



NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

July 6, 2010

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

**Re: Abbreviated Notice of Penalty
 E.ON U.S. Services Inc., FERC Docket No. NP10-__-000**

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby provides this Abbreviated Notice of Penalty (NOP) regarding E.ON U.S. Services Inc.¹ (E.ON U.S.),² with information and details regarding the nature and resolution of the violation³ discussed in detail in the Settlement Agreement and the Disposition Document, in accordance with the Federal Energy Regulatory Commission's (Commission or FERC) rules, regulations and orders, as well as NERC Rules of Procedure including Appendix 4C (NERC Compliance Monitoring and Enforcement Program (CMEP)).⁴

On June 3, 2008, E.ON U.S. self-reported to SERC Reliability Corporation (SERC): (1) a violation of FAC-008-1 Requirement (R) 1 because E.ON U.S.'s had failed to consider the ratings of its associated equipment in determining its Facility Ratings, using instead a method wherein the generator was determined as the most limiting equipment; (2) a violation of PRC-005-1 R1 because E.ON U.S.'s generation and transmission Protection System maintenance and testing programs did not address all of the elements of the subject Standard; and (3) a violation

¹ E.ON U.S. Services Inc. acts as agent for Louisville Gas and Electric Company (LG&E) and Kentucky Utilities Company (KU).

² On December 12, 2008, NERC filed a NOP designated as NOC-091 regarding a separate Settlement Agreement between SERC Reliability Corporation and E.ON U.S. for E.ON U.S.'s violations of EOP-008-0 R1, FAC-001-0 R1, FAC-001-0 R2 and FAC-001-0 R3. On January 9, 2009, FERC issued an order stating it would not engage in further review of the violations addressed in that Notice of Penalty.

³ 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.

⁴ *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 (2010). *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).

of PRC-005-1 R2 (specifically R2.1 and R2.2) because E.ON U.S. did not have documented evidence or records that all applicable components of its generation and transmission protection systems had been tested and maintained.

Additionally, on October 1, 2008, E.ON U.S. self-reported a violation of VAR-002-1 R2 because E.ON U.S. did not: (1) have evidence to show that it had controlled its generator voltage and reactive output to meet the voltage or Reactive Power schedule provided by its associated Transmission Operator; or (2) notified or received an exemption from its Transmission Operator that it would not meet the voltage schedule.

This NOP is being filed with the Commission because SERC and E.ON U.S. have entered into a Settlement Agreement to resolve all outstanding issues arising from a preliminary and non-public assessment resulting in SERC's determination and findings of the enforceable violations of FAC-008-1 R1, PRC-005-1 R1, PRC-005-1 R2 and VAR-002-1 R2. According to the Settlement Agreement, E.ON U.S. neither admits nor denies the violation, but has agreed to the proposed penalty of one hundred fifteen thousand dollars (\$115,000) to be assessed to E.ON U.S., 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 Number SERC200800132, SERC200800134, SERC200800135 and SERC200800209 are being filed in accordance with the NERC Rules of Procedure and the CMEP.

Statement of Findings Underlying the Violations

This NOP incorporates the findings and justifications set forth in the Settlement Agreement executed on December 17, 2009, by and between SERC and E.ON U.S., which is included as Attachment e. The details of the findings and the basis for the penalty are set forth in the Disposition Documents included as Attachment f. This NOP 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, NERC provides the following summary table identifying each violation of a Reliability Standard resolved by the Settlement Agreement, as discussed in greater detail below.

Region	Registered Entity	NOC ID	NERC Violation ID	Reliability Std.	Req. (R)	VRF	Total Penalty (\$)
SERC	E.ON U.S. Services Inc.	NOC-112	SERC200800132	FAC-008-1	1	Lower ⁵	115,000

⁵ When NERC filed VRFs for FAC-008-1, NERC originally assigned a "Lower" VRF to FAC-008-1 R1.1. In the Commission's November 16, 2007 Order on Violation Risk Factors, the Commission directed modifications. On December 19, 2007, NERC filed the modified "Medium" VRF for FAC-008-1 R1.1 for approval. On February 6, 2008, the Commission issued an Order approving the modified VRF. Therefore, the "Lower" VRF was in effect from June 18, 2007 until February 6, 2008 and the "Medium" VRF has been in effect since February 6, 2008.

			SERC200800134	PRC-005-1	1	High ⁶	
			SERC200800135	PRC-005-1	2 ⁷	Lower	
			SERC200800209	VAR-002-1 ⁸	2	Medium	

The text of the Reliability Standards at issue is set forth in the Disposition Documents.

FAC-008-1 R1 - OVERVIEW⁹

SERC determined that E.ON U.S., as a Generator Owner in this case, failed to consider the ratings of its associated equipment in determining its Facility Ratings, using instead a method wherein the generator was determined as the most limiting equipment. In doing so, associated equipment was considered but no ratings of that equipment were listed or used in the analysis. Additionally, the Facility Ratings Methodology did not contain the statement that a Facility Rating shall equal the most limiting applicable Equipment Rating of the individual equipment that comprises the facility nor did the scope of equipment include the other elements set forth in the Standard, specifically transmission conductors, transformers, relay protective devices, terminal equipment or series and shunt compensations devices.

The duration of the FAC-008-1 R1 violation was from June 18, 2007, when the Standard became mandatory and enforceable, through December 11, 2008, the date E.ON U.S. completed its Mitigation Plan.

SERC concluded that this violation did not pose a serious or substantial risk to the reliability of the bulk power system (BPS) because E.ON U.S. had an existing Facility Ratings Methodology using the capacity of its generators as the limiting element, although it did not meet the requirements of the Reliability Standard.

PRC-005-1 R1 - OVERVIEW¹⁰

⁶ When NERC filed Violation Risk Factors (VRFs) for PRC-005-1, NERC originally assigned a “Medium” VRF to PRC-005-1 Requirement 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 the modified “High” VRF for PRC-005 Requirement 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.

⁷ 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, including 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.

⁸ VAR-002-1 was enforceable from August 2, 2007, through August 27, 2008. VAR-002-1a was approved by the Commission and became enforceable on August 28, 2008. VAR-002-1a is the current enforceable Standard as of May 13, 2009. The subsequent interpretations provide clarity regarding the responsibilities of a registered entity and do not change the meaning or language of the original NERC Reliability Standard and its requirements. For consistency in this filing, the original NERC Reliability Standard, VAR-002-1, is used throughout.

⁹ Further information on this violation is contained in the Disposition Document included as Attachment f-1.

¹⁰ Further information on this violation is contained in the Disposition Document included as Attachment f-2.

SERC determined that E.ON U.S., as a Generator Owner and Transmission Owner, was unable to provide evidence that the existing generation and transmission Protection Systems program includes all of the Protection System components, maintenance and testing intervals and their basis, and a summary of maintenance and testing procedures, as discussed in detail in the Settlement Agreement and Disposition Document.

The duration of the PRC-005-1 R1 violation was from June 18, 2007, when the Standard became mandatory and enforceable, through June 24, 2009, the date E.ON U.S. completed its Mitigation Plan.

Although SERC determined that the violation of PRC-005-1 R1 did not pose a serious or substantial risk to the reliability of the BPS, SERC determined that the violation posed a moderate risk to the BPS because although E.ON U.S. did not have a complete maintenance and testing program, E.ON was testing all of its protective relays and batteries associated with its transmission Protection System and the majority of the protective relays and batteries associated with its generation Protection System, as described in the Disposition Document.

PRC-005-1 R2 - OVERVIEW¹¹

SERC determined that E.ON U.S., as a Generator Owner and Transmission Owner, did not have documented evidence or records that all applicable components of its generation and transmission protection systems had been tested and maintained. In addition, E.ON U.S. had not maintained and tested all required components of its generation Protection System and its transmission Protection System, as discussed in the Disposition Document.

The duration of the PRC-005-1 R2 violation was from June 18, 2007, when the Standard became mandatory and enforceable, through June 24, 2009, the date E.ON U.S. completed its Mitigation Plan.

Although SERC determined that the violation of PRC-005-1 R2 did not pose a serious or substantial risk to the reliability of the BPS, SERC determined that the violation posed a moderate risk to the BPS due to the number of total applicable devices that did not have documented testing, as discussed in the attached Disposition Document.

VAR-002-1 R2 - OVERVIEW¹²

SERC determined that E.ON U.S., as a Generator Owner and Generator Operator, did not: (1) have evidence to show that it had controlled its generator voltage and reactive output to meet the voltage or Reactive Power schedule provided by its associated Transmission Operator; and (2) receive from its Transmission Operator an exemption from the voltage schedule nor notify the Transmission Operator that it would not meet the voltage schedule. E.ON U.S. also determined there were periods where several units inadvertently operated outside the voltage tolerance bandwidth and did not have adequate alarming capability to alert the operator. In addition, E.ON U.S. used its plant Distributed Control Systems (DCS) data for voltage control parameters and alarm settings and discovered that this data did not match the Energy Management System's

¹¹ *Id.*

¹² Further information on this violation is contained in the Disposition Document included as Attachment f-3.

(EMS) data, therefore E.ON U.S. felt that it did not have reliable integrated hourly information available to receive real-time voltage measurements for proper operator log entries.

The duration of the VAR-002-1 R2 violation was from August 11, 2007, when the Standard became mandatory and enforceable, through May 29, 2009, the date E.ON U.S. completed its Mitigation Plan.

SERC concluded that this violation did not pose a serious or substantial risk to the reliability of the BPS because: (1) E.ON U.S.'s failure to operate within the voltage schedule tolerance band occurred in less than 1% of the total unit operating hours; and (2) the average of all 110 occurrences of voltage excursions were outside the tolerance band for a total of 333 hours by less than 1% affecting only eight of the twelve generating plants. Therefore, E.ON U.S. failed to maintain a voltage or reactive power schedule for 58% of its generators by plant or 70% of its generators by unit.

Regional Entity's Basis for Penalty

According to the Settlement Agreement, SERC has assessed a penalty of one hundred fifteen thousand dollars (\$115,000) for the referenced violations. In reaching this determination, SERC considered the following factors:

1. the violations constituted E.ON U.S.'s first occurrence of violations of the subject NERC Reliability Standards;
2. E.ON U.S. self-reported the violations;
3. SERC reported that E.ON U.S. was cooperative throughout the compliance enforcement process;
4. E.ON U.S.'s compliance program was considered, as discussed in the Disposition Documents;
5. there was no evidence of any attempt to conceal a violation nor evidence of intent to do so;
6. SERC determined that the violations did not pose a serious or substantial risk to the reliability of the BPS, as discussed above and in the Disposition Documents; and
7. SERC reported that 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 one hundred fifteen thousand dollars (\$115,000) is appropriate and bears a reasonable relation to the seriousness and duration of the violations.

Statement Describing the Proposed Penalty, Sanction or Enforcement Action Imposed¹³

Basis for Determination

Taking into consideration the Commission's direction in Order No. 693, the NERC Sanction Guidelines, the Commission's July 3, 2008 and October 26, 2009 Guidance Orders,¹⁴ the NERC BOTCC reviewed the Settlement Agreement and supporting documentation on May 14, 2010. The NERC BOTCC approved the Settlement Agreement, including SERC's imposition of a financial penalty, assessing a penalty of one hundred fifteen thousand dollars (\$115,000) against E.ON U.S. 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 of constituted E.ON U.S.'s first occurrence of violations of the subject NERC Reliability Standards;
2. E.ON U.S. self-reported the violations;
3. SERC reported that E.ON U.S. was cooperative throughout the compliance enforcement process;
4. E.ON U.S.'s compliance program was considered, as discussed in the Disposition Documents;
5. there was no evidence of any attempt to conceal a violation nor evidence of intent to do so;
6. SERC determined that the violations did not pose a serious or substantial risk to the reliability of the BPS, as discussed above and in the Disposition Documents; and
7. 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 approves the Settlement Agreement and believes that the assessed penalty of one hundred fifteen thousand dollars (\$115,000) is appropriate for the violation and circumstances at issue, and is consistent with NERC's goal to promote and ensure reliability of the BPS.

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

¹³ See 18 C.F.R. § 39.7(d)(4).

¹⁴ *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).

Attachments to be included as Part of this Notice of Penalty

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

- a) E.ON U.S.'s Self-Report for FAC-008-1 R1 dated June 3, 2008, included as Attachment a;
- b) E.ON U.S.'s Self-Report, as a Generator Owner, for PRC-005-1 R1 and R2 dated June 3, 2008, included as Attachment b;
- c) E.ON U.S.'s Self-Report, as a Transmission Owner, for PRC-005-1 R1 and R2 dated June 3, 2008, included as Attachment c;
- d) E.ON U.S.'s Self-Report for VAR-002-1 R2 dated October 1, 2008, included as Attachment d;
- e) Settlement Agreement by and between SERC and E.ON U.S. executed December 17, 2009, included as Attachment e;
 - i. Record documents for the violation of FAC-008-1 R1:
 - i. E.ON U.S.'s Mitigation Plan dated July 29, 2008, included as Appendix A-4 to the Settlement Agreement;
 - ii. E.ON U.S.'s Certification of Completion dated December 30, 2008, included as Appendix A-5 to the Settlement Agreement; and
 - iii. SERC's Verification of Completion dated January 2, 2009, included as Appendix A-6 to the Settlement Agreement.
 - ii. Record documents for the violation of PRC-005-1 R1 and R2:
 - i. E.ON U.S.'s Mitigation Plan dated July 30, 2008, included as Appendix A-1 to the Settlement Agreement;
 - ii. E.ON U.S.'s Certification of Completion dated June 30, 2009, included as Appendix A-2 to the Settlement Agreement; and
 - iii. SERC's Verification of Completion dated July 20, 2009, included as Appendix A-3 to the Settlement Agreement.
 - iii. Record documents for the violation of VAR-002-1 R2, included as Attachment e:
 - i. E.ON U.S.'s Mitigation Plan dated March 4, 2009, included as Appendix A-7 to the Settlement Agreement;
 - ii. E.ON U.S.'s Certification of Completion dated June 1, 2009, included as Appendix A-8 to the Settlement Agreement; and
 - iii. SERC's Verification of Completion dated June 7, 2009, included as Appendix A-9 to the Settlement Agreement.
- f) Disposition Document for Common Information, included as Attachment f:
 - i. Disposition Document for FAC-008-1, included as Attachment f-1;
 - ii. Disposition Document for PRC-005-1, included as Attachment f-2; and

iii. Disposition Document for VAR-002-1, included as Attachment f-3.

A Form of Notice Suitable for Publication¹⁵

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

¹⁵ See 18 C.F.R. § 39.7(d)(6).

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 David N. Cook* Vice President and General Counsel North American Electric Reliability Corporation 116-390 Village Boulevard Princeton, NJ 08540-5721 (609)452-8060 (609) 452-9550 – facsimile gerry.cauley@nerc.net david.cook@nerc.net</p> <p>John N. Voyles, Jr.* Vice President, Transmission and Generation Services E.ON U.S. Services Inc. 220 West Main Street Louisville, KY 40202 (502) 627-4762 (502) 627-4165 – facsimile john.voyles@eon-us.com</p> <p>Steven D. Phillips* Director, Compliance and Ethics E.ON U.S. Services Inc. 220 West Main Street Louisville, KY 40202 (502) 627-2648 (502) 217-2775 – facsimile steven.phillips@eon-us.com</p> <p>Jennifer M. Keisling* Sr. Corporate Attorney E.ON U.S. LLC 220 West Main Street Louisville, KY 40202 (502) 627-4303 (502) 627-3367 – facsimile jennifer.keisling@eon-us.com</p> <p>*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.</p>	<p>Rebecca J. Michael* Assistant General Counsel Holly A. Hawkins* Attorney North American Electric Reliability Corporation 1120 G Street, N.W. Suite 990 Washington, DC 20005-3801 (202) 393-3998 (202) 393-3955 – facsimile rebecca.michael@nerc.net holly.hawkins@nerc.net</p> <p>Scott Henry* President and Chief Executive Officer SERC Reliability Corporation 2815 Coliseum Centre Drive, Suite 500 Charlotte, NC 28217 (704) 940-8202 (704) 357-7914 – facsimile shenry@sercl.org</p> <p>Marisa A. Sifontes* Interim Compliance Director and Legal Counsel Jacqueline E. Carmody* Contract Attorney SERC Reliability Corporation 2815 Coliseum Centre Drive, Suite 500 Charlotte, NC 28217 (704) 494-7775 (704) 357-7914 – facsimile msifontes@sercl.org jcarmody@sercl.org</p> <p>Kenneth B. Keels, Jr.* Manager of Compliance Enforcement SERC Reliability Corporation 2815 Coliseum Centre Drive, Suite 500 Charlotte, NC 28217 (704) 940-8214 (704) 357-7914 – facsimile kkeels@sercl.org</p>
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Conclusion

Accordingly, NERC respectfully requests that the Commission accept this Abbreviated NOP as compliant with its rules, regulations and orders.

Respectfully submitted,

Gerald W. Cauley
President and Chief Executive Officer
David N. Cook
Vice President and General Counsel
North American Electric Reliability Corporation
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(609) 452-9550 – facsimile
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david.cook@nerc.net

/s/ Rebecca J. Michael
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Assistant General Counsel
Holly A. Hawkins
Attorney
North American Electric Reliability
Corporation
1120 G Street, N.W.
Suite 990
Washington, DC 20005-3801
(202) 393-3998
(202) 393-3955 – facsimile
rebecca.michael@nerc.net
holly.hawkins@nerc.net

cc: E.ON U.S. Services Inc.
SERC Reliability Corporation

Attachments

Attachment a

**E.ON U.S.'s Self-Report for FAC-008-1 R1 dated
June 3, 2008**



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

Report Type (please check): ☒ **Self-Report** ☐ **Complaint**

Date of Report: 6/3/2008

NAME OF PERSON REPORTING POSSIBLE STANDARD VIOLATION(S)		
CONTACT NAME	CONTACT TELEPHONE NUMBER	
Daniel Wilson	(502) 627-3177	
CONTACT E-MAIL	CONTACT FAX	
Dan.Wilson@eon-us.com	(502) 217-2541	
REPORTING COMPANY NAME	ANONYMOUS? (Y/N)	
E.ON U.S. Services Inc.	N	
NERC OR REGIONAL STANDARD(S) AND SPECIFIC REQUIREMENT(S) POSSIBLY VIOLATED		
NAME OF COMPANY POSSIBLY VIOLATING STANDARD(S)		ENTITY FUNCTION TYPE(S)
E.ON U.S. Services Inc.		Generator Owner
STANDARD # AND VERSION	MEASURE / REQUIREMENT	DATE OF POSSIBLE VIOLATION(S)
FAC-008-1	R1	6/3/08
POSSIBLE VIOLATION DESCRIPTION, REASON FOR COMPLAINT, OR QUESTION		
In determining the Facility Ratings, the method used was to determine the generator as the most limiting equipment. In doing so, associated equipment was considered but no ratings of that equipment were listed or used in the analysis.		
RELIABILITY IMPACT (IF KNOWN)		
E.ON U.S. Services Inc. does not believe that this Self-Report triggers any issues regarding reliability. Although the methodology outlined in FAC-008-1 sections R1.2 and R1.3 was not utilized, no substantive change in reported Facility Ratings is expected to occur after the application of the methodology.		

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.

Attachment b

**E.ON U.S.'s Self-Report, as a Generator Owner,
for PRC-005-1 R1 and R2 dated June 3, 2008**



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

Report Type (please check): ☒ **Self-Report** ☐ **Complaint**

Date of Report: 6/3/2008

NAME OF PERSON REPORTING POSSIBLE STANDARD VIOLATION(S)		
CONTACT NAME	CONTACT TELEPHONE NUMBER	
Daniel Wilson	(502) 627-3177	
CONTACT E-MAIL	CONTACT FAX	
Dan.Wilson@eon-us.com	(502) 217-2541	
REPORTING COMPANY NAME	ANONYMOUS? (Y/N)	
E.ON U.S. Services Inc.	N	
NERC OR REGIONAL STANDARD(S) AND SPECIFIC REQUIREMENT(S) POSSIBLY VIOLATED		
NAME OF COMPANY POSSIBLY VIOLATING STANDARD(S)		ENTITY FUNCTION TYPE(S)
E.ON U.S. Services Inc.		Generator Owner
STANDARD # AND VERSION	MEASURE / REQUIREMENT	DATE OF POSSIBLE VIOLATION(S)
PRC-005-1	R1, R2	6/3/08
POSSIBLE VIOLATION DESCRIPTION, REASON FOR COMPLAINT, OR QUESTION		
A protective relay and maintenance testing program was developed and implemented for E.ON U.S. Services Inc.'s generation facilities in May, 2002. This program continues to be in effect. However, E.ON U.S. Services Inc. believes that this program does not address all areas of the protection system as such has been clarified by SERC. The relay testing and maintenance program for the baseload generating units substantially, if not completely, complies with the requirements of PRC-005; the potential deficiencies in the protection system testing and maintenance program for generating facilities could be primarily related to certain simple cycle turbines that are relied upon for peaking capacity.		
RELIABILITY IMPACT (IF KNOWN)		
E.ON U.S. Services Inc. does not believe that this Self-Report triggers any issues regarding reliability. E.ON U.S. Services Inc. facilities have historically tested the equipment listed in PRC-005-1; however, some dates associated with maintenance and testing may not have been recorded.		

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.

Attachment c

**E.ON U.S.'s Self-Report, as a Transmission
Owner, for PRC-005-1 R1 and R2 dated June 3,
2008**



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

Report Type (please check): ☒ **Self-Report** ☐ **Complaint**

Date of Report: June 3, 2008

NAME OF PERSON REPORTING POSSIBLE STANDARD VIOLATION(S)		
<div style="background-color: #2196F3; color: white; text-align: center; padding: 2px;">CONTACT NAME</div> Edwin R. Staton	<div style="background-color: #2196F3; color: white; text-align: center; padding: 2px;">CONTACT TELEPHONE NUMBER</div> 502-627-4314	
<div style="background-color: #2196F3; color: white; text-align: center; padding: 2px;">CONTACT E-MAIL</div> ed.staton@eon-us.com	<div style="background-color: #2196F3; color: white; text-align: center; padding: 2px;">CONTACT FAX</div> 502-627-3844	
<div style="background-color: #2196F3; color: white; text-align: center; padding: 2px;">REPORTING COMPANY NAME</div> E.ON U.S. Services Inc.	<div style="background-color: #2196F3; color: white; text-align: center; padding: 2px;">ANONYMOUS? (Y/N)</div> N	
NERC OR REGIONAL STANDARD(S) AND SPECIFIC REQUIREMENT(S) POSSIBLY VIOLATED		
<div style="background-color: #2196F3; color: white; text-align: center; padding: 2px;">NAME OF COMPANY POSSIBLY VIOLATING STANDARD(S)</div> E.ON U.S. Services Inc.		<div style="background-color: #2196F3; color: white; text-align: center; padding: 2px;">ENTITY FUNCTION TYPE(S)</div> Transmission Owner
<div style="background-color: #2196F3; color: white; text-align: center; padding: 2px;">STANDARD # AND VERSION</div> PRC-005-1	<div style="background-color: #2196F3; color: white; text-align: center; padding: 2px;">MEASURE / REQUIREMENT</div> R1, R2	<div style="background-color: #2196F3; color: white; text-align: center; padding: 2px;">DATE OF POSSIBLE VIOLATION(S)</div> June 3, 2008
POSSIBLE VIOLATION DESCRIPTION, REASON FOR COMPLAINT, OR QUESTION		
E.ON U.S. Services Inc. ("E.ON U.S.") has a Protection System maintenance and testing program that appears to be deficient in some respects in satisfying the requirements of Standard PRC-005-1.		
RELIABILITY IMPACT (IF KNOWN)		
E.ON U.S. does not believe that the bulk electric system has been harmed by any possible deficiencies in the E.ON U.S. Protection System maintenance and testing program. E.ON U.S. also does not believe that this Self-Report triggers any issues which must be reported to NERC within 48 hours under NERC Rule of Procedure 408.		

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.

Attachment d

**E.ON U.S.'s Self-Report for VAR-002-1 R2 dated
October 1, 2008**



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

Report Type (please check): ☒ **Self-Report** ☐ **Complaint**

Date of Report: 10/01/08

NAME OF PERSON REPORTING POSSIBLE STANDARD VIOLATION(S)		
CONTACT NAME	CONTACT TELEPHONE NUMBER	
Steven D. Phillips	502-627-2648	
CONTACT E-MAIL	CONTACT FAX	
steven.phillips@eon-us.com	502-217-2775	
REPORTING COMPANY NAME	ANONYMOUS? (Y/N)	
E.ON U.S. Services Inc	N	
NERC OR REGIONAL STANDARD(S) AND SPECIFIC REQUIREMENT(S) POSSIBLY VIOLATED		
NAME OF COMPANY POSSIBLY VIOLATING STANDARD(S)		ENTITY FUNCTION TYPE(S)
E.ON U.S. Services, Inc. ("E.ON U.S.")		GOP
STANDARD # AND VERSION	MEASURE / REQUIREMENT	DATE OF POSSIBLE VIOLATION(S)
VAR-002-1a	R2	10/01/08
POSSIBLE VIOLATION DESCRIPTION, REASON FOR COMPLAINT, OR QUESTION		
As GOP, E.ON U.S. may not have evidence satisfying M2 of The Standards for certain specific but very limited hours. E.ON U.S. believes the expectations of the Standard are unclear and could be interpreted to impose evidence requirements that E.ON may not be able to satisfy.		
RELIABILITY IMPACT (IF KNOWN)		
E.ON U.S. does not believe that these possible violations had any actual impact on the reliability of the bulk electric system, and E.ON U.S. also believes that no risk was imposed on the bulk electric system by these possible violations. Not only were the possible violations immaterial in nature and scope, but other properly functioning processes were in place to ensure that system voltage was not in danger.		

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.

Attachment e

**Settlement Agreement by and between SERC and
E.ON U.S. executed December 17, 2009**

SETTLEMENT AGREEMENT
OF
SERC RELIABILITY CORPORATION
AND
E.ON U.S. SERVICES INC.

I. INTRODUCTION

1. SERC Reliability Corporation (“SERC”) and E.ON U. S. Services Inc., in its capacity as agent for Louisville Gas and Electric Company and Kentucky Utilities Company (“E.ON U.S.”) enters 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 four alleged violations by E.ON U.S. of NERC Reliability Standards PRC-005-1, Requirements 1 and 2 (SERC Tracking No. 08-048, NERC Violation ID No. SERC200800134; SERC Tracking No. 08-049, NERC Violation ID No. SERC200800135), FAC-008-1, Requirement 1 (SERC Tracking No. 08-046, NERC Violation ID No. SERC200800132), and VAR-002-1a, Requirement 2 (SERC Tracking No. 08-125, NERC Violation ID No. SERC200800209).

II. STIPULATION

2. The facts stipulated herein are stipulated solely for the purpose of resolving, between E.ON U.S. and SERC, the matters discussed herein and do not constitute stipulations or admissions for any other purpose. E.ON U.S. and SERC hereby stipulate and agree to the following:

Background

3. E.ON U.S. LLC is a diversified energy services company headquartered in Louisville, Kentucky. E.ON U.S. LLC owns Louisville Gas and Electric Company (“LG&E”), a regulated utility that serves approximately 318,000 natural gas and approximately 391,000 electric customers in Louisville and 16 surrounding counties, and Kentucky Utilities Company (“KU”), a regulated electric utility in Lexington, Kentucky, that serves approximately 542,000 customers in 77 Kentucky counties and five counties in Virginia. E.ON U.S. Services, Inc. is also a subsidiary of E.ON U.S.

LLC and performs service company functions for the subsidiaries of E.ON U.S. LLC.

4. E.ON U.S., through its operating utility subsidiaries KU and LG&E, supplies electricity and natural gas to retail customers primarily in Kentucky. The E.ON U.S. System has 12 generating stations with a joint generation capacity of approximately 7,600 MW and approximately 5,400 miles of transmission lines. E.ON U.S. is owned by E.ON AG, which is headquartered in Dusseldorf, Germany.
5. E.ON U.S. is currently listed on the NERC Compliance Registry as a Balancing Authority, Transmission Owner, Transmission Operator, Transmission Service Provider, Interchange Authority, Transmission Planner, Resource Planner, Distribution Provider, Generator Owner, Generator Operator, Load Serving Entity, Purchasing-Selling Entity, and Planning Authority (NCR01223). E.ON U.S.'s Generator Owner, Generator Operator, and Transmission Owner functions are at issue in these violations and this settlement.

Alleged Violations

Alleged Violation of NERC Reliability Standard PRC-005-1, Requirements 1 and 2

6. The purpose of NERC Reliability Standard PRC-005-1 is to ensure that all transmission and generation Protection Systems that affect the reliability of the Bulk Electric System are maintained and tested.
7. NERC Reliability Standard PRC-005-1, Requirement 1 requires that a Transmission Owner and each Generator Owner that owns a Protection System "shall have a Protection System maintenance and testing program for Protection Systems that affect the reliability of the Bulk Electric System."¹
8. NERC Reliability Standard PRC-005-1, Requirement 2 requires that a Transmission Owner and each Generator Owner that owns a Protection System "provide documentation of its Protection System maintenance and testing program," as well as evidence that its Protection System devices were maintained and tested within the defined intervals and the date each Protection System was last maintained and tested.²

¹ NERC Reliability Standard PRC-005-1 – Transmission and Generation Protection System Maintenance and Testing, approved by NERC Board of Trustees on May 2, 2006, approved by FERC effective June 18, 2007.

² Id.

9. The NERC glossary of terms defines a Protection System as including protective relays, associated communications systems, voltage and current sensing devices, station batteries and DC control circuitry.
10. On June 3, 2008, E.ON U.S. submitted a self-report, as a Generator Owner, for NERC Reliability Standard PRC-005-1, Requirements 1 and 2, stating that it believed that its protective relay maintenance and testing program for its generation facilities did not address all areas of its generation Protection System. Specifically, the report indicated that E.ON U.S.'s relay testing and maintenance program for its baseload generating units substantially complied with the requirements of NERC Reliability Standard PRC-005-1 but that there were more substantive deficiencies regarding certain simple cycle peaking capacity turbine generating facilities. E.ON U.S. was unable to provide evidence of an accurate inventory and historical test dates for generation relays, batteries, DC control circuitry, instrument transformers, and associated communications systems relative to the 12 generating stations.
11. On June 3, 2008, E.ON U.S. also submitted a second self-report, as a Transmission Owner, for NERC Reliability Standard PRC-005-1, Requirements 1 and 2 stating that its transmission Protection System maintenance and testing program may be deficient in satisfying the requirements of NERC Reliability Standard PRC-005-1. E.ON U.S. believed that the existing program included protective relays and station batteries, but did not satisfy PRC-005-1 with respect to associated communications systems, voltage and current sensing devices, and DC control circuitry.
12. After confirming E.ON U.S.'s NERC registration status, SERC Staff commenced its detailed compliance assessment. On June 4, 2008, SERC Staff issued to E.ON U.S. a Compliance Assessment Notice advising E.ON U.S. of the initiation of a formal assessment to determine, in part, E.ON U.S.'s compliance relative to NERC Reliability Standard PRC-005-1, Requirements 1 and 2 and directing E.ON U.S. to preserve all relevant records and information. Subsequently, SERC Staff requested certain information from E.ON U.S. to assist with its assessment, to which E.ON U.S. promptly responded. Specifically, SERC Staff requested that E.ON U.S. perform further internal assessments to identify the scope of its generation and transmission Protection System components and validate the specific facilities and substations at issue to assist in SERC's review. SERC Staff promptly established direct contact with representatives of E.ON U.S. to begin the process of gathering information and documentation for the detailed compliance assessment. SERC Staff also reported the possible violations to NERC, which, in turn, reported the possible violations to the Federal Energy Regulatory Commission ("Commission") in accordance with the Compliance Monitoring Enforcement Program ("CMEP") of the NERC Rules of Procedure.
13. In response to SERC's requests, E.ON U.S. provided information including its current and historical Protection System maintenance and testing program and an inventory of all of its Protection System equipment.

14. SERC reviewed the two self-reports and other information provided by E.ON U.S. SERC determined that E.ON U.S. initially developed and implemented the protective relay maintenance and testing program for its generation facilities in May 2002. In connection with a self-assessment performed in May 2008,³ E.ON U.S. discovered that its program did not address all areas of its generation Protection System, as the term is defined in the NERC Glossary of Terms. E.ON U.S. found that tests were being performed on an as-needed basis on its instrument transformers but its program did not require the performance of periodic tests and did not include documentation of the intervals and summary of testing procedure as required by the reliability standard. E.ON U.S.'s generation maintenance and testing program also did not include battery maintenance and testing intervals. The maintenance and testing program included requirements for testing DC control circuitry but lacked documentation of the basis for the intervals of functional checks on the DC control circuitry as required by the reliability standard. Testing and maintenance of the generator protection relays for the coal-fired plants and non-coal fired combustion turbines were performed, but the intervals and basis for this testing and maintenance were not documented in the program. E.ON U.S. also did not have documentation of the intervals and their basis for testing and maintenance of its voltage and current sensing devices, nor a summary of its testing procedures for these devices.
15. As a Generator Owner, E.ON U.S. does not use applicable associated communication systems in conjunction with the Generator Owner's generation protective relay systems. While not stated in its maintenance and testing program, E.ON U.S. attested that the maintenance and testing of any associated communications system was addressed under its registration as a Transmission Owner.
16. As a Transmission Owner, E.ON U.S. implemented a maintenance and testing program for its transmission Protection Systems prior to June 18, 2007. In connection with its self-assessment, E.ON U.S. identified concerns that the existing program may not have satisfied NERC Reliability Standard PRC-005-1, Requirement 1. Its transmission Protection System maintenance and testing program included procedures for maintenance and testing of protective relays and station batteries, but did not include procedures requiring ongoing maintenance and testing of its associated communications systems, voltage and current sensing devices, and DC control circuitry. E.ON U.S.'s existing program did not require testing for these devices beyond upon installation and as needed on a corrective basis and, concurrent with failing to establish periodic testing, failed to specify testing intervals and their basis. The program also did not include a summary of testing procedures as required by the standard.

³ This self-assessment was scheduled and performed as part of E.ON U.S.'s internal compliance program.

17. E.ON U.S. could not demonstrate compliance with NERC Reliability Standard PRC-005-1, Requirement 2 with respect to both its generation and transmission Protection System because its maintenance and testing programs for both were incomplete. Also, E.ON U.S. could not provide evidence that its maintenance and testing programs were implemented in accordance with the requirements of the Standard.
18. Regarding Requirement 2 of NERC Reliability Standard PRC-005-1 and E.ON U.S.'s Generation Protection Systems:
- E.ON U.S. could only provide documentation that 241 of its 701 voltage and current sensing devices were maintained and tested;
 - Periodic testing of instrument transformers was not performed; tests were only performed on an as-needed basis and no documentation of specific testing intervals was available;
 - E.ON U.S. could not provide documentation that 79 D.C. circuitry GO sets were tested and maintained within any specific intervals; functional checks of DC control circuitry were performed as a part of their protective relaying maintenance program, but not documented as an existing subset of components;
 - E.ON U.S. could only provide documentation that 399 of 427 GO protective relays were tested; testing and maintenance of the generator protection relays for the coal-fired plants and non-coal fired combustion turbines was performed, but some of the dates were not documented.
 - E.ON U.S. could only provide documentation that 660 of 777 battery sets were tested as part of the program.
19. The gaps listed above in the documented evidence to confirm testing and maintenance of E.ON U.S.'s generation Protection System were associated with the smaller portion of E.ON U.S.'s generating facilities: its peaking combustion turbines. Additionally a subset of the generation Protection System components were not recorded for the peaking combustion turbines. As noted above, E.ON U.S. as a Generator Owner stated it does not use applicable associated communication systems in conjunction with the Generator Owner's generation protective relay systems.
20. Regarding Requirement 2 of NERC Reliability Standard PRC-005-1 and E.ON U.S.'s transmission Protection Systems, E.ON U.S. stated that maintenance and testing was being performed on many of its Protection System components, but had not been properly documented to show compliance with NERC Reliability Standard PRC-005-1. SERC's review found that the evidence provided by E.ON U.S. could only demonstrate that 1446 of 3366 voltage and current sensing devices, 490 of 4840 D.C. circuitry sets and 116 of 317 associated communications devices had been maintained and tested as required. E.ON U.S. was able to provide documentation and evidence that 100% of its batteries and protective relays were appropriately maintained and tested, in accordance with NERC Reliability Standard PRC-005-1.

21. SERC Staff concluded that the facts and evidence supported a finding that E.ON U.S. violated NERC Reliability Standard PRC-005-1, Requirements 1 and 2, because the evidence reviewed showed that E.ON U.S.'s existing generation and transmission Protection System maintenance and testing programs were deficient in a number of required areas and lacked documentation of the implementation of those programs. Requirements 1 and 2 of NERC Reliability Standard PRC-005-1 are both assigned a "High" VRF.⁴ SERC Staff concluded that there was a moderate risk to the reliability of the Bulk Power System due to the number of total applicable devices that did not have documented testing, as discussed above. It should be noted, however, that E.ON U.S. had evidence that 93% of the protective relays and 85% of the batteries associated with its generation Protection System had been tested. Additionally, E.ON U.S. had evidence that 100% of the protective relays and batteries associated with its transmission Protection System had been tested and maintained.

Alleged Violation of NERC Reliability Standard FAC-008-1, Requirement 1

22. The purpose of NERC Reliability Standard FAC-008-1 is to ensure that Facility Ratings used in the reliable planning and operation of the Bulk Electric System are determined based on an established methodology or methodologies.
23. NERC Reliability Standard FAC-008-1, Requirement 1 requires that a Generator Owner document its current methodology used for developing Facility Ratings."⁵
24. On June 3, 2008, E.ON U.S. submitted a self-report for NERC Reliability Standard FAC-008-1, Requirement 1 stating that as a Generator Owner, it had failed to consider the ratings of its associated equipment in determining its Facility Ratings.
25. On June 4, 2008, SERC Staff issued to E.ON U.S. a Compliance Assessment Notice advising E.ON U.S. of the initiation of a formal assessment to determine, in part, its compliance relative to NERC Reliability Standard FAC-008-1, Requirement 1, and directing E.ON U.S. to preserve all relevant records and information. Subsequently, SERC Staff requested that E.ON U.S. provide its facility ratings methodology and information on how its ratings had been developed. SERC Staff promptly

⁴ When NERC filed VRFs for PRC-005, NERC originally assigned a "Medium" VRF to PRC-005-1, Requirement 1. 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 the modified "High" VRF for PRC-005-1, Requirement 1 for approval. On August 6, 2007, the Commission issued an Order approving the modified VRF. Therefore, the "Medium" VRF was in effect from June 18, 2007 until August 6, 2007 and the "High" VRF has been in effect since August 6, 2007.

⁵ NERC Reliability Standard FAC-008-1 – Facility Ratings Methodology, approved by NERC Board of Trustees on February 7, 2006, approved by FERC effective June 18, 2007.

established direct contact with representatives of E.ON U.S. to begin the process of gathering information and documentation for the detailed compliance assessment. SERC Staff also reported the possible violations to NERC, which, in turn, reported the possible violations to the Commission in accordance with the CMEP of the NERC Rules of Procedure.

26. E.ON U.S. provided three revisions of its Facility Ratings Methodology dated June 18, 2007, September 2007 and March 26, 2008, as evidence of its Facility Ratings Methodology. Upon review of these documents, SERC staff found that E.ON U.S.'s Facility Ratings Methodology procedure documents were a restatement of the Reliability Standard and descriptions of the compliance filing requirement dates and monitoring criteria, and did not consider any associated equipment as required by the standard. In addition, none of the versions of the Facility Ratings Methodology contained the statement that a Facility Rating shall equal the most limiting applicable Equipment Rating of the individual equipment that comprises that Facility, as required in sub-requirement 1.1. The scope of equipment addressed in the methods referenced did not include the other elements set forth in sub-requirement 1.2.1 such as transmission conductors, transformers, relay protective devices, terminal equipment, or series and shunt compensation devices. In addition, E.ON U.S.'s Facility Ratings Methodology used an assumption that the generator was the most limiting equipment and did not analyze the ratings of the full range of applicable equipment when determining the Facility Ratings.
27. SERC Staff concluded that the facts and evidence supported a finding that E.ON U.S. violated NERC Reliability Standard FAC-008-1, Requirement 1, because E.ON U.S.'s existing Facility Ratings Methodology did not include the required elements, scope and considerations set forth in sub-requirements 1.1, 1.2, and 1.3 of NERC Reliability Standard FAC-008-1. NERC Reliability Standard FAC-008-1 is assigned a "Medium" VRF. SERC Staff further concluded that there was no serious or substantial risk to the reliability of the Bulk Power System and that the actual or foreseeable impact of the alleged violations on the reliability of the Bulk Power System was minimal, because E.ON U.S. had developed existing ratings using the capacity of its generators.

Alleged Violation of NERC Reliability Standard VAR-002-1, Requirements 2

28. The purpose of NERC Reliability Standard VAR-002-1 is to ensure generators provide reactive and voltage control necessary to ensure voltage levels, reactive flows, and reactive resources are maintained within applicable Facility Ratings to protect equipment and the reliable operation of the Interconnection.
29. NERC Reliability Standard VAR-002-1, Requirement 2 requires that unless exempted by the Transmission Operator, each Generator Operator shall "maintain the

generator voltage or Reactive Power output (within applicable Facility Ratings) as directed by the Transmission Operator.”⁶

30. On October 1, 2008, E.ON U.S. submitted a self-report for NERC Reliability Standard VAR-002-1, Requirement 2 stating that as a Generator Operator, E.ON U.S. may not have evidence to satisfy Measure 2 of the Standard for certain specific but very limited hours, as discussed in more detail below.
31. On October 6, 2008, SERC Staff issued to E.ON U.S. a Compliance Assessment Notice advising E.ON U.S. of the initiation of a formal assessment to determine, in part, its compliance relative to NERC Reliability Standard VAR-002-1, Requirement 2, and directing E.ON U.S. to preserve all relevant records and information. SERC Staff promptly established direct contact with representatives of E.ON U.S. to begin the process of gathering information and documentation for the detailed compliance assessment. SERC Staff also reported the possible violations to NERC, which, in turn, reported the possible violations to the Commission in accordance with the CMEP of the NERC Rules of Procedure.
32. During its investigation, SERC Staff requested and E.ON U.S. promptly provided information to assist in SERC’s review. Among other items, SERC requested a list of all plants involved, operating hours and start up and shut down information for all units, the voltage schedule and the duration for all excursions.
33. On December 10, 2008, E.ON U.S. met with SERC and provided additional detail on its self-report, including the results of its internal assessment. E.ON U.S. discovered that there were periods where several units inadvertently operated outside the voltage tolerance bandwidth and did not have adequate alarming capability to alert the operator. Each of the E.ON U.S. plant on-line generators are expected to control voltage (within the tolerance bands) at their designated 345kV, 138kV, and 69kV transmission buses. Referencing the integrated hour factor for compliance with the voltage schedule specified by the Transmission Operator, E.ON U.S., as a Generator Operator, used its plant Distributed Control Systems (“DCS”) data for voltage control parameters and alarm settings. E.ON U.S. found that the plant DCS data did not match the Energy Management System’s (“EMS”) data. E.ON U.S. also found in some cases that the DCS and EMS data sampling periods over the course of one hour did not match. Additionally the E.ON U.S. plants that did not have DCS voltage indications available did not continuously review and log appropriate voltage information.

⁶ NERC Reliability Standard VAR-002-1 – Generator Operation for Maintaining Network Voltage Schedules, approved by NERC Board of Trustees on November 1, 2006, approved by FERC effective June 18, 2007.

34. Since the voltage measurements taken at the plants were inconsistent with the EMS data, E.ON U.S. felt that it did not have reliable integrated hourly information available to receive real-time voltage measurements for proper operator log entries. Therefore, E.ON U.S. did not have evidence to show that it controlled its generator voltage and reactive output to meet the voltage or Reactive Power schedule provided by its associated Transmission Operator, as specified in Requirement 2.
35. A review of a data sample covering the period from March 1, 2008 through August 31, 2008, identified 110 occurrences of voltage excursions outside the tolerance band for a total of 333 hours (less than 1% of all operating hours) affecting eight of E.ON U.S.'s twelve generating plants (35 of E.ON U.S.'s 50 generating units). SERC determined that, although two plants had a number of excursions greater than 2% outside the tolerance band and the average of all excursions were less than 1% outside the tolerance band. Therefore E.ON U.S. failed to maintain a voltage or reactive power schedule for 58% of its generators, by plant, and for 70% of its generators, by unit). During the excursions, operators failed to notify and receive an exemption from the TOP for not meeting the voltage schedule. All units were operated with voltage regulators in automatic mode and attempting to control terminal voltage.
36. SERC Staff concluded that the facts and evidence supported a finding that E.ON U.S. violated of NERC Reliability Standard VAR-002-1, Requirement 2 because it failed to maintain its generator voltage or Reactive Power output as directed by its Transmission Operator. E.ON U.S. operators failed to notify or receive exemption from the TOP during the periods the voltage schedule was not maintained. In addition, E.ON U.S. was unable to produce evidence to show that it controlled its generator voltage and reactive output to meet the voltage or Reactive Power schedule provided by its associated Transmission Operator as specified in Requirement 2. Requirement 2 of NERC Reliability Standard VAR-002-1 is assigned a Violation Risk Factor ("VRF") of "Medium," SERC Staff further concluded that there was no serious or substantial risk to the reliability of the Bulk Power System and that the actual and foreseeable impact of the alleged violation was minimal as E.ON U.S.'s failure to operate within the voltage schedule tolerance band occurred in less than 1% of the total unit operating hours, the average of all excursions were less than 1% outside the tolerance band and the TOP did not report any voltages below 90% post-contingent during the times that the GOP was operating outside the voltage schedule tolerance band.
37. On September 17, 2008, E.ON U.S. formally requested settlement discussions for the resolution of the alleged violations of NERC Reliability Standards PRC-005-1, Requirements 1 and 2 and FAC-008-1, Requirement 1. On April 8, 2009, E.ON U.S. formally requested settlement discussions for the resolution of the alleged violation of NERC Reliability Standard VAR-002-1, Requirement 2.

III. PARTIES' SEPARATE REPRESENTATIONS

Statement of SERC and Summary of Findings

38. SERC finds that beginning on June 18, 2007 and continuing until June 24, 2009, E.ON U.S., as a Generator Owner and Transmission Owner, did not have documented evidence or records of a Protection System maintenance and testing program for its generation and transmission Protection Systems. This is a violation of NERC Reliability Standard PRC-005-1, Requirement 1 for failing to have adequate documentation of its generation and transmission Protection System maintenance and testing program.
39. SERC finds that beginning on June 18, 2007 and continuing until June 24, 2009, E.ON U.S., as a Generator Owner and Transmission Owner, was unable to provide documented evidence or records that all applicable components have been tested and maintained. In addition, E.ON U.S. had not maintained and tested all required components of its generation Protection System. This is a violation of NERC Reliability Standard PRC-005-1, Requirement 2, for failing to have evidence of maintenance and testing for elements of its generation Protection System.
40. SERC finds that beginning on June 18, 2007 and continuing until December 11, 2008, E.ON U.S., as a Generator Owner, did not have a documented Facility Ratings Methodology that included all of the items identified in NERC Reliability Standard FAC-008-1, Requirement 1. This is a violation of NERC Reliability Standard FAC-008-1, Requirement 1 because the Generator Owner did not have a documented Facility Ratings Methodology for use in developing facility ratings according to the standard.
41. SERC finds that beginning on August 11, 2007 and continuing until May 29, 2008, E.ON U.S., as a Generator Operator, was unable to produce evidence to show that it had controlled its generator voltage and reactive output to meet the voltage or Reactive Power schedule provided by its associated Transmission Operator as specified in Requirement 2. This is a violation of NERC Reliability Standard VAR-002-1, Requirement 2, for failing to maintain the generator voltage or Reactive Power output (within applicable Facility Ratings) as directed by the Transmission Operator.
42. SERC Staff concluded that the actual or foreseeable impact of the alleged violations on the reliability of the bulk power system was minimal for the alleged violations of NERC Reliability Standards FAC-008-1 and VAR-002-1a and moderate for the alleged violations of NERC Reliability Standard PRC-005-1, as discussed above.
43. SERC agrees that this Settlement Agreement is in the best interest of the parties and in the best interest of bulk power system reliability.

Statement of E.ON U.S.

44. E.ON U.S. neither admits nor denies that the facts set forth and agreed to by the parties for purposes of this Agreement constitute violations of PRC-005-1, FAC-008-1, and VAR-002-1. E.ON U.S. believes that no reliability events occurred on the bulk power system (BPS) as a result of the alleged violations set forth above. E.ON U.S. is committed to maintain a high level of compliance.
45. With respect to FAC-008-1, E.ON U.S. determined Facility Ratings by applying a methodology which assumed the generator to be the most limiting equipment. Using this methodology, equipment associated with the generator was considered, but no ratings for that equipment were listed or used in the analysis. Generator ratings have been historically and are used for reporting capacity to various organizations. This historical use resulted in E.ON U.S. employing a narrow interpretation of FAC-008-1, R1.
46. With respect to PRC-005-1, the Generation Owner was following an existing maintenance and testing program. However, E.ON U.S. identified insufficient documentation with respect to this maintenance and testing program. Additionally, E.ON U.S. tested DC circuitry annually based upon its incorrect interpretation of the original standard.
47. E.ON's Transmission Owner function applied an interpretation of Protection System that emphasized protective relays, where E.ON had an adequate maintenance and testing program and conducted relay maintenance and testing on all voltage classes consistent with that program. Other Protection System equipment was always tested during installation. Protective operations at all voltage levels were investigated and documented with this data providing the basis for testing intervals and maintenance practices.
48. Prior to May 29, 2008 (when SERC issued its updated Supplement), E.ON U.S.'s Transmission Owner function had differing maintenance and testing periods for different types of Protection System equipment. Protective relays were tested every five years pursuant to a documented procedure dated November 2, 2006. Potential transformers were visually inspected during routine substation inspections at least annually. Infrared inspections also occurred annually. Current transformers were visually inspected during out of service breaker overhauls on a 12-year cycle. Suspect CT's were replaced. Station batteries were tested at least annually and visually inspected during routine substation inspections. Following the May 29 Supplement, E.ON U.S.'s Transmission Owner function issued a revised Transmission Protection System Maintenance and Testing Program.
49. With respect to VAR-002, E.ON U.S. believes that neither the standard nor the Transmission Operator written voltage schedule provides a directive on the measurement window for compliance with VAR-002. E.ON U.S. only identified

possible deviations from the voltage schedule, based on an hourly compliance window, in less than 1% of the relevant hours. Furthermore, for all excursions, any actual real-time impacts to the BPS caused by these possible deviations were insignificant as E.ON U.S.'s failure to operate within the voltage schedule tolerance band occurred in less than 1% of the total unit operating hours, the average of all excursions were less than 1% outside the tolerance band and the TOP did not report any voltage below 90 % post-contingent during the times that the GOP was operating outside the voltage schedule tolerance band.

50. Although E.ON U.S. does not admit to, nor does it deny, the alleged violation, E.ON U.S. 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. E.ON U.S. agrees that this Settlement Agreement is in the best interest of the parties and in the best interest of maintaining a reliable electric infrastructure.

IV. MITIGATING ACTIONS, REMEDIES AND SANCTIONS

51. E.ON U.S.'s Mitigation Plan MIT-07-0963 for NERC Reliability Standard PRC-005-1 Requirements 1 and 2 dated July 30, 2008, was accepted by SERC on August 21, 2008. It was submitted to NERC for its approval on August 22, 2008. It was approved by NERC on September 23, 2008 and submitted to the Commission on September 23, 2008. E.ON U.S.'s original Mitigation Plan completion date was December 31, 2008 however, on October 14, 2008, E.ON U.S. requested an extension to complete its Mitigation Plan to complete certain protective relays during scheduled outages. SERC accepted this request on November 17, 2008. E.ON U.S.'s Mitigation Plan was completed on June 24, 2009. E.ON U.S. certified completion of Mitigation Plan MIT-07-0963 on June 30, 2009 and SERC verified completion of the Mitigation Plan on July 20, 2009. E.ON U.S.'s Mitigation Plan MIT-07-0963 is attached hereto as Appendix A-1. Its Certification of Mitigation Plan Completion is attached hereto as Appendix A-2, and the Statement of SERC Compliance Staff Regarding Completion of E.ON U.S.'s Mitigation Plan MIT-07-0963 is attached hereto as Appendix A-3.
52. Actions implemented by E.ON U.S. in its Mitigation Plan will help to prevent a recurrence of any similar violation. Specifically:
 - a. For the Mitigation Plan detail associated with NERC Reliability Standard PRC-005-1, Requirements 1 and 2:
 - i. E.ON U.S. revised its transmission Protection System maintenance and testing program to include missing components of Protection System based on NERC Glossary of Terms and as stated in Requirements 1.1 and 1.2.

- ii. For its generation Protection System maintenance and testing program, E.ON U.S. reviewed current listings of equipment including relays, batteries, DC control circuitry, and communication equipment. E.ON U.S. verified that there were no communications equipment and included a statement of such in procedures as documentation for Requirement 1.
 - iii. E.ON U.S. completed all scheduled testing of all transmission Protection System associated communications systems, D.C. circuitry, and voltage and current sensing devices.
 - iv. E.ON U.S. documented the implementation of its transmission Protection System program as defined in Requirements 2.1 and 2.2 for all components
 - v. E.ON U.S. obtained and verified historical test dates of all equipment listed in the generation Protection System. E.ON U.S. integrated changes into its generation Protection System compliance program and tested any equipment, which did not have verifiable testing information.
 - vi. E.ON U.S. documented the implementation of its generation Protection System program as defined in Requirements 2.1 and 2.2 for all components
 - vii. E.ON U.S.'s maintenance and testing programs have been revised to include all aspects of the Protection Systems, with sufficient details regarding maintenance and testing intervals (and their basis) and a summary of maintenance and testing procedures. Implementation of the program and internal monitoring for compliance should mitigate further potential violations of NERC Reliability Standard PRC-005-1.
53. E.ON U.S.'s Mitigation Plan MIT-07-0961 for NERC Reliability Standard FAC-008-1, Requirement 1 dated July 29, 2008, was accepted by SERC on August 21, 2008. It was submitted to NERC for its approval on August 21, 2008. It was approved by NERC on September 23, 2008 and submitted to the Commission on September 23, 2008. E.ON U.S.'s Mitigation Plan was completed on December 11, 2008. E.ON U.S. certified completion of Mitigation Plan MIT-07-0961 on December 30, 2008 and SERC verified completion of the Mitigation Plan on January 2, 2009. E.ON U.S.'s Mitigation Plan MIT-07-0961 is attached hereto as Appendix A-4. Its Certification of Mitigation Plan Completion is attached hereto as Appendix A-5, and the Statement of SERC Compliance Staff Regarding Completion of E.ON U.S.'s Mitigation Plan MIT-07-0961 is attached hereto as Appendix A-6.
54. Actions implemented by E.ON U.S. in its Mitigation Plan MIT-07-0961 will help to prevent a recurrence of any similar violation. Specifically:
- a. E.ON U.S. has revised and approved its documented Facility Ratings Methodology used for developing Facility Ratings.

- i. E.ON U.S. developed Facility Ratings by obtaining design and operating data and criteria for the scope of the equipment listed in FAC-008-1. E.ON U.S. performed an analysis and developed a Facility Ratings Methodology.
 - ii. E.ON U.S.'s Facility Ratings Methodology addresses Requirement 1 and the sub-requirements of FAC-008-1. This documentation addresses the methodology utilized by E.ON U.S. to rate their generation facilities in accordance with FAC-008-1.
 - iii. E.ON U.S.'s Facility Ratings Methodology procedure has been integrated into their compliance program.
55. E.ON U.S.'s Mitigation Plan MIT-07-1521 for NERC Reliability Standard VAR-002-1, Requirement 2 dated March 4, 2009, was accepted by SERC on March 19, 2009 and submitted to NERC for its approval on March 30, 2009. It was approved by NERC on March 30, 2009 and submitted to the Commission on April 1, 2009. E.ON U.S.'s Mitigation Plan was completed on May 29, 2009. E.ON U.S. certified completion of Mitigation Plan MIT-07-1521 on June 1, 2009 and SERC verified completion of the Mitigation Plan on June 7, 2009. E.ON U.S.'s Mitigation Plan MIT-07-1521 attached hereto as Appendix A-7. Its Certification of Mitigation Plan Completion is attached hereto as Appendix A-8, and the Statement of SERC Compliance Staff Regarding Completion of SRW's Mitigation Plan MIT-07-1521 is attached hereto as Appendix A-9.
56. Actions implemented by E.ON U.S. in Mitigation Plan MIT-07-1521 will help to prevent a recurrence of any similar violation. Specifically:
- a. For the Mitigation Plan detail associated with NERC Reliability Standard VAR-002-1, Requirements 2:
 - i. E.ON U.S. validated the EMS output to DCS indications and implemented technical solutions for monitoring, alarming, and archiving bus voltage at all plants in a common database.
 - ii. E.ON U.S. identified a standard methodology to measure kV for all sites. Plants that have DCS indications with alarms will use EMS information to regulate their units to operate inside the voltage schedule tolerance band.
 - iii. E.ON U.S. installed hardware at each plant location to create a serial interface between the EMS and the plant's DCS such, that both locations read and display the same bus voltage schedule parameters. Plants that do not have DCS indications currently available are able to view EMS output continuously.

- iv. E.ON U.S.'s improved capability and accuracy in monitoring and alarming of generator voltages will enable E.ON U.S. to minimize the risk of future deviations from its voltage and reactive power schedules.
57. SERC has reviewed the preventative measures described in the Mitigation Plans and has determined that these measures will assist E.ON U.S. in improving prospective compliance with the requirements of all of the Reliability Standards, including NERC Reliability Standards VAR-002-1, FAC-008-1, and PRC-005-1 and will ultimately enhance the reliability of the bulk power system within an appropriate time frame.
 58. For NERC Reliability Standard PRC-005-1, Requirements 1 and 2, SERC reviewed E.ON U.S.'s maintenance and testing procedure for compliance with Requirement 1 of the Standard titled "E.ON U.S. Transmission PRC-005 Protection System Maintenance and Testing Program" and "E.ON U.S. Generator Protection System Maintenance and Testing program PRC-005" as procedures conforming to the inclusion of all components of the Protection System based on the NERC Glossary of terms and as stated in R1.1/R1.2. SERC reviewed a large sample of E.ON U.S.'s components showing last completed tests, prior tests, next due dates, and files with evidence of completion for R2.1/R2.2
 59. For NERC Reliability Standard FAC-008-1, SERC reviewed the Facility Rating Methodology for with Requirement 1 of the standard noting that E.ON U.S.'s Facility Ratings Methodology addresses Requirement 1 and the sub-requirements of FAC-008-1. The Facility Rating Methodology, titled "FAC-008-1 Procedures" addresses the methodology utilized by E.ON U.S. to rate their generation facilities in accordance with FAC-008-1. The Plant Equipment Change Management procedure, titled "Plant Equipment Change Management Procedure" addresses the integration of the Facility Ratings Methodology procedure into E.ON U.S.'s Compliance Program.
 60. For NERC Reliability Standard VAR-002-1, Requirements 2, SERC reviewed the E.ON U.S. "Methodology for Measuring Switching Station Bus Voltage" which validates the measurement of switching voltage station bus voltages (kV) for all generator sites. SERC also reviewed samples of the EMS archived database results, generator voltage regulation logs, control board screen shots, and various training documents on the new hardware installation. The integrated hourly samples validated that E.ON U.S.'s plants are within the voltage schedule parameters as required.
 61. SERC Staff also considered the specific facts and circumstances of the violation and E.ON U.S.'s actions in response to the alleged violation 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 be a reasonable relation to the seriousness of the violation and shall take into consideration the efforts of [E.ON

U.S.] to remedy the violation in a timely manner.”⁷ The factors considered by SERC Staff in the determination of the appropriate penalty for E.ON U.S.’s alleged violations of NERC Reliability Standards VAR-002-1, FAC-008-1, and PRC-005-1 pursuant to this Settlement Agreement included the following:

- a. E.ON U.S. has no prior violation of this Standard or any closely-related standard during the mandatory reliability period.
 - b. E.ON U.S. cooperated in a timely and satisfactory manner with SERC Staff during the investigation.⁸ E.ON U.S. cooperated with SERC Staff during meetings between the parties to discuss these events. E.ON U.S. initiated its own internal investigation and voluntarily provided supporting information to SERC Staff to assist in SERC Staff’s review of the facts and circumstances. This included the submission of detailed mitigation plans, evidence resulting from ongoing internal assessments of E.ON U.S.’s Protection System, and historical methodology documents. E.ON U.S. voluntarily presented their detailed root cause analysis of their VAR-002 statistical assessment during a visit to SERC offices. E.ON U.S.’s comprehensive response to SERC Staff’s questions enabled SERC Staff to conduct its investigation in an efficient manner.
 - c. E.ON U.S. agreed to resolve this issue via settlement and promptly initiated various mitigation and preventative measures before receiving a Notice of Alleged Violation from SERC.
 - d. As described above, E.ON U.S. has implemented a wide-range of measures to address the alleged violations and to minimize the risk of future violations of the same or similar requirements, and is taking steps to implement and strengthen as set forth in Paragraphs 52, 54, and 56.
62. Based on the above factors, as well as the mitigation actions and preventative measures taken, E.ON U.S. shall pay \$115,000 to SERC as set forth in this Settlement Agreement. E.ON U.S. shall remit the payment to SERC via check, or by wire transfer to an account to be identified by SERC (“SERC Account”), within twenty days after SERC provides E.ON U.S. with a notice of penalty payment due and invoice, to be issued by SERC after this Settlement Agreement is either approved by the Commission or by operation of law. SERC shall notify NERC, and NERC shall notify the Commission, if the payment is not timely received. If E.ON U.S. 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.

⁷ 16 U.S.C. § 824o(e)(6).

⁸ Revised Policy Statement on Enforcement, 123 FERC ¶ 61,156, P 65 (May 15, 2008).

§35.19a(a)(2)(iii) from the date that payment is due, and shall be payable in addition to the payment.

63. 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, may subject E.ON U.S. to new or additional enforcement, penalty or sanction actions in accordance with the NERC Rules of Procedure. E.ON U.S. will retain all rights to defend against such enforcement actions in accordance with the NERC Rules of Procedure.

V. ADDITIONAL TERMS

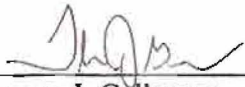
64. The signatories to the Settlement Agreement agree that they enter into the Settlement Agreement voluntarily and that, other than the recitations set forth herein, no tender, offer or promise of any kind by any member, employee, officer, director, agent or representative of SERC or E.ON U.S. has been 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.
65. 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 E.ON U.S. of changes to the settlement that would result in approval. If NERC rejects the settlement, NERC will provide specific written reasons for such rejection and SERC will attempt to negotiate a revised settlement agreement with E.ON U.S. 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.
66. 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.
67. E.ON U.S. agrees that this Settlement Agreement, when approved by NERC and the Commission, shall represent a final settlement of all matters set forth herein and E.ON U.S. waives its right to further hearings and appeal, unless and only to the extent that E.ON U.S. 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 E.ON U.S. in accordance with the NERC Rules of Procedure in the

event that E.ON U.S. fails to comply with the mitigation plan agreed to in this Settlement Agreement. In the event E.ON U.S. 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 E.ON U.S. 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, E.ON U.S. shall retain all rights to defend against such enforcement actions, also according to the NERC Rules of Procedure.

68. E.ON U.S. consents to the use of SERC's determinations, findings, and conclusions set forth in this 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 E.ON U.S. does not consent to the use of the specific acts set forth in this Agreement as the sole basis for any other action or proceeding brought by NERC and/or SERC, nor does E.ON U.S. consent to the use of this Agreement by any other party in any other action or proceeding.
69. Each of the undersigned warrants that he or she is an authorized representative of the party designated, is authorized to bind such party and accepts the Settlement Agreement on the party's behalf.
70. 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.
71. The Settlement Agreement may be signed in counterparts.
72. This Settlement Agreement is executed in duplicate, each of which so executed shall be deemed to be an original.

***Remainder of page intentionally blank.
Signatures to be affixed to the following page.***

Agreed to and accepted:



Thomas J. Galloway
Vice President and Director of Compliance
SERC RELIABILITY CORPORATION

12/17/19

Date



John N. Voyles, Jr.
Vice President, Transmission and Generation Services
E.ON U.S. SERVICES INC.

12/17/09

Date

**APPENDIX A
TO
SETTLEMENT AGREEMENT
OF
SERC RELIABILITY CORPORATION
AND
E.ON U.S. SERVICES INC.**

- (1) E.ON U.S.'s Mitigation Plan for PRC-005-1, R1&R2**
- (2) E.ON U.S.'s Certification of Mitigation Plan Completion for PRC-005-1, R1&R2**
- (3) Statement of SERC Reliability Corporation Compliance Staff Regarding
Completion of E.ON U.S.'s Mitigation Plan for PRC-005-1, R1&R2**
- (4) E.ON U.S.'s Mitigation Plan for FAC-008-1, R1**
- (5) E.ON U.S.'s Certification of Mitigation Plan Completion for FAC-008-1, R1**
- (6) Statement of SERC Reliability Corporation Compliance Staff Regarding
Completion of E.ON U.S.'s Mitigation Plan for FAC-008-1, R1**
- (7) E.ON U.S.'s Mitigation Plan for VAR-002-1, R2**
- (8) E.ON U.S.'s Certification of Mitigation Plan Completion for VAR-002-1, R2**
- (9) Statement of SERC Reliability Corporation Compliance Staff Regarding
Completion of E.ON U.S.'s Mitigation Plan for VAR-002-1, R2**



Mitigation Plan Submittal Form

Date this Mitigation Plan is being submitted: July 30, 2008

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 CMEP¹ 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 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.

¹ "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.



- 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: E.ON U.S. Services Inc.
Company Address: 220 W. Main Street, Louisville, KY 40202
NERC Compliance Registry ID *[if known]*: NCR01223

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: Steven D. Phillips
Title: Director, Compliance And Ethics
Email: steven.phillips@eon-us.com
Phone: 502-627-2648



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 ^(*)
Not available	2008-048	R1	June 3, 2008
Not available	2008-049	R2	June 3, 2008

(*) 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:

For Transmission Assets:

See Attachment to Mitigation Plan Submittal Form

For Generation Assets:

A protective relay and maintenance testing program was developed and implemented for E.ON U.S. Services Inc.'s generation facilities in May, 2002. This program continues to be in effect. However, E.ON U.S. Services Inc. believes that this program does not address all areas of the protection system as such has been clarified by SERC. The relay testing and maintenance program for the baseload generating units substantially, if not completely, complies with the requirements of PRC-005; the potential deficiencies in the protection system testing and



maintenance program for generating facilities could be primarily related to certain simple cycle turbines that are relied upon for peaking capacity.
[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:

For Transmission Assets:

See Attachment to Mitigation Plan Submittal Form

[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:

For Transmission Assets:

See Attachment to Mitigation Plan Submittal Form

For Generation Assets:

Steps and associated actions which have been identified as part of the mitigation plan are:

- Review current listings of equipment in the Protection Systems of E.ON U.S. Services Inc.'s facilities. This is to include all relays, batteries, and DC equipment.

- Obtain and verify historical test dates.

If equipment is identified that has not been included in the program for compliance to PRC-005-1 the following steps will be taken:

- Equipment not listed will be added to the program.
- Maintenance and testing procedures will be developed for the additional equipment to be integrated into the existing plan.
- A testing schedule for the additional equipment will be developed and implemented.
- Existing test dates for added equipment will be provided as requested by SERC.

[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:



E.ON U.S. proposes that full documentation and corrective actions will be completed by December 31, 2008.

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

Transmission Milestone Activity	Proposed Completion Date* (shall not be more than 3 months apart)
Revise Transmission Protection System Maintenance and Testing Program; include missing components of Protection System based on NERC Glossary of terms and as stated in R1.1 and R1.2	July 31, 2008
Testing of all "associated communications systems" completed; Testing of 50% of required "DC control circuitry" for Year 1 of 5 year rotation program	September 30, 2008
Testing of remainder 50% of required "DC control circuitry" for Year 1 of 5 year rotation program; Testing of "voltage and current sensing devices"	December 31, 2008
Documentation available for all components of Protection System Program as defined in R2.1 and R2.2, to complete entire program implementation	December 31, 2008

Generation Milestone Activity	Proposed Completion Date* (shall not be more than 3 months apart)
Review current listings of equipment, including relays, batteries, DC control circuitry, and communication equipment. If there is no communication equipment, include statement of such in procedures.	August 30, 2008
Obtain and verify historical test dates of all equipment listed in first milestone. Add to list and test any equipment which does not have	October 15, 2008



verifiable testing information. Notify SERC of progress.	
Establish change procedure for all of the above types of equipment.	November 28, 2008
Integrate above into compliance program and submit lists, dates, and procedures to SERC.	December 28, 2008

(*) 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:

For Transmission Assets:

In addition to the Milestone Activities identified in D.3 above, E.ON U.S. will make every effort to complete any necessary repair, replacement or other prudent activity on all equipment identified on Exhibit B to the Attachment to Mitigation Plan Submittal Form by December 31, 2008 in a prudent manner. Furthermore, E.ON U.S. will revise its Existing Program for Protection Systems to include details on the maintenance and testing program for all aspects of the Protection System by June 30, 2008.

[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:

For Transmission Assets:

E.ON U.S. does not believe that reliability of the Bulk Power System has been substantially compromised due to the lack of certain routine testing programs because the existing program to perform testing and maintenance on a corrective basis has historically been adequate to protect against significant system failures and to maintain a reliable



system. For example, recent testing of a large sample size of the DC Control Circuitry has shown that the equipment is not defective and able to function properly for system events it is designed to address. Visual based testing of Instrument Transformers similarly demonstrated that the equipment is substantially in good working order. Of the areas of protection system subject to PRC-005-1, certain communication systems probably are most likely to have equipment that require immediate attention, and these are currently being identified and being addressed.

For Generation Assets:

E.ON U.S. Services Inc. does not believe that the Bulk Power System will be negatively impacted because E.ON U.S. Services Inc. believes that testing of equipment has occurred in most cases for equipment not currently listed, and that only recording of test dates has not occurred. [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:

For Transmission Assets:

Once the written testing and maintenance program has been revised to include all aspects of the Protection Systems, with sufficient details regarding intervals, procedure and methods of testing and maintenance, and when the program is fully implemented and internally monitored for compliance, further potential violations of PRC-005-1 will be mitigated. [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:

[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 the Director of Compliance and Ethics of E.ON U.S. Services Inc..
 - 2. I am qualified to sign this Mitigation Plan on behalf of E.ON U.S. Services Inc.
 - 3. I have read and understand E.ON U.S. Services Inc.'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 the foregoing Mitigation Plan.
 - 5. E.ON U.S. Services Inc. agrees to be bound by, and comply with, the Mitigation Plan, including the timetable completion date, as approved by SERC and approved by NERC.

Authorized Individual Signature


(Electronic signatures are acceptable; see CMEP)

Name (Print): Steven D. Phillips

Title: Director, Compliance and Ethics

Date: July 30, 2008



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.

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

Submittal Instructions:

Please convert the completed and signed document to an 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.

Please direct any questions regarding completion of this form to:

Ken Keels
Manager, Compliance Enforcement
SERC Reliability Corporation
704-357-7372
kkeels@serc1.org

Attachment to Mitigation Plan Submittal Form
E.ON U.S. – PRC-005-1
July 30, 2008

Introduction

This attachment relates to the Mitigation Plan Submittal Form submitted by E.ON U.S. Services Inc. (“E.ON U.S.”) on July 30, 2008 related to Standard PRC-005-1. References to Sections below relate to Sections of the Mitigation Plan Submittal Form.

Section C

C.3. – The cause of the possible violation is that E.ON U.S. has since June 18, 2007 had a testing and maintenance program for Protection Systems that appears to meet many, but not all, of the requirements of PRC-005-1. E.ON U.S.’s current written testing and maintenance program (the “Existing Program”) for Protection Systems is attached hereto as Exhibit A.

The NERC Glossary definition of “Protection System” includes “Protective relays, associated communication systems, voltage and current sensing devices, station batteries and DC control circuitry.” E.ON U.S. believes that the Existing Program adequately satisfied PRC-005-1 with respect to “protective relays” and “station batteries”. However, E.ON U.S. believes that the Existing Program may not have satisfied PRC-005-1 with respect to “associated communication systems”, “voltage and current sensing devices,” and “DC control circuitry”.

The particular concerns relate to three specific points. First, under the Existing Program, the E.ON U.S. testing and maintenance activities for “associated communications systems”¹ and “voltage and current sensing devices” involve testing upon installation, and further testing and maintenance as needed and on a corrective basis, but not on a pre-established interval. These practices may not satisfy requirements under the Standard that the program include “intervals and their basis”.

Second, the Existing Program does not address “DC control circuitry”. E.ON U.S. practices have been to address DC control circuitry in the same fashion as associated communication systems and voltage and current sensing devices; thus, testing is performed only upon installation, and maintenance is performed upon a corrective basis. While historically there has been some limited testing of some 138kV and 161kV DC control circuitry equipment, there has not been an established program that provides for testing and maintenance at defined intervals. Thus, these practices may not satisfy requirements under the Standard that the program include “intervals and their basis”.

¹ In the case of communications systems on the LG&E transmission system, there is effectively a continuous testing program because LG&E has a fiber network which enables continuous monitoring. The KU transmission system is not a fiber network, and therefore does not provide for continuous monitoring.

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Third, the Existing Program may not have adequate summaries of the testing and maintenance procedures.

Additionally, it appears there are some associated communications systems equipment that has been identified as suspect and perhaps requiring corrective action, which have not yet been addressed. A listing of this equipment is attached hereto as Exhibit B.

Section D

E.ON U.S. proposes to take several steps as part of its mitigation plan.

First, E.ON U.S. developed by June 30, 2008 a revised written testing and maintenance program, which would be implemented immediately. This testing and maintenance program would call for a schedule of testing and maintenance of all Protection Systems consistent with the Standard.

Second, E.ON U.S. has already completed a test of 10% of all equipment for the associated communications system, and by September 30, 2008, 100% of the communications equipment will have been tested. Thereafter, the associated communications equipment will be tested in accordance with the revised written testing and maintenance program. As for the DC control circuitry, 10% of all equipment for the DC control circuitry has been tested. E.ON U.S. will institute a five year rotation plan for testing and maintaining all DC control circuitry, and therefore, by December 31, 2008, E.ON U.S. will have completed a total of 20% of all equipment for the DC control circuitry. Thereafter, in accordance with the testing and maintenance program, in each year a rotating 20% of all equipment will be tested. As for the voltage and current sensing devices, E.ON will maintain a similar five year rotation plan for testing and maintenance. Accordingly, 20% of all voltage and current sensing devices will be tested by December 31, 2008, and a rotation of 20% will be tested annually thereafter. Any equipment that does not pass the functional test will be promptly repaired, replaced or otherwise prudently addressed.

Third, E.ON U.S. would by December 31, 2008 complete the repair, replacement or other prudent activity of all equipment identified on Exhibit B.

Section E

E.ON U.S. would note that it does not believe the reliability of the Bulk Power System has in fact been compromised due to issues discussed in this Mitigation Plan. First, historically, E.ON U.S. has not experienced any system compromise as a result of a lack of an interval-based testing program. There have been no significant system failures on the E.ON U.S. transmission system. Furthermore, during 2008 E.ON U.S. has engaged in some testing to better define the areas of greatest risk. E.ON U.S. recently completed a 10% sample of all DC circuit control equipment and associated communications

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equipment, finding no DC circuit control equipment failures. On the other hand, 33% of the tested associated communications equipment failed, indicating that this is the area where additional testing and maintenance is most needed. As indicated in this mitigation plan, E.ON U.S. therefore has a plan to complete all of this testing and maintenance for associated communications equipment during 2008, whereas testing and maintenance for other protection system equipment would proceed on a planned 5 year cycle.

E.ON U.S. is wholeheartedly committed to full compliance with PRC-005-1 and to this Mitigation Plan; however, it does not believe that its past practices have substantially compromised reliability.

List of Exhibits

Exhibit A – Current maintenance and testing program for Protection Systems entitled “E.ON U.S. Transmission System Protection Maintenance”

Exhibit B – Listing of Associated Communications System Equipment Identified as Suspect

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John N. Voyles, Jr.

Vice President,
Transmission and
Generation Services

220 West Main Street
P.O. Box 32020
Louisville, Kentucky 40232
T (502) 627-4762
F (502) 627-4165
john.voyles@eon-us.com

Certification of a Completed Mitigation Plan

SERC Reliability Corporation Violation Mitigation Plan Closure Form

Name of Registered Entity submitting certification: **E.ON U.S. Transmission Owner (TO)**
and **E.ON U.S. Generator Owner (GO)**

Date of Certification: **June 30, 2009**

Name of Standard and the Requirement(s) of mitigated violation(s): **PRC-005-1 R1, R2**

SERC Tracking Number (contact SERC if not known): **2008-048 and 2008-049**

NERC Violation ID Number: **SERC200800134 and SERC200800135**

Date of completion of the Mitigation Plan: **June 24, 2009**

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

For Transmission Assets

- Revised Transmission Protection System Maintenance and Testing Program to include missing components based on Protection System definition in NERC Glossary of Terms.
- Tested all "associated communications systems"
- Tested "DC control circuitry" for year 1 of the 5 year program.
- Tested "Voltage and current sensing devices" for year 1 of the 5 year program.
- Completed documentation for program implementation.

For Generation Assets

- Reviewed current listings of equipment, including relays, batteries, DC control circuitry, and communication equipment. Where such equipment did not exist, stated so in the procedures.
- Established a change procedure for all of these various types of equipment.
- Obtained and verified historical test dates of all equipment identified. Test any equipment which did not have verifiable test information.
- Integrated all these steps into compliance program and submit lists, dates, and procedures to SERC as evidence.

Description of the information provided to SERC for their evaluation:

For completion of PRC-005-1, the information provided to SERC is the following documents:

- For Transmission Assets
 - Documentation of Protection System Maintenance and Testing Program revision:
 - [PRC-005 Protection System Maintenance and Testing Program.pdf](#)

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- Documentation for Communication System testing:
 - [PRC005 - Carrier Testing.pdf](#)
- Documentation for testing of year one DC Control Circuitry:
 - [PRC005 - DC Control Circuitry.pdf](#)
- Documentation for testing of year one Voltage and Current Sensing Devices:
 - [PRC005 - InstrumentTransformer.pdf](#)
- Documentation for remaining protection equipment:
 - [PRC005 - Substation Inspections.pdf](#)
- For Generation Assets
 - Documentation of review of equipment (for Milestone 1):
 - [PRC-005 Equipment List \(08-27-08\).pdf](#)
 - Change procedure for all these various types of equipment (for Milestone 2).
 - [Plant Equipment Change Management Procedures v1-20-09.pdf](#)
 - Obtained and verified historical test dates of all equipment identified, testing any equipment which did not have verifiable test information (for Milestone 3 evidence) – including monthly progress reports
 - Final Progress Report of Testing for June 2009: [System Tests by Date \(5-27-09\).pdf](#)
 - Spreadsheet showing last completed tests, prior tests, next due dates, and file names of Test Evidence: [completion.xls](#)
 - Zipped file of all GO tests: [Mitigation Completion Evidence.zip](#)
 - Evidence of integration of all this into compliance program (for Milestone 4 evidence)
 - Procedure for PRC-005 for GO: [PRC-005 effective date 2008-10-29.pdf](#)
 - All tests, information included above with Milestone 3 evidence

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: John N. Voyles, Jr.

Title: Vice President, Transmission and Generation Services

Entity: TO, GO

Email: John.Voyles@eon-us.com

Phone: (502) 627-3177

Designated Signature



Date

6/26/09

(Form Revised August 13, 2008)

Statement of SERC Reliability Corporation Compliance Staff Regarding Completion of Mitigation Plan

Registered Entity:	E.ON U.S. SERVICES INC
SERC Tracking IDs:	08-048 and 08-049
NERC Violation No:	SERC200800134, SERC200800135
NERC Mitigation Plan ID:	MIT-07-0963
Standard:	PRC-005-1
Requirement:	R1, R2

Violation Summary:

E.ON U.S. is unable to provide evidence that the existing generation and transmission Protection System program includes all of the Protection System components, maintenance and testing intervals and their basis, and a summary of maintenance and testing procedures. Therefore, E.ON U.S. is found in violation of PRC-005-1, Requirement 1 (R1.1, R1.2), for the period beginning June 18, 2007 (when the standard became enforceable) until compliance is restored, for both the Generator Owner and Transmission Owner functions. E.ON U.S. is unable to provide adequate evidence that the Protection System devices were maintained and tested within the defined intervals and cannot provide documentation of the date some of its Protection System devices were last tested or maintained. Therefore E.ON U.S. is found in violation of PRC-005-1, Requirement 2, for the period beginning June 18, 2007 (when the standard became enforceable) until compliance is restored, for both the Generator Owner and Transmission Owner functions.

Mitigation Plan Summary:

E.ON U.S.'s Mitigation Plan to address the referenced violations was originally submitted on June 3, 2008 but revised to address both its Generator Owner and Transmission Owner functions in one plan and re-submitted on July 30, 2008. SERC accepted the mitigation plan on August 21, 2008, and it was approved by NERC on September 23, 2008. The Mitigation Plan is identified as MIT-07-0963 and was submitted as non-public information to FERC on September 23, 2008 in accordance with FERC orders.

On October 14, 2008, E.ON U.S. submitted to SERC its request to extend the overall Mitigation Plan completion date from its current end of December 28, 2008 to June 30, 2009. E.ON US requested the extension to allow the testing of protective relays, batteries, and DC control circuitry for those units to occur during scheduled outage events to ensure that the reliability of the bulk-power system would not be compromised. As unscheduled generation outages occurred, E.ON U.S. would attempt to complete the testing and maintenance contemplated by the Mitigation Plan at an earlier date than described above. Based on this information, on November 14, 2008 SERC Compliance Staff accepted E.ON U.S.'s request for an extension of the Mitigation Plan as outlined.

E.ON U.S. implemented a range of corrective measures to restore compliance during the mitigation process including actual maintenance and testing of numerous components actions implemented by E.ON U.S. as outlined in D.1 section of plan includes the following:

- i. E.ON U.S. revised the transmission Protection System maintenance and testing program to include missing components of Protection System based on NERC Glossary of terms and as stated in R1.1 and R1.2.
- ii. For the generation Protection System maintenance and testing program, E.ON U.S. reviewed current listings of equipment including relays, batteries, DC control circuitry, and communication equipment. E.ON U.S. verified that there were no communications equipment and included a statement of such in procedures as documentation for R1.
- iii. E.ON U.S. performed testing of all transmission Protection System associated communications systems, D.C. circuitry, and voltage and current sensing devices.
- iv. E.ON U.S. documented the implementation of its transmission Protection System program as defined in R2.1 and R2.2 for all components
- v. E.ON U.S. obtained and verified historical test dates of all equipment listed in the generation Protection System. E.ON U.S. integrated changes into its generation Protection System compliance program and tested any equipment, which did not have verifiable testing information.
- vi. E.ON U.S. documented the implementation of its generation Protection System program as defined in R2.1 and R2.2 for all components
- vii. E.ON U.S.'s maintenance and testing programs have been revised to include all aspects of the Protection Systems, with sufficient details regarding intervals, procedures, and methods of maintenance and testing. Implementation of the program and internal monitoring for compliance should mitigate further potential violations of PRC-005-1

SERC's Monitoring of Registered E.ON U.S.'s Mitigation Plan Progress:

SERC Reliability Corporation Compliance Staff ("SERC Staff") monitors the Registered Entity's progress towards completion of its Mitigation Plans in accordance with Section 6.0 of the uniform Compliance Monitoring and Enforcement Program, ("CMEP"). Pursuant to the CMEP, Registered Entities are required to establish implementation milestones no more than three (3) months apart. SERC Staff solicits quarterly reports from all Registered Entities with open mitigation plans to monitor the progress on completion of milestones. SERC Staff also produces and reviews daily Mitigation Plan status reports highlighting Mitigation Plans that are nearing the scheduled completion date. If the Registered E.ON U.S. fails to complete its Mitigation Plan according to schedule, appropriate additional enforcement action is initiated to assure compliance is attained.

Mitigation Plan Completion Review Process:

E.ON U.S. certified on June 30, 2009 that the subject Mitigation Plan was completed on June 24, 2009. A SERC compliance staff member reviewed the evidence submitted in a manner

similar to a compliance audit. That action was followed by another compliance staff member's peer review of the initial conclusion.

Evidence Reviewed:

E.ON U.S. submitted and SERC Staff reviewed the following evidence in support of its certification that its Mitigation Plan was completed in accordance with its terms:

- i. E.ON U.S. revised the transmission Protection System maintenance and testing program to include missing components of Protection System based on NERC Glossary of terms and as stated in R1.1 and R1.2. (PRC-005 Protection System Maintenance and Testing Program.pdf)
- ii. For the generation Protection System maintenance and testing program, E.ON U.S. reviewed current listings of equipment including relays, batteries, DC control circuitry, and communication equipment. E.ON U.S. verified that there were no communications equipment and included a statement of such in procedures as documentation for R1. (Generator Protection System Maintenance and Testing Program PRC-005 2008-10-29.pdf)
- iii. E.ON U.S. performed testing of all transmission Protection System associated communications systems, D.C. circuitry, and voltage and current sensing devices. (PRC005 - Carrier Testing.pdf, PRC005 - DC Control Circuitry.pdf, PRC005 - InstrumentTransformer.pdf, PRC005 - Substation Inspections.pdf)
- iv. E.ON U.S. documented the implementation of its transmission Protection System program as defined in R2.1 and R2.2 for all components (Spreadsheet showing last completed tests, prior tests, next due dates, and file names of Test Evidence: completion.xls)
- v. E.ON U.S. obtained and verified historical test dates of all equipment listed in the generation Protection System. E.ON U.S. integrated changes into its generation Protection System compliance program and tested any equipment, which did not have verifiable testing information. (PRC-005 Equipment List (08-27-08).pdf)
- vi. E.ON U.S. documented the implementation of its generation Protection System program as defined in R2.1 and R2.2 for all components (Zipped file of all GO tests: Mitigation Completion Evidence.zip)

Conclusion:

On July 31, 2009, SERC Reliability Corporation Compliance Staff ("SERC Staff") completed its review of the evidence submitted by E.ON U.S. in support of its Certification of Completion of the subject Mitigation Plan. Based on its review of the evidence submitted, SERC Staff verifies that, in its professional judgment, all required actions in the Mitigation Plan have been completed and E.ON U.S. is in compliance with the subject Reliability Standard Requirement.

This Statement, along with the subject Mitigation Plan, may become part of a public record upon final disposition of the possible violation.



Respectfully submitted,

Mickey Bellard, SERC Compliance Engineer
Kevin Berent, SERC Auditor



Mitigation Plan Submittal Form

Date this Mitigation Plan is being submitted: 7/29/08

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 CMEP¹ 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 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.

¹ "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.

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- 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: E.ON U.S. Services Inc.

Company Address: 220 W. Main Street, Louisville, KY 40202

NERC Compliance Registry ID **[if known]**: NCR01223

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: Daniel Wilson

Title: Manager, Generation Engineering

Email: Dan.Wilson@eon-us.com

Phone: 502-627-3177

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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: FAC-008-1
[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 ^(*)
Not Available	2008-046	R1	6/3/2008

(*) 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:

In determining the Facility Ratings, the method used was to determine the generator as the most limiting equipment. In doing so, associated equipment was considered but no ratings of that equipment were listed or used in the analysis.

[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:

Generator ratings are used for reporting production capacity to various organizations. The historical use of this approach persuaded us to interpret

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FAC-008-1, R1, more narrowly and therefore investigation of additional equipment was not pursued.

[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:

A number of steps and associated actions have been identified as part of the mitigation plan, as follows:

- Determine equipment, including but not limited to generators, transmission conductors, transformers, relay protective devices, terminal equipment, and series and shunt compensation devices, which may have a limiting effect upon Facility Ratings.
- Obtain design and operating data and criteria for above equipment.
- Develop methodology for calculating Facility Ratings.
- Perform analysis and determine Facility Ratings.
- Document analytical methodology and results and provide this information as an attachment to compliance documentation.
- Develop a process for reporting and notifying the applicable entities of changes or replacements of equipment which could result in a change of Facility Ratings.

[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:
December 31, 2008
- D.3 Enter Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

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Milestone Activity	Proposed Completion Date* (shall not be more than 3 months apart)
Document Facility Ratings Methodology and provide as an attachment to compliance documentation. Notify SERC of progress.	October 31, 2008
Develop and implement a process for internal review and notification of changes or replacements of equipment which could result in a change to Facility Ratings. Submit documentation to SERC.	December 30, 2008

(*) 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:

[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:

E.ON U.S. Services Inc. does not believe that the Bulk Power System will be negatively impacted because E.ON U.S. Services Inc. does not believe that there will be any substantive change to the Facility Ratings. Upon completion of the mitigation plan, it is anticipated that the generator will remain the limiting factor.

[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:

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E.ON U.S. Services Inc. will fulfill the requirements of FAC-008-1 to comply with the standards by determining the limiting factor for calculation of the Facility Ratings, taking into account the remaining specified and/or appropriate pieces of equipment.

[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:

[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 Manager, Generation Engineering of E.ON U.S. Services Inc.
 2. I am qualified to sign this Mitigation Plan on behalf of E.ON U.S. Services Inc.
 3. I have read and understand E.ON U.S. Services Inc.'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 the foregoing Mitigation Plan.
 5. E.ON U.S. Services Inc. agrees to be bound by, and comply with, the Mitigation Plan, including the timetable completion date, as approved by SERC and approved by NERC.

Authorized Individual Signature

(Electronic signatures are acceptable; see CMEP)

Name (Print): Daniel Wilson

Title: Manager, Generation Engineering

Date: 6/3/08

7/29/08



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.

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

Submittal Instructions:

Please convert the completed and signed document to an 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.

Please direct any questions regarding completion of this form to:

Ken Keels
Manager, Compliance Enforcement
SERC Reliability Corporation
704-357-7372
kkeels@serc1.org

Appendix A-5



Mr. Dan Wilson
Manager, Generation Engineering
220 West Main Street
Louisville, Kentucky 40202
T 1-502-627-3177
M 1-502-548-2949
dan.wilson@eon-us.com

Certification of a Completed Mitigation Plan

SERC Reliability Corporation Violation Mitigation Plan Closure Form

Name of Registered Entity submitting certification: **E.ON U.S. Generator Owner (GO)**

Date of Certification: **December 30, 2008**

Name of Standard and the Requirement(s) of mitigated violation(s): **FAC-008-1 R1**

SERC Tracking Number (contact SERC if not known): **2008-046**

NERC Violation ID Number (if assigned): **SERC200800132**

Date of completion of the Mitigation Plan: **December 11, 2008**

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

- Determined the equipment, including generator, generator step-up transformer, transmission conductors (i.e. cabling), relay protective devices, terminal equipment, and series and shunt compensation devices which have a limiting effect on Facility Ratings.
- Obtained the design and operating data and criteria for said equipment.
- Based on the equipment listed above, documented the Facility Rating Methodology for determining the limiting equipment and calculating the Facility Ratings.
- Performed analysis of said equipment's limiting factors and determined the Facility Ratings (which will be supplied with the FAC-009-1 closure).
- Provided copy of Facility Ratings Methodology as attachment to compliance documentation to SERC with this certification.
- Developed and implemented a process (Plant Equipment Change Management procedure) for the internal review and notification of changes or replacements of said equipment which could result in a change to Facility Ratings.
- Provided copy of the Plant Equipment Change Management procedure as attachment to compliance documentation to SERC with this certification.

Description of the information provided to SERC for their evaluation:

- For completion of FAC-008-1, the information provided to SERC are the following two documents:
 - The Facility Rating Methodology, titled "FAC-008-1 Procedures (10-23-08).pdf".
 - The Plant Equipment Change Management procedure, titled "Plant Equipment Change Management Procedure v11-19-08.pdf".
- The actual Facility Ratings will be provided separately with FAC-009-1 (SERC Tracking Number 2008-047; or NERC Violation ID Number SERC200800133).

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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: Dan Wilson

Title: Manager, Generation Engineering

Entity: GO

Email: Dan.Wilson@eon-us.com

Phone: (502) 627-3177

Designated Signature



Date

12/11/2008



Statement of SERC Reliability Corporation Compliance Staff Regarding Completion of Mitigation Plan

Registered Entity:	E.ON U.S. SERVICES INC
SERC Tracking IDs:	08-046
NERC Violation No:	SERC200800132
NERC Mitigation Plan ID:	MIT-07-0961
Standard:	FAC-008-1
Requirement:	R1

Violation Summary:

E.ON U.S.'s current documented Facility Ratings Methodology does not include the required elements, scope and considerations set forth in sub-requirements R1.1, R1.2, and R1.3 of Reliability Standard FAC-008-1. .

Mitigation Plan Summary:

E.ON U.S.'s Mitigation Plan to address the referenced violations was submitted on June 3, 2008 and revised on July 29, 2008, was accepted by SERC on August 21, 2008, and approved by NERC on September 23, 2008. The Mitigation Plan is identified as MIT-07-0961 and was submitted as non-public information to FERC on September 23, 2008 in accordance with FERC orders.

E.ON U.S. developed a revised Facility Ratings Methodology to include in its compliance documentation. The revised Methodology incorporated and addressed all of the elements of FAC-008 R1, including specifically a complete scope of equipment and ratings referenced in R1.2, and ratings considerations required in R1.3

E.ON U.S. implemented corrective measures to restore compliance during the mitigation process including actual maintenance and testing of numerous components actions implemented by E.ON U.S. as outlined in D.1 section of plan includes the following:

- i. E.ON U.S. developed Facility Ratings by obtaining design and operating data and criteria for the scope of the equipment listed in FAC-008-1. E.ON U.S. performed an analysis and developed a Facility Ratings Methodology.
- ii. E.ON U.S.'s Facility Ratings Methodology addresses Requirement 1 and the sub-requirements of FAC-008-1. This documentation addresses the methodology utilized by E.ON U.S. to rate their generation facilities in accordance with FAC-008-1.
- i. E.ON U.S.'s Facility Ratings Methodology procedure will be integrated into their compliance program.

**SERC's Monitoring of Registered E.ON U.S.'s Mitigation Plan Progress:**

SERC Reliability Corporation Compliance Staff ("SERC Staff") monitors the Registered Entity's progress towards completion of its Mitigation Plans in accordance with Section 6.0 of the uniform Compliance Monitoring and Enforcement Program, ("CMEP"). Pursuant to the CMEP, Registered Entities are required to establish implementation milestones no more than three (3) months apart. SERC Staff solicits quarterly reports from all Registered Entities with open mitigation plans to monitor the progress on completion of milestones. SERC Staff also produces and reviews daily Mitigation Plan status reports highlighting Mitigation Plans that are nearing the scheduled completion date. If the Registered E.ON U.S. fails to complete its Mitigation Plan according to schedule, appropriate additional enforcement action is initiated to assure compliance is attained.

Mitigation Plan Completion Review Process:

E.ON U.S. certified on June 30, 2009 that the subject Mitigation Plan was completed on June 24, 2009. A SERC compliance staff member reviewed the evidence submitted in a manner similar to a compliance audit. That action was followed by another compliance staff member's peer review of the initial conclusion.

Evidence Reviewed:

E.ON U.S. submitted and SERC Staff reviewed the following evidence in support of its certification that its Mitigation Plan was completed in accordance with its terms:

- iii. E.ON U.S. developed Facility Ratings by obtaining design and operating data and criteria for the scope of the equipment listed in FAC-008-1. E.ON U.S. performed an analysis and developed a Facility Ratings Methodology. (*The Facility Rating Methodology, titled "FAC-008-1 Procedures (10-23-08).pdf"*)
- iv. E.ON U.S.'s Facility Ratings Methodology addresses Requirement 1 and the sub-requirements of FAC-008-1. This documentation addresses the methodology utilized by E.ON U.S. to rate their generation facilities in accordance with FAC-008-1. (*The Facility Rating Methodology, titled "FAC-008-1 Procedures (10-23-08).pdf"*)
- ii. E.ON U.S.'s Facility Ratings Methodology procedure will be integrated into their compliance program. (The Plant Equipment Change Management procedure, titled "Plant Equipment Change Management Procedure v11-19-08.pdf").

Conclusion:

On January 2, 2009, SERC Reliability Corporation Compliance Staff ("SERC Staff") completed its review of the evidence submitted by E.ON U.S. in support of its Certification of Completion of the subject Mitigation Plan. Based on its review of the evidence submitted, SERC Staff verifies that, in its professional judgment, all required actions in the Mitigation Plan have been completed and E.ON U.S. is in compliance with the subject Reliability Standard Requirement.



This Statement, along with the subject Mitigation Plan, may become part of a public record upon final disposition of the possible violation.

Respectfully submitted,

Mickey Bellard, SERC Compliance Engineer
James Harrell, SERC Auditor



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: March 4, 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 CMEP¹ 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

¹ "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: E.ON U.S. Services Inc.

Company Address: 220 W. Main Street, Louisville, KY 40202

NERC Compliance Registry ID **[if known]**: NRC01223

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: Dan Wilson

Title: Manager, Generation Engineering

Email: dan.wilson@eon-us.com

Phone: 502-627-3177



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: VAR-002-1
[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 ^(*)
SERCYYYYnnnnn	2008-125	R2	10/01/2008

(*) 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:

Assuming compliance is measured on an integrated hourly basis, E.ON U.S.'s initial data review found Energy Management System ("EMS") data indicating that some voltage levels may have occasionally strayed just outside of the target voltage band as set forth in the voltage schedule provided by the TOP. E.ON U.S. relies on logs as evidence that appropriate notices were given for any excursions; log entries are not available for all hours in which these excursions may have occurred, which may indicate that measurements taken at the plants were inconsistent with EMS data.

[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:

An internal review has been initiated to examine the cause and extent of the excursions (again, assuming that an integrated hourly measurement is the appropriate measurement window in determining that an excursion occurred for compliance purposes). The issue is complex. A core concern is that the E.ON U.S. compliance strategy involved maintenance of EMS records as key evidence of compliance with the voltage schedule, yet the systems available to the plant operators for controlling, and in most cases setting alarms, was the generating unit control system ("Plant DCS"). E.ON U.S. has through its initial review observed that, in many cases, the data recorded by the EMS system does not match the data recorded by the Plant DCS. The causes for this discrepancy require further investigation but likely include:

- The data sampling frequency periods over the course of a one hour averaging period differ between EMS and the Plant DCS, and
- In some cases, the EMS and Plant DCS appear to have been receiving signals from different transducers.

E.ON U.S. has also identified infrastructure and operating practice issues that complicated the compliance efforts, including:

- Some plant systems did not have the capability of generating alarms when operating near or outside the voltage schedule tolerance band, and
- Plant operators did not have integrated hourly information available to them in real-time; instead, plant operators received real-time voltage measurements.

Of critical importance, the bulk electric system was at no time jeopardized due to these issues.

[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:

E.ON U.S. plans a multi-step approach to addressing this matter to eliminate ambiguity about whether or not E.ON U.S. is in compliance in similar situations in the future. All activities are intended to implement a solution which mitigates risk and insures continued compliance. As is always the condition, the TOP is at all times monitoring system voltage using its own alarms based on EMS data and would immediately direct voltage changes at plants if system voltage issues occur.

The E.ON U.S. internal audit found that the DCS voltage schedule parameters were different from the EMS voltage schedule parameters. This difference made it impossible to use EMS data to evaluate power plant performance in maintaining the voltage schedule. All of the plants have the ability of viewing the real time values of the EMS voltage schedule parameters but this capability does not generate alarms. To address these issues the following steps have been identified:

1. Monitor voltage parameters:
 - The E.ON U.S. Generator Plants that have DCS systems will continue or start using their DCS systems to monitor the switching station voltage parameters and generate alarms when the parameter nears or exceeds the tolerance band of the voltage schedule. The DCS alarms will help the generating plant operators regulate the switching station voltage within the bandwidth of the TOP's voltage schedule. The plant archived DCS data along with the GVR log (when the plants have had to notify the TOP for being outside the voltage schedule) will be Generation's evidence for maintaining voltage schedule at these plants.
 - Plants that do not have DCS(s), which include Tyrone and Paddy's Run, will directly monitor the real time values of the EMS voltage schedule parameter. The archived EMS data along with the GVR log will be Generation's evidence for maintaining voltage schedule at these two plants.



2. Identify a standard methodology to measure KV for all sites, which includes the following:
 - Determine an appropriate long-term technical solution for monitoring, alarming, and archiving bus voltage at all plants.
 - Determine and use an archiving process that utilizes a common database.
3. Implement alarming in locations that previously did not have alarming for recognizing deviation from the bus voltage schedule.
4. Install hardware at each plant location to create a serial interface between the EMS and the plant's DCS such that both locations read and display the same bus voltage schedule parameters.

[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: E.ON U.S. proposes that full documentation and corrective actions will be completed by June 1, 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)
Monitor voltage parameters.	December 1, 2008
Identify standard methodology to measure KV for all sites	January 15, 2009
Implement alarming in locations that previously did not have alarming for recognizing deviation from the bus voltage schedule	April 1, 2009
Complete installation of hardware at each	June 1, 2009



plant location to create a serial interface between the EMS and the plant's DCS such that both locations read and display the same bus voltage schedule parameters.	
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(*) 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:

[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:

The Bulk Power System should not be negatively impacted while the Mitigation Plan is being implemented, even assuming that the appropriate measurement window is over the course of an integrated hour, because:

- The TOP is at all times monitoring system voltage using its own alarms based on EMS data; if system voltage issues were identified, the TOP would immediately direct voltage changes at plants or take other appropriate action consistent with NERC standards. Using the months of June-August, 2008 as an initial frame of reference, the TOP was at all times monitoring system voltage and a review of the TOP logs found no requests from the TOP to generating plants to address system voltage issues caused by any difference between the actual and schedule plant bus voltage. This helps establish that, even if the appropriate measurement window is an integrated hour, the bulk electric system is not endangered by the types of issues recently faced by E.ON U.S. E.ON



U.S. would highlight that the identified variances beyond the voltage band width over the course of an integrated hour were minor.

- Even with the existing concerns regarding data quality and related issues, the discrepancies between the actual and scheduled voltage on an integrated hourly basis were very infrequent.
- In some instances, ambiguities about compliance would have been eliminated with the maintenance of logs; E.ON U.S. will continue its practice of maintaining logs and is confident this will address these types of events in the future.

As E.ON U.S. believes that there were no risks present to the Bulk Electric System, the expedited schedule for the Phase One activities should provide further mitigation.

[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:

Upon completion of the Mitigation Plan, all facilities will be viewing data as determined by a common standard. E.ON U.S. believes following implementation of the Mitigation Plan that ambiguity about E.ON U.S.'s compliance will be eliminated, even if the appropriate measurement window for compliance purposes is over the course of an integrated hour.

[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:

[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 Vice President, Transmission and Generation Services of E.ON U.S. Services Inc.
 2. I am qualified to sign this Mitigation Plan on behalf of E.ON U.S. Services Inc.
 3. I have read and understand E.ON U.S. Services Inc. 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. E.ON U.S. Services Inc. agrees to be bound by, and comply with, the Mitigation Plan, including the timetable completion date, as approved by SERC and approved by NERC.

Authorized Individual Signature

(Electronic signatures are acceptable; see CMEP)

Name (Print): John N. Voyles, Jr.

Title: Vice President, Transmission and Generation Services

Date: March 4, 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.

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

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.

Please direct any questions regarding completion of this form to:

Ken Keels
Manager, Compliance Enforcement
SERC Reliability Corporation
704-357-7372
kkeels@serc1.org

Appendix A-8



Mr. Dan Wilson
Manager, Generation Engineering
220 West Main Street
Louisville, Kentucky 40202
T 1-502-627-3177
M 1-502-548-2949
dan.wilson@eon-us.com

Certification of a Completed Mitigation Plan

SERC Reliability Corporation Violation Mitigation Plan Closure Form

Name of Registered Entity submitting certification: [E.ON U.S. Generator Owner \(GO\)](#)

Date of Certification: [June 1, 2009](#)

Name of Standard and the Requirement(s) of mitigated violation(s): [VAR-002-1 R2](#)

SERC Tracking Number (contact SERC if not known): [08-125](#)

NERC Violation ID Number (if assigned): [SERC200800209](#)

Date of completion of the Mitigation Plan: [May 29, 2009](#)

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

- [Monitored voltage parameters](#)
- [Identified a standard methodology to measure KV for all sites](#)
- [Implemented alarming in locations that previously did not have alarming for recognizing deviation from the bus voltage schedule \(namely Tyrone and Paddys Run locations\)](#)
- [Installed hardware at each plant location to create a serial interface between the EMS and the plant's DCS such that both locations read and display the same bus voltage schedule parameters. \(Also trained operations at each location regarding use of new displays\).](#)

Description of the information provided to SERC for their evaluation:

- [For completion of VAR-002-1, the information provided to SERC are the following documents:](#)
 - [Documentation of plant's verification of the following \(for Milestone 1\):](#)
 - [Verified that plants having DCS are following their DCS for regulating the generating units within the tolerance band of the Voltage Schedule as provided by the TOP in VAR-001. If they are not within the tolerance band, the plants will notify the TOP and document accordingly. Applicable alarms have been set and are in service.](#)
 - [Verified that plants that do not have DCS indication are following the EMS output continuously for regulating the generating units within the tolerance band of the Voltage Schedule as provided by the TOP in VAR-001. If they are not within the tolerance band, the plants will notify the TOP and document accordingly.](#)

Appendix A-8

- Evidenced thru various pdf forms:
 - BR - RE VAR-002 Mitigation Plan.pdf
 - CR&PR - RE VAR-002 Mitigation Plan.pdf
 - GH - RE VAR-002 Mitigation Plan.pdf
 - GR - RE VAR-002 Mitigation Plan.pdf
 - MC - FW VAR-002 Mitigation Plan.pdf
 - TC - RE VAR-002 Mitigation Plan.pdf
 - TY - FW VAR-002 Mitigation Plan.pdf
- Written methodology for measuring the switching station bus voltages (KV) for all generator sites (for Milestone 2).
 - [Methodology for Measuring Switching Station Bus Voltage \(01-07-09\).pdf](#)
- Screen shots of control boards for Paddys Run and Tyrone—the only 2 locations that previously did not have alarms (for Milestone 3 evidence).
 - [Screen Shots - for Alarms at PR & TY.pdf](#)
- Screen shots of control boards for each location showing the readings and where alarm indication is made at each site based on the voltage readings as they come from EMS (evidence for Milestone 4).
 - [Screen Shots.pdf](#)
- Signed training sheets and the review sheets as evidence that operators have been trained on the new hardware installed on their control boards, as well as what to do when they see the alarms (further evidence on Milestone 4).
 - BR Training - Signatures and Review Sheet.pdf
 - CR & PR Training - Signatures and Review Sheets.pdf
 - GH Training - Signatures and Review Sheet.pdf
 - GR Training - Signatures and Review Sheet.pdf
 - MC Training - Signatures and Review Sheet.pdf
 - TC Training - Signatures and Review Sheet.pdf
 - TY Training - Signatures and Review Sheet.pdf
- Spreadsheet indicating EMS archived database results (integrated hourly results) for all locations for a few random days – vs. the Generator Voltage Regulation (GVR) logs (further evidence on Milestone 4). These are shown on separate tabs on following spreadsheet with a column in each tab with cross-reference to link the two tabs of data.
 - VAR002 Milestone 4 Evidence from EMS and GVR.xls

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: [Dan Wilson](#)
Title: [Manager, Generation Engineering](#)
Entity: [GO](#)
Email: Dan.Wilson@eon-us.com
Phone: (502) 627-3177

Designated Signature



Date

5/29/09

(Form Revised August 13, 2008)



Statement of SERC Reliability Corporation Compliance Staff Regarding Completion of Mitigation Plan

Registered Entity:	E.ON U.S. SERVICES INC.
SERC Tracking IDs:	08-125
NERC Violation No:	SERC200800209
NERC Mitigation Plan ID:	MIT-07-1521
Standard:	VAR-002-1
Requirement:	R2

Violation Summary:

E.ON U.S., as the responsible Generator Operator, is in violation of VAR-002-1 R2 due to its failure to maintain the generator voltage or Reactive Power output (within applicable Facility Ratings) as directed by the Transmission Operator at 35 of Entity's 50 generating units. Entity operators failed to notify or receive exemption from the TOP during the periods the voltage schedule was not maintained. In addition, Entity is unable to produce evidence to show that it controlled its generator voltage and reactive output to meet the voltage or Reactive Power schedule provided by its associated Transmission Operator as specified in Requirement 2. .

Mitigation Plan Summary:

E.ON U.S.'s Mitigation Plan to address the referenced violations was submitted as a draft on October 15, 2008 and revised as final on March 4, 2008, was accepted by SERC on March 19, 2009, and approved by NERC on March 30, 2009. The Mitigation Plan is identified as MIT-07-1521 and was submitted as non-public information to FERC on April 1, 2009 in accordance with FERC orders.

E.ON U.S. implemented a range of corrective measures to restore compliance during the mitigation process including actual maintenance and testing of numerous components actions implemented by E.ON U.S. as outlined in D.1 section of plan includes the following:

- i. E.ON U.S validated the EMS output to DCS indications and implemented technical solutions for monitoring, alarming, and archiving bus voltage at all plants, including developing and implementing a process to archive all plant voltage schedule parameters into a common database.
- ii. E.ON U.S identified a standard methodology to measure kV for all sites. Plants that have DCS indications with alarms will primarily use EMS information to regulate their units to operate inside the voltage schedule tolerance band.
- iii. E.ON U.S. installed hardware at each plant location to create a serial interface between the EMS and the plant's DCS such, that both locations read and display



the same bus voltage schedule parameters. Plants that do not have DCS indications currently available are able to view EMS output continuously.

- iv. E.ON U.S.'s improved capability and accuracy in monitoring and alarming of generator voltages will enable E.ON U.S. to prevent future deviations from its voltage and reactive power schedules.

SERC's Monitoring of Registered E.ON U.S.'s Mitigation Plan Progress:

SERC Reliability Corporation Compliance Staff ("SERC Staff") monitors the Registered Entity's progress towards completion of its Mitigation Plans in accordance with Section 6.0 of the uniform Compliance Monitoring and Enforcement Program, ("CMEP"). Pursuant to the CMEP, Registered Entities are required to establish implementation milestones no more than three (3) months apart. SERC Staff solicits quarterly reports from all Registered Entities with open mitigation plans to monitor the progress on completion of milestones. SERC Staff also produces and reviews daily Mitigation Plan status reports highlighting Mitigation Plans that are nearing the scheduled completion date. If the Registered E.ON U.S. fails to complete its Mitigation Plan according to schedule, appropriate additional enforcement action is initiated to assure compliance is attained.

Mitigation Plan Completion Review Process:

E.ON U.S. certified on June 30, 2009 that the subject Mitigation Plan was completed on June 24, 2009. A SERC compliance staff member reviewed the evidence submitted in a manner similar to a compliance audit. That action was followed by another compliance staff member's peer review of the initial conclusion.

Evidence Reviewed:

E.ON U.S. submitted and SERC Staff reviewed the following evidence in support of its certification that its Mitigation Plan was completed in accordance with its terms:

- i. *E.ON U.S. validated the EMS output to DCS indications and implemented technical solutions for monitoring, alarming, and archiving bus voltage at all plants, including developing and implementing a process to archive all plant voltage schedule parameters into a common database. (VAR002 Milestone 4 Evidence from EMS and GVR.xls –[Spreadsheet indicating EMS archived database results (Integrated hourly results) for all locations for a few random days - vs. the Generator Voltage Regulation (GVR) logs])*
- ii. *E.ON U.S. identified a standard methodology to measure kV for all sites. Plants that have DCS indications with alarms will primarily use EMS information to regulate their units to operate inside the voltage schedule tolerance band. (Methodology for Measuring Switching Station Bus Voltage (01-07-09).pdf - Written methodology or measuring the switching station bus voltages (kV) for all generator sites)*



- iii. E.ON U.S. installed hardware at each plant location to create a serial interface between the EMS and the plant's DCS such, that both locations read and display the same bus voltage schedule parameters. Plants that did not have DCS indications currently available are able to view EMS output continuously. Screen Shots.pdf & Screen Shots - for Alarms at PR & TY.pdf) -Screen shots of control boards for each location showing the readings and where alarm indication is made at each site based on the voltage readings as they come from EMS-*
- iv. E.ON U.S.'s improved capability and accuracy in monitoring and alarming of generator voltages will enable E.ON U.S to prevent future deviations from its voltage and reactive power schedules (Various Plant signed training and review sheets as evidence operators have been trained on the new hardware installed on their control boards)*

Conclusion:

On June 7, 2009, SERC Reliability Corporation Compliance Staff ("SERC Staff") completed its review of the evidence submitted by E.ON U.S. in support of its Certification of Completion of the subject Mitigation Plan. Based on its review of the evidence submitted, SERC Staff verifies that, in its professional judgment, all required actions in the Mitigation Plan have been completed and E.ON U.S. is in compliance with the subject Reliability Standard Requirement.

This Statement, along with the subject Mitigation Plan, may become part of a public record upon final disposition of the possible violation.

Respectfully submitted,

Mickey Bellard, SERC Compliance Engineer
Mike Bartlett, SERC Auditor

Attachment f

Disposition Document for Common Information

DISPOSITION OF VIOLATION¹

INFORMATION COMMON TO INSTANT VIOLATIONS

REGISTERED ENTITY
E.ON U.S. Services Inc.
(E.ON U.S.)

NERC REGISTRY ID
NCR01223

NOC#
NOC-112

REGIONAL ENTITY
SERC Reliability Corporation (SERC)

I. REGISTRATION INFORMATION

ENTITY IS REGISTERED FOR THE FOLLOWING FUNCTIONS:

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

E.ON U.S. is a diversified energy services company headquartered in Louisville, Kentucky. E.ON U.S. owns and acts as agent for Louisville Gas and Electric Company (LG&E), a regulated utility that serves approximately 318,000 natural gas and approximately 391,000 electric customers in Louisville and 16 surrounding counties, and Kentucky Utilities Company (KU), a regulated electric utility in Lexington, Kentucky, that serves approximately 542,000 customers in 77 Kentucky counties and five counties in Virginia. E.ON U.S. is a subsidiary of E.ON U.S. LLC and performs service company functions for the subsidiaries of E.ON U.S. LLC.

IS THERE A SETTLEMENT AGREEMENT YES ☒ NO ☐

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 ☐

¹ 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.

WITH RESPECT TO THE PROPOSED PENALTY OR SANCTION, REGISTERED ENTITY

ACCEPTS IT/ DOES NOT CONTEST IT

YES ☒

III. PENALTY INFORMATION

TOTAL PROPOSED PENALTY OR SANCTION OF **\$115,000** FOR **FOUR** VIOLATIONS.

(1) REGISTERED ENTITY'S COMPLIANCE HISTORY

PRIOR VIOLATIONS OF ANY OF THE INSTANT RELIABILITY STANDARD(S) OR REQUIREMENT(S) THEREUNDER

YES ☐ NO ☒

LIST ANY CONFIRMED OR SETTLED VIOLATIONS AND STATUS

ADDITIONAL COMMENTS

PRIOR VIOLATIONS OF OTHER RELIABILITY STANDARD(S) OR REQUIREMENTS THEREUNDER

YES ☒ NO ☐

LIST ANY PRIOR CONFIRMED OR SETTLED VIOLATIONS AND STATUS

NOC-091 (NP09-2-000) was filed on December 12, 2008. FERC issued an order on January 9, 2009 indicating that the Commission will not further review, on its own motion, the subject Notice of Penalty which covered violations of the following Standards:

EOP-008-0 R1, Filed

FAC-001-0 R1, Filed

FAC-001-0 R2, Filed

FAC-001-0 R3, Filed

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

E.ON U.S. maintains an internal compliance program (ICP) that covers all Reliability Standards applicable to E.ON U.S. The program includes a Steering Committee staffed by a group including officers, senior managers, and managers who have roles in the Companies' compliance with the reliability standards. Departments included are the Transmission Department, the Generation Services Department, the Energy Marketing Department, the Market Valuation and Analysis Department, the Information Technology Department, the Compliance Department, the Federal Rates and Regulation Department, and the Audit Services Department. The Steering Committee sets the overall strategy and policy for the Companies' reliability standards compliance activities. The Steering Committee then organized working teams based on NERC functional roles and divided compliance work activities among those working teams as appropriate. The Compliance Department, through the Director, Compliance and Ethics, serves as the Chair of the Steering Committee. The Companies' new compliance program does take a slightly different approach. A Steering Committee is still maintained, but with a slightly different membership that includes more officer members and key senior managers. The Director, Compliance and Ethics, will continue to serve as the chair of the Steering Committee.

DOES SENIOR MANAGEMENT TAKE ACTIONS THAT SUPPORT THE COMPLIANCE PROGRAM, SUCH AS TRAINING, COMPLIANCE AS A FACTOR IN EMPLOYEE EVALUATIONS, OR OTHERWISE
 YES ☒ NO ☐
 EXPLAIN

E.ON U.S.'s ICP has the support and participation of senior management. In addition to the existing program's membership, which includes officers. The Director, Compliance and Ethics reports on a regular basis to an executive officer regarding the status of, and developments in, the E.ON U.S. reliability standards program. In a number of settings, E.ON U.S. executive officers have stressed the importance of compliance with the reliability standards to key employees. Under the new program that is expected to be

implemented soon, the Companies will enhance their executive participation in a few ways. First, more officers will be members of the Steering Committee. Second, the Director, Compliance and Ethics will make regular written reports to the CEO regarding activities in the compliance program.

EXPLAIN SENIOR MANAGEMENT'S ROLE AND INVOLVEMENT WITH RESPECT TO THE REGISTERED ENTITY'S COMPLIANCE PROGRAM

See above.

(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 (IF THE RESPONSE IS "YES," THE ABBREVIATED NOP FORM MAY NOT BE USED.)

YES ☐ NO ☒
IF YES, EXPLAIN

(8) ANY OTHER EXTENUATING CIRCUMSTANCES

YES ☐ NO ☒
IF YES, EXPLAIN

(9) ADDITIONAL SUPPORT FOR PROPOSED PENALTY OR SANCTION

OTHER RELEVANT INFORMATION:

NOTICE OF ALLEGED VIOLATION AND PROPOSED PENALTY OR
SANCTION ISSUED

DATE: OR N/A ☒

SETTLEMENT DISCUSSIONS COMMENCED

DATE: **9/17/2008²** 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

²E.ON U.S. formally requested settlement discussions for the resolution of the VAR-002-1 R2 violation on April 8, 2009.

Attachment h/3

Disposition Document for FAC-008-1

DISPOSITION OF VIOLATION

NERC TRACKING NO.	REGIONAL ENTITY TRACKING NO.	
SERC200800132	08-046	

I. VIOLATION INFORMATION

RELIABILITY STANDARD	REQUIREMENT(S)	SUB-REQUIREMENT(S)	VRF(S)	VSL(S)
FAC-008-1	1		Medium¹	Severe

VIOLATION APPLIES TO THE FOLLOWING FUNCTIONS:

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

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

Purpose: To ensure that Facility Ratings used in the reliable planning and operation of the bulk power system (BPS) are determined based on an established methodology or methodologies.

FAC-008-1 R1 requires:

The Transmission Owner and Generator Owner shall each document its current methodology used for developing Facility Ratings (Facility Ratings Methodology) of its solely and jointly owned Facilities. The methodology shall include all of the following:

R1.1. A statement that a Facility Rating shall equal the most limiting applicable Equipment Rating of the individual equipment that comprises that Facility.

R1.2. The method by which the Rating (of major BPS equipment that comprises a Facility) is determined.

R1.2.1. The scope of equipment addressed shall include, but not be limited to, generators, transmission conductors,

¹ When NERC filed VRFs for FAC-008-1, NERC originally assigned a “Lower” VRF to FAC-008-1 R1.1. In the Commission’s November 16, 2007 Order on Violation Risk Factors, the Commission directed modifications. On December 19, 2007, NERC filed the modified “Medium” VRF for FAC-008-1 R1.1 for approval. On February 6, 2008, the Commission issued an Order approving the modified VRF. Therefore, the “Lower” VRF was in effect from June 18, 2007 until February 6, 2008 and the “Medium” VRF has been in effect since February 6, 2008.

transformers, relay protective devices, terminal equipment, and series and shunt compensation devices.

R1.2.2. The scope of Ratings addressed shall include, as a minimum, both Normal and Emergency Ratings.

R1.3. Consideration of the following:

R1.3.1. Ratings provided by equipment manufacturers.

R1.3.2. Design criteria (e.g., including applicable references to industry Rating practices such as manufacturer's warranty, IEEE, ANSI or other standards).

R1.3.3. Ambient conditions.

R1.3.4. Operating limitations.

R1.3.5. Other assumptions.

VIOLATION DESCRIPTION

On June 3, 2008, E.ON U.S. self-reported a violation FAC-008-1, R1 for its failure to consider the ratings of its associated equipment in determining its Facility Ratings Methodology. SERC reviewed the self-report and E.ON U.S.'s existing Facility Ratings Methodology and determined that (1) the existing methodology did not consider any associated equipment as required by the subject Standard; (2) did not contain the statement that a Facility Rating shall equal the most limiting applicable Equipment Rating of the individual equipment that comprises that Facility, as required in Requirement (R) 1.1; (3) the scope of equipment addressed in the methods referenced did not include the following elements set forth in R1.2.1: transmission conductors, transformers, relay protective devices, terminal equipment, or series and shunt compensation devices; and (4) E.ON U.S.'s Facility Ratings Methodology used an assumption that the generator was the most limiting equipment and did not analyze the ratings incorporating the full range of considerations as set forth in requirement 1.3.

RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

SERC Staff concluded that there was no serious or substantial risk to the reliability of the Bulk Power System because E.ON U.S. had an existing Facility Ratings Methodology using the capacity of its generators as the limiting element, even though it did not meet the requirements of the Reliability Standard.

III. 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)

**6/18/2007 (the date the Standard became mandatory) through 12/11/08
(Mitigation Plan completion).**

DATE DISCOVERED BY OR REPORTED TO REGIONAL ENTITY **6/3/2008**

IS THE VIOLATION STILL OCCURRING

YES ☐ NO ☒

IF YES, EXPLAIN

REMEDIAL ACTION DIRECTIVE ISSUED	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
PRE TO POST JUNE 18, 2007 VIOLATION	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>

IV. MITIGATION INFORMATION

MITIGATION PLAN NO. **MIT-07-0961**

DATE SUBMITTED TO REGIONAL ENTITY	7/29/2008²
DATE ACCEPTED BY REGIONAL ENTITY	8/21/2008
DATE APPROVED BY NERC	9/23/2008
DATE PROVIDED TO FERC	9/23/2008

IDENTIFY AND EXPLAIN VERSIONS THAT WERE REJECTED, IF APPLICABLE

MITIGATION PLAN COMPLETED YES ☒ NO ☐

EXPECTED COMPLETION DATE	12/31/2008
EXTENSIONS GRANTED	N/A
ACTUAL COMPLETION DATE	12/11/2008

² Mitigation Plan MIT-07-0961 was originally submitted on June 3, 2008 but was revised to include appropriate milestone information and other nonsubstantive revisions and resubmitted on June 29, 2008.

DATE OF CERTIFICATION LETTER **12/30/2008**³
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF **12/11/2008**

DATE OF VERIFICATION LETTER **1/2/2009**
VERIFIED COMPLETE BY REGIONAL ENTITY AS OF **12/11/2008**

ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT
RECURRENCE

E.ON U.S. (1) revised its documented Facility Ratings Methodology used for developing Facility Ratings; (2) developed Facility Ratings by obtaining design, operating data and criteria for the scope of the equipment including but not limited to, generators, transmission conductors, transformers, relay protective devices, terminal equipment, and series and shunt compensation devices as required by FAC-008-1; (3) developed a methodology for calculating Facility Ratings; (4) performed an analysis and developed a Facility Ratings Methodology; (5) documented analytical methodology and results that were provided as information to show compliance; (6) developed a process for reporting and notifying the applicable entities of changes or replacements of equipment which could result in the change of Facility Ratings; and (7) integrated its Facility Ratings Methodology procedure into its compliance program.

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

- 1. The Facility Rating Methodology, titled *FAC-008-1 Procedures (10-23-08).pdf***
- 2. The Plant Equipment Change Management procedure, titled *Plant Equipment Change Management Procedure v 11-19-08.pdf***

V. PENALTY INFORMATION

(1) DOCUMENTATION ☐ PERFORMANCE ☒ BOTH ☐

EXPLAIN (FOR DOCUMENTATION-TYPE VIOLATIONS, INCLUDE A
DESCRIPTION OF HOW THE REGIONAL ENTITY VERIFIED THAT THE
REGISTERED ENTITY HAD PERFORMED IN ACCORDANCE WITH THE
RELIABILITY STANDARD(S)/REQUIREMENT(S))

³ E.ON U.S.'s Certification of Completion was signed on December 11, 2008.

EXHIBITS:

SOURCE DOCUMENT

E.ON U.S.'s Self-Report dated June 3, 2008

MITIGATION PLAN

E.ON U.S.'s Mitigation Plan dated July 29, 2008

CERTIFICATION BY REGISTERED ENTITY

E.ON U.S.'s Certification of Completion dated December 30, 2008

VERIFICATION BY REGIONAL ENTITY

SERC's Verification of Completion dated January 2, 2009

Attachment h/4

Disposition Document for PRC-005-1

DISPOSITION OF VIOLATION

NERC TRACKING NO.	REGIONAL ENTITY TRACKING NO.	
SERC200800134	08-048	
SERC200800135	08-049	

I. VIOLATION INFORMATION

RELIABILITY STANDARD	REQUIREMENT(S)	SUB-REQUIREMENT(S)	VRF(S)	VSL(S)
PRC-005-1	1		High¹	High
PRC-005-1	2		High²	Moderate

VIOLATION APPLIES TO THE FOLLOWING FUNCTIONS:

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)

Purpose: 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 requires:

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.

¹ When NERC filed Violation Risk Factors (VRFs) for PRC-005-1, NERC originally assigned a “Medium” VRF to PRC-005-1 Requirement 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 the modified “High” VRF for PRC-005 Requirement 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

² 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, including 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.

R1.2. Summary of maintenance and testing procedures.

PRC-005-1 R2 requires:

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 Entity] 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

On June 3, 2008, E.ON U.S. submitted separate self-reports, one each for its Generator Owner and Transmission Owner functions, for violations of PRC-005-1 R1 and R2.

Regarding PRC-005-1 R1, E.ON U.S.'s generation Protection System maintenance and testing program (1) did not require the performance of periodic tests and did not include documentation of the intervals and summary of testing procedure; (2) did not include battery maintenance and testing intervals;³ (3) lacked documentation of the basis for the intervals of functional checks on the DC control circuitry; (4) did not include the intervals and basis for the testing and maintenance of E.ON U.S.'s generator protection relays for its coal-fired plants and non-coal fired combustion turbines; and (5) did not have documentation of the intervals and their basis for testing and maintenance of its voltage and current sensing devices, nor a summary of its testing procedures for these devices.

Also regarding PRC-005-1 R1, E.ON U.S.'s transmission Protection System maintenance and testing program (1) did not include procedures requiring ongoing maintenance and testing of its associated communications systems, voltage and current sensing devices, and DC control circuitry; (2) did not establish periodic testing of its associated communications systems, voltage and current sensing devices, and DC control circuitry as it did not require testing of these devices beyond installation; (3) did not specify testing intervals or their basis; and (4) did not include a summary of testing procedures as required by the standard.

³ As a Generator Owner, E.ON U.S. does not use applicable associated communication systems in conjunction with the Generator Owner's generation protective relay systems. While not stated in its maintenance and testing program, E.ON U.S. attested that the maintenance and testing of any associated communications system was addressed under its registration as a Transmission Owner.

With regard to PRC-005-1 R2, the documentation⁴ associated with E.ON U.S.'s generation Protection System maintenance and testing program showed that (1) only 241 of its 701 voltage and current sensing devices were maintained and tested; (2) instrument transformers were tested on an as needed bases as opposed to being tested in periodic documented intervals; (3) maintenance and testing performed on 79 D.C. circuitry generation operation sets was not documented as an existing subset of components; (4) the functional tests were performed on the DC circuitry sets as part of the protective relaying maintenance program but E.ON U.S. did not document these as an existing subset of components; (5) 399 of 427 protective relays were tested; (6) some of the dates associated with maintenance and testing conducted on the generator protection relays of the coal-fired plants and non-coal fired combustion turbines were not documented; and (7) 660 of 777 battery sets were tested as part of the program.

The documentation associated with E.ON U.S.'s transmission Protection System maintenance and testing program, indicated that (1) maintenance and testing was being performed on many of E.ON U.S.'s Protection System components but had not been properly documented to show compliance with the subject Standard; (2) 1,446 of 3,366 voltage and current sensing devices, 490 of 4,840 D.C circuitry sets and 116 of 317 associated communications devices had been maintained and tested as required; and (3) 100% of E.ON U.S.'s batteries and protective relays were maintained and tested in accordance with the subject Standard.

RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

SERC Staff determined that the violations did not create a serious or substantial risk to the reliability of the bulk power system (BPS), but concluded that there was a moderate risk due to the incomplete maintenance and testing program and the number of total applicable devices that did not have documented testing, as discussed above. It should be noted, however, that E.ON U.S. had evidence that 93% of the protective relays and 85% of the batteries associated with its generation Protection System had been tested and the majority of the undocumented testing was related to peaking units at E.ON U.S.'s generating stations. Additionally, E.ON U.S. had evidence that 100% of the protective relays and batteries associated with its transmission Protection System had been tested and maintained.

III. DISCOVERY INFORMATION

METHOD OF DISCOVERY

SELF-REPORT
SELF-CERTIFICATION
COMPLIANCE AUDIT

☒
☐
☐

⁴ The gaps associated with E.ON U.S. LLC's generation Protection System maintenance and testing program were associated with E.ON U.S. LLC's peaking combustion turbines which is the smaller portion of E.ON U.S.'s generating facilities. Additionally, a subset of the generation Protection System components were not recorded for the peaking combustion turbines.

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) **6/18/2007 (when the Standard became enforceable) through 6/24/2009 (when E.ON U.S. completed its Mitigation Plan).**

DATE DISCOVERED BY OR REPORTED TO REGIONAL ENTITY **6/3/2008**

IS THE VIOLATION STILL OCCURRING

YES ☐ NO ☒

IF YES, EXPLAIN

REMEDIAL ACTION DIRECTIVE ISSUED	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>
PRE TO POST JUNE 18, 2007 VIOLATION	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>

IV. MITIGATION INFORMATION

MITIGATION PLAN NO. **MIT-07-0963**

DATE SUBMITTED TO REGIONAL ENTITY **7/30/2008**

DATE ACCEPTED BY REGIONAL ENTITY **8/21/2008**

DATE APPROVED BY NERC **9/23/2008**

DATE PROVIDED TO FERC **9/23/2008**

IDENTIFY AND EXPLAIN VERSIONS THAT WERE REJECTED, IF APPLICABLE

MITIGATION PLAN COMPLETED YES ☒ NO ☐

EXPECTED COMPLETION DATE **12/31/2008**

EXTENSIONS GRANTED **1**

ACTUAL COMPLETION DATE **6/24/2009**

DATE OF CERTIFICATION LETTER **6/30/2009**

CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF **6/24/2009**

DATE OF VERIFICATION LETTER **7/31/2009**

VERIFIED COMPLETE BY REGIONAL ENTITY AS OF **6/24/2009**

ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE

1. **E.ON U.S. revised the transmission Protection System maintenance and testing program to include missing components of Protection System based on NERC Glossary of terms and as stated in R1.1 and R1.2;**
2. **For the generation Protection System maintenance and testing program, E.ON U.S. reviewed current listings of equipment including relays, batteries, DC control circuitry, and communication equipment. E.ON U.S. verified that there were no communications equipment and included a statement of such in procedures as documentation for R1;**
3. **E.ON U.S. performed testing of all transmission Protection System associated communications systems, D.C. circuitry, and voltage and current sensing devices;**
4. **E.ON U.S. documented the implementation of its transmission Protection System program as defined in R2.1 and R2.2 for all components;**
5. **E.ON U.S. obtained and verified historical test dates of all equipment listed in the generation Protection System. E.ON U.S. integrated changes into its generation Protection System compliance program and tested any equipment, which did not have verifiable testing information;**
6. **E.ON U.S. documented the implementation of its generation Protection System program as defined in R2.1 and R2.2 for all components;**
7. **E.ON U.S.'s maintenance and testing programs have been revised to include all aspects of the Protection Systems, with sufficient details regarding intervals, procedures, and methods of maintenance and testing, and implementation of the program and internal monitoring; and**
8. **E.ON U.S. completed any necessary repair, replacement or other prudent activity on all equipment.**

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

For Transmission Assets:

1. **Documentation of Protection System Maintenance and Testing Program revision: *PRC-005 Protection System Maintenance and Testing Program.pdf*;**
2. **Documentation for Communication System testing, testing of year one DC control circuitry, testing of year one voltage and current sensing**

devices, and reminign protection equipment: *PRC005 - Carrier Testing.pdf*, *PRC005 - DC Control Circuitry.pdf*, *PRC005 - InstrumentTransformer.pdf*, *PRC005 - Substation Inspections.pdf*;

For Generation Assets:

3. **Procedure for PRC-005 for Generator Owner: *Generator Protection System Maintenance and Testing Program PRC-005 2008-10-29.pdf*;**
4. **Spreadsheet showing last completed tests, prior tests, next due dates, and file names of Test Evidence: *completion.xls*;**
5. **Change procedure for all the varios types of equipement: *Plant Equipment Change Management Procedures v1-20-09.pdf*;**
6. ***System Tests by Date (5-27-09).pdf*;**
7. **Documentation of review of equipment: *PRC-005 Equipment List (08-27-08).pdf*; and**
8. **Zippped file of all Generator Owner tests: *Mitigation Completion Evidence.zip*.**

V. PENALTY INFORMATION

(1) DOCUMENTATION ☐ PERFORMANCE ☒ BOTH ☐

EXPLAIN (FOR DOCUMENTATION-TYPE VIOLATIONS, INCLUDE A DESCRIPTION OF HOW THE REGIONAL ENTITY VERIFIED THAT THE REGISTERED ENTITY HAD PERFORMED IN ACCORDANCE WITH THE RELIABILITY STANDARD(S)/REQUIREMENT(S))

EXHIBITS:

SOURCE DOCUMENT

E.ON U.S.'s Self-Report for GO function dated June 3, 2008

E.ON U.S.'s Self-Report for TO function dated June 3, 2008

MITIGATION PLAN

E.ON U.S.'s Mitigation Plan dated July 30, 2008

CERTIFICATION BY REGISTERED ENTITY

E.ON U.S.'s Certification of Completion dated June 30, 2009

VERIFICATION BY REGIONAL ENTITY

SERC's Verification of Completion dated July 31, 2009

Attachment h/5

Disposition Document for VAR-002-1

DISPOSITION OF VIOLATION

NERC TRACKING NO.	REGIONAL ENTITY TRACKING NO.	
SERC200800209	08-125	

I. VIOLATION INFORMATION

RELIABILITY STANDARD	REQUIREMENT(S)	SUB-REQUIREMENT(S)	VRF(S)	VSL(S)
VAR-002-1¹	2		Medium	High

VIOLATION APPLIES TO THE FOLLOWING FUNCTIONS:

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)

Purpose: To ensure generators provide reactive and voltage control necessary to ensure voltage levels, reactive flows, and reactive resources are maintained within applicable Facility Ratings to protect equipment and the reliable operation of the Interconnection.

VAR-002-1 R2 requires:

Unless exempted by the Transmission Operator, each Generator Operator shall maintain the generator voltage or Reactive Power output (within applicable Facility Ratings²) as directed by the Transmission Operator.

R2.1. When a generator's automatic voltage regulator is out of service, the Generator Operator shall use an alternative method to control the generator voltage and reactive output to meet the voltage or Reactive Power schedule directed by the Transmission Operator.

R2.2. When directed to modify voltage, the Generator Operator shall comply or provide an explanation of why the schedule cannot be met.

¹ VAR-002-1 was enforceable from August 2, 2007, through August 27, 2008. VAR-002-1a was approved by the Commission and became enforceable on August 28, 2008. VAR-002-1.1a is the current enforceable Standard as of May 13, 2009. The subsequent interpretations provide clarity regarding the responsibilities of a registered entity and do not change the meaning or language of the original NERC Reliability Standard and its requirements. For consistency in this filing, the original NERC Reliability Standard, VAR-002-1, is used throughout.

² When a Generator is operating in manual control, reactive power capability may change based on stability considerations and this will lead to a change in the associated Facility Ratings.

VIOLATION DESCRIPTION

On October 1, 2008, E.ON U.S. self-reported a violation VAR-002-1, R2 for its inability to produce evidence to show that it had controlled its generator voltage and reactive output to meet the voltage or Reactive Power schedule provided by its associated Transmission Operator as specified in Requirement 2. Upon further review, E.ON U.S. discovered that there were periods where several of its units inadvertently operated outside the voltage tolerance bandwidth and did not have adequate alarming capability to alert the operator.

Each of the E.ON U.S. plant on-line generators are expected to control voltage (within the tolerance bands) at their designated 345 kV, 138 kV, and 69 kV transmission buses. E.ON U.S., referencing the integrated hour factor for compliance with the voltage schedule specified by its Transmission Operator, used its plant Distributed Control Systems (DCS) data for voltage control parameters and alarm settings. E.ON U.S. found that the plant DCS data did not match the data in its Energy Management System (EMS). E.ON U.S. also found in some cases that the DCS and EMS data sampling periods over the course of one hour did not match. Additionally, the E.ON U.S. plants that did not have DCS voltage indications available also did not continuously review and log appropriate voltage information. Since the voltage measurements taken at the plants were inconsistent with the EMS data, E.ON U.S. did not have reliable integrated hourly information available to receive real-time voltage measurements for proper operator log entries. Therefore, E.ON U.S. did not have evidence to show that it controlled its generator voltage and reactive output to meet the voltage or Reactive Power schedule provided by its associated Transmission Operator, as specified in Requirement 2.

Specifically, a review of a data sample covering the period from March 1, 2008 through August 31, 2008, identified 110 occurrences of voltage excursions outside the tolerance band for a total of 333 hours (less than 1% of all operating hours) affecting eight of E.ON U.S.'s twelve generating plants (35 of E.ON U.S.'s 50 generating units). SERC determined that, although two plants had a number of excursions greater than 2% outside the tolerance band, the average of all excursions is outside the tolerance band by less than 1%. Therefore, E.ON U.S. failed to maintain a voltage or reactive power schedule for 58% of its generators, by plant, and for 70% of its generators, by unit) during the sampled period. During the excursions, E.ON U.S. failed to notify the Transmission Operator (TOP) that it would not meet the voltage schedule and did not receive an exemption from the TOP for not meeting the voltage schedule. All units were operated with voltage regulators in automatic mode, and attempting to control terminal voltage.

RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

SERC staff concluded based on the sampling that there was no serious or substantial risk to the reliability of the Bulk Power System because (1) E.ON U.S.'s failure to operate within the voltage schedule tolerance band occurred in less than

1% of the total unit operating hours; and (2) the average of all excursions were outside the tolerance band by less than 1%.

III. 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) 8/11/2007 through 5/29/2009 (when E.ON U.S. completed its Mitigation Plan).

DATE DISCOVERED BY OR REPORTED TO REGIONAL ENTITY 10/1/2008

IS THE VIOLATION STILL OCCURRING

YES ☐ NO ☒

IF YES, EXPLAIN

REMEDIAL ACTION DIRECTIVE ISSUED	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
PRE TO POST JUNE 18, 2007 VIOLATION	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>

IV. MITIGATION INFORMATION

MITIGATION PLAN NO. MIT-07-1521

DATE SUBMITTED TO REGIONAL ENTITY	3/4/2009
DATE ACCEPTED BY REGIONAL ENTITY	3/19/2009
DATE APPROVED BY NERC	3/30/2009
DATE PROVIDED TO FERC	4/1/2009

IDENTIFY AND EXPLAIN VERSIONS THAT WERE REJECTED, IF APPLICABLE

MITIGATION PLAN COMPLETED YES ☒ NO ☐

EXPECTED COMPLETION DATE	6/1/2009
EXTENSIONS GRANTED	N/A
ACTUAL COMPLETION DATE	5/29/2009

DATE OF CERTIFICATION LETTER **6/1/2009³**
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF **5/29/2009**

DATE OF VERIFICATION LETTER **6/7/2009**
VERIFIED COMPLETE BY REGIONAL ENTITY AS OF **5/29/2009**

ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT
RECURRENCE

E.ON U.S. (1) monitor the voltage parameters – the generator Plants that have DCS systems continued or started using the DCS systems to monitor the switching station voltage parameters and generated alarms when the parameters neared or exceeded the tolerance band of the voltage schedule; these plants archived the DCS data along with the Generator Voltage Regulation (GVR) log, when the plants had to notify the TOP for being outside the voltage schedule. The generator Plants that did not have DCS directly monitored the real-time values of the EMS voltage schedule parameter; these plants archived the EMS data along with the GVR log; (2) validated the EMS output to DCS indications and implemented technical solutions for monitoring, alarming, and archiving bus voltage at all plants in a common database; (3) identified a standard methodology to measure kV for all sites. Plants that have DCS indications with alarms will use EMS information to regulate their units to operate inside the voltage schedule tolerance band; (4) installed hardware at each plant location to create a serial interface between the EMS and the plant's DCS such, that both locations read and display the same bus voltage schedule parameters. Plants that do not have DCS indications currently available are able to view EMS output continuously; (5) implemented alarming in locations that previously did not have alarming for recognizing deviation from the bus voltage schedule; and (6) improved capability and accuracy in monitoring and alarming of generator voltages which will enable E.ON U.S. to minimize the risk of future deviations from its voltage and reactive power schedules.

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

- 1. “VAR002 Milestone 4 Evidence from EMS and GVR.xls” which is a spreadsheet indicating EMS archived database results (Integrated hourly results) for all locations for a few random days - vs. the GVR logs;**

³ E.ON U.S.'s Certification of Completion was signed on May 29, 2009.

2. ***“Methodology for Measuring Switching Station Bus Voltage (01-07-09).pdf”*** which is a written methodology for measuring the switching station bus voltages (kV) for all generator sites;
3. ***“Screen Shots.pdf” & “Screen Shots - for Alarms at PR & TY.pdf”*** which are screen shots of control boards for each location showing the readings and where alarm indication is made at each site based on the voltage readings as they come from EMS; and
4. **various plant signed training and review sheets as evidence operators have been trained on the new hardware installed on their control boards.**

V. PENALTY INFORMATION

(1) DOCUMENTATION ☐ PERFORMANCE ☒ BOTH ☐

EXPLAIN (FOR DOCUMENTATION-TYPE VIOLATIONS, INCLUDE A DESCRIPTION OF HOW THE REGIONAL ENTITY VERIFIED THAT THE REGISTERED ENTITY HAD PERFORMED IN ACCORDANCE WITH THE RELIABILITY STANDARD(S)/REQUIREMENT(S))

EXHIBITS:

SOURCE DOCUMENT

E.ON U.S.’s Self-Report dated October 1, 2008

MITIGATION PLAN

E.ON U.S.’s Mitigation Plan dated March 4, 2009

CERTIFICATION BY REGISTERED ENTITY

E.ON U.S.’s Certification of Completion dated June 1, 2009

VERIFICATION BY REGIONAL ENTITY

SERC’s Verification of Completion dated June 7, 2009

Attachment i

Notice of Filing

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

E.ON U.S. Services Inc.

Docket No. NP10-____-000

NOTICE OF FILING
July 6, 2010

Take notice that on July 6, 2010, the North American Electric Reliability Corporation (NERC) filed a Notice of Penalty regarding E.ON U.S. Services Inc. 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, or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Comment Date: [BLANK]

Kimberly D. Bose,
Secretary