a) Submits this Mitigation Plan for acceptance by **SERC** and approval by NERC, and
- b) If applicable, certifies that this Mitigation Plan was completed on or before the date provided as the 'Date of Completion of the Mitigation Plan' on this form, and
- c) Acknowledges:
  - 1. I am **Etienne Senac** of **Entergy**
  - 2. I am qualified to sign this Mitigation Plan on behalf of **Entergy**
  - 3. I understand **Entergy's** obligations to comply with Mitigation Plan requirements and ERO remedial action directives as well as ERO documents, including, but not limited to, the NERC Rules of Procedure, including Appendix 4(C) (Compliance Monitoring and Enforcement Program of the North American Electric Reliability Corporation (NERC CMEP))
  - 4. I have read and am familiar with the contents of this Mitigation Plan
  - 5. **Entergy** agrees to comply with, this Mitigation Plan, including the timetable completion date, as accepted by **SERC** and approved by NERC

**Authorized Signatory Etienne Senac notified on 6/20/2012**

**Signed By Etienne Senac on 6/20/2012**

### **Section G: Regional Entity Contact**

Please direct any questions regarding completion of this form to:

SERC Single Point of Contact (SPOC)

 [Save PDF](#) | [Return To Search Results](#) | [Prev Mit Plan Rev 4](#)

Logged in as:

Etienne Senac

Log Out

Edit

Save PDF | Return to Mitigation Plan

\* Required Fields

Status: Saved

All Mitigation Plan Completion Certification submittals shall include data or information sufficient for SERC to verify completion of the Mitigation Plan. SERC may request such additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6) Data or information submitted may become part of a public record upon final disposition of the possible violation, therefore any confidential information contained therein should be marked as such in accordance with the provisions of Section 1500 of the NERC Rules of Procedure.

Name of Registered Entity submitting certification: **Entergy**

Date of Certification: 07/17/2012

Name of Standard of mitigation violation(s): PRC-005-1PRC-005-1PRC-005-1

Mitigated information:

Requirement	Tracking Number	Violation ID
R2.	SERC2010-400766	SERC201000637
R1.	SERC2010-400765	SERC201000636
R1.	SERC2011-400936	SERC2011006474

Date of completion of the Mitigation Plan:

6/25/2012

Summary of all actions described in Part D of the relevant mitigation plan:

Immediate Actions Taken:

1. Created a Plant Specific Equipment List for both units at Independence Steam Electric Station. The components, location, and type for each unit are also listed in the Special Instruction of the AIMM PM for Relay Calibrations.

Completed: 10/31/2009  
(PRC-005-1, Requirement: R2.) Milestone 1

Actions to Prevent Recurrence:

1. Enhance, clarify and document Fossil Generation's basis for identifying PRC-005 components.

Completed: 9/24/2010  
(PRC-005-1, Requirement: R2.) Milestone 2

2. Develop and validate unit-specific equipment lists that are aligned with Fossil Generation's clarified basis for identifying PRC-005-1 components.

Completed: 12/17/2010  
(PRC-005-1, Requirement: R2) Milestone 3

3. Determine the extent of condition regarding compliance with maintenance requirements of EF-PR-NERC-01 for all components on unit-specific PRC-005-1 equipment lists throughout Fossil Generation.

Completed: 12/29/2010  
(PRC-005-1, Requirement: R2) Milestone 4

4. Fossil Generation will provide training to Fossil NERC Champions, Fossil Compliance Relay Technical Support Specialists and Generation Protection System maintenance contractor, PCS2000 on Fossil's clarified basis for identifying PRC-005 components.  
Scheduled Completion Date: 2/28/2011  
(PRC-005-1, Requirement: R2) Milestone 5
5. Fossil Generation will establish maintenance and testing intervals, along with the basis, and maintenance procedures for communication circuits associated with Fossil Generation line protection relays.  
Scheduled Completion Date: 3/1/2011  
(PRC-005-1 Requirement: R1.) Milestone 6
6. Fossil Generation will identify and schedule maintenance to be performed on all protection system devices currently exceeding the required periodicity date for testing/maintenance in accordance with EF-PR-NERC-01.  
Scheduled Completion Date: 3/1/2011  
(PRC-005-1, Requirement: R2) Milestone 7
7. Energy Delivery will work with Fossil Generation to identify and inventory PRC-005-1 line protection and backup protection relays located within plant switchyards that provide a trip input into Fossil Generation Protection System relays.  
Scheduled Completion Date: 4/30/2011  
(PRC-005-1, Requirement: R2) Milestone 8
8. Energy Delivery and Fossil Generation will formalize the maintenance agreement for PRC-005-1 line protection and backup protection relays located within plant switchyards that provide a trip input into Fossil Generation Protection System relays.  
Scheduled Completion Date: 4/30/2011  
(PRC-005-1, Requirement: R2) Milestone 9
9. Energy Delivery will expand its protection systems inventory from a panel basis to a protection system component basis (as defined by NERC) via a field inventory of NERC PRC-005-1 applicable substations.  
Scheduled Completion Date: 12/15/2011  
(PRC-005-1, Requirement: R2) Milestone 10
10. Energy Delivery will maintain at least 25% of the newly identified PRC-005-1 Transmission owned Protection System components identified during the inventory process in accordance with the Energy Delivery 2012 Maintenance Plan.  
Scheduled Completion Date: 3/14/2012  
(PRC-005-1, Requirement: R2) Milestone 11
11. Energy Delivery will maintain at least 75% of the newly identified PRC-005-1 Transmission owned Protection System components identified during the inventory process in accordance with the Energy Delivery 2012 Maintenance Plan.  
Scheduled Completion Date: 6/12/2012  
(PRC-005-1, Requirement: R2) Milestone 12
12. Energy Delivery will complete maintenance on newly identified PRC-005-1 Transmission owned Protection System components in accordance with the Energy Delivery 2012 Maintenance Plan. Specifically, the required maintenance for the identified devices will be completed by this date.  
Scheduled Completion Date: 6/29/2012  
(PRC-005-1, Requirement: R2) Milestone 13
13. Energy Delivery will redesign its Protection System Maintenance Program to:
- a. Remove the Letter of Instruction
  - b. Include bright-line maximum maintenance intervals, using the NERC Protection System Maintenance white paper and PRC-005-2 as a basis, for protection system components within associated governing procedures as applicable.
  - c. Perform a program code update on the Substation Work Management System to accommodate protection system maintenance program changes .
- Scheduled Completion Date: 06/29/2012  
(PRC-005-1, Requirement: R1) Milestone 14
14. Inspect CTs at Rex Brown 3 to bring them into compliance with PRC-005 procedural



requirements – Completed 4/26/12 with no issues identified.

15. Perform an extent of condition across Fossil Generation to determine whether there were any other missed CT inspections or tests – Completed May 30, 2012 with no other issues identified.

**Description of the information provided to SERC for their evaluation:**

1. Guidance Document for NERC Standard PRC-005 Generator Protection System Equipment dated September 24, 2010.
2. Unit-specific equipment lists aligned with Fossil Generations clarified basis, represented in summary format on SERC Template 2011 March 23 - revised 1-19-2012 FINAL (2).pdf.
3. Extent of condition regarding compliance with maintenance requirements of EF-PR-NERC-01, documented in SERC Template 2011 March 23 - revised 1-19-12 FINAL (2) pdf.
4. PRC-005 Training 2 17 11 (NERC Champions).pdf, PRC-005 Training 2 17 11 (PCS2000).pdf and associated training attendance sheets.
5. Fossil Generation Procedure EF-PR-NERC-18, Summary of Communication Systems Maintenance and Testing, dated February 22, 2011.
6. PRC-005 Device Compliance Testing Schedule 021711.pdf and PRC-005 Device Testing - Weekly Status Report Week Engine March 9, 2011.doc.
7. Final\_Fossil\_Mitigation\_Report.xlsx, Identified Panels. Work Report 07-Oct-2011.xlsx, an Energy Delivery progress report of working line protection and backup protection relays located within plant switchyards.
8. Letter of Agreement dated April 15, 2011 signed by Rick Riley, VP Energy Delivery and Robert Hicks, VP, Power Plant Operations (Fossil & Hydro)
9. 111215 Entergy PRC-005 Data Submission.xlsx
10. Carryover Assets as of 120313.xlsx
11. Carryover Assets as of 120313.xlsx
12. Carryover Assets as of 5232012.xlsx
13. AM-TS-PRC-002, R06 NERC Protection System Maintenance and Testing  
AM-TS-PRC-006, R00, Communication System Maintenance and Testing Program  
AM-TS-PRC-007, R00, Control Circuitry Maintenance and Testing Program  
AM-TS-PRC-008, R00, Station D.C. Supply Maintenance and Testing Program  
AM-TS-PRC-009, R00, Protective Relay Maintenance and Testing Program  
AM-TS-PRC-010, R00, Voltage and Current Sensing Device Maintenance and Testing Program  
AM-TS-PRC-011, R00, Metering Point Maintenance and Testing Program  
SWMS\_Update\_Process\_for\_MT\_Changes for PROD on 6-22.docx
14. AIMM Work Requests 41131-41139 for inspection of 9 CTs at Rex Brown 3.
15. Extent of Condition for CR-FOSL-2012-0048, Self Report for PRC-005, R2, Missed 5 Year Visual Inspection at Rex Brown 3.

I certify that the mitigation plan for the above-named violation has been completed on the date shown above. In doing so, I certify that all required mitigation plan actions described in Part D of the relevant mitigation plan have been completed, compliance has been restored, the above-named entity is currently compliant with all of the requirements of the referenced standard, and that all information submitted is complete, true and correct to the best of my knowledge.

**Authorized Signatory Etienne Senac notified on 7/17/2012**

**Signed By Etienne Senac on 7/17/2012**

**Attachment d**  
**Notice of Filing**

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Entergy

Docket No. NP13-\_\_\_\_-000

NOTICE OF FILING  
December 31, 2012

Take notice that on December 31, 2012, the North American Electric Reliability Corporation (NERC) filed a Notice of Penalty regarding Entergy in the SERC Reliability Corporation region.

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211, 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate. Such notices, motions, or protests must be filed on or before the comment date. On or before the comment date, it is not necessary to serve motions to intervene or protests on persons other than the Applicant.

The Commission encourages electronic submission of protests and interventions in lieu of paper using the "eFiling" link at <http://www.ferc.gov>. Persons unable to file electronically should submit an original and 14 copies of the protest or intervention to the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426.

This filing is accessible on-line at <http://www.ferc.gov>, using the "eLibrary" link and is available for review in the Commission's Public Reference Room in Washington, D.C. There is an "eSubscription" link on the web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov), or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Comment Date: [BLANK]

Kimberly D. Bose,  
Secretary