

January 30, 2014

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

**Re: NERC Full Notice of Penalty regarding American Electric Power Service Corporation and PJM
Interconnection, LLC
FERC Docket No. NP14-_-000**

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby provides this Notice of Penalty¹ regarding American Electric Power Service Corporation (AEP)² and the PJM Interconnection, LLC (PJM), NERC Registry IDs# NCR00682 and NCR00879,³ respectively, in accordance with the Federal Energy

¹ *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 (2013). *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).

² American Electric Power Service Corporation as agent for Appalachian Power Company, Columbus Southern Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, and Wheeling Power Company.

³ ReliabilityFirst Corporation (ReliabilityFirst) confirmed that PJM was included on the NERC Compliance Registry as a Balancing Authority, Planning Authority, Reliability Coordinator, Transmission Operator (TOP), Transmission Planner, and a Transmission Service Provider as of May 30, 2007, and as an Interchange Authority as of June 10, 2008.

ReliabilityFirst confirmed that AEP was included on the NERC Compliance Registry as Distribution Provider, Generator Owner, Generator Operator, Load Serving Entity, Purchasing-Selling Entity, Resource Planner, Transmission Owner (TO), and TOP as of May 30, 2007.

In its capacity as a TOP, PJM is required to comply with PRC-001-1; however, under the terms of its governing agreements, including its Consolidated Transmission Owners Agreement and its Amended and Restated Operating Agreement, PJM has delegated certain tasks associated with compliance with the TOP Reliability Standards, including PRC-001-1, to its TOs. As a PJM-member TO, AEP has assumed responsibility for compliance with PRC-001-1 R3.2 and is therefore subject to the requirements of this Reliability Standard.

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NERC Notice of Penalty
AEP/PJM
January 30, 2014
Page 2

Regulatory Commission's (Commission or FERC) rules, regulations and orders, as well as NERC's Rules of Procedure including Appendix 4C (NERC Compliance Monitoring and Enforcement Program (CMEP)).⁴

PJM is a regional transmission organization that coordinates the movement of wholesale electricity in all or part of 13 states and the District of Columbia. PJM's members, totaling more than 800, include power generators, transmission owners, electricity distributors, power marketers, and large consumers. PJM is headquartered in Valley Forge, Pennsylvania. PJM dispatches approximately 183,600 megawatts (MW) of generating capacity over 62,556 miles of transmission lines.

AEP is engaged in the generation and transmission of electricity throughout the United States. AEP is one of the nation's largest generators of electricity, and owns nearly 38,000 MW of generating capacity. AEP also owns the nation's largest electricity transmission system, a nearly 39,000-mile network that includes more 765 kilovolt extra-high voltage transmission lines than all other transmission systems within the United States combined. AEP's transmission system directly or indirectly serves approximately 10% of the electricity demand in the Eastern Interconnection, the interconnected transmission system that covers 38 eastern and central United States and eastern Canada.

This Notice of Penalty is being filed with the Commission because the ReliabilityFirst Corporation (ReliabilityFirst) and AEP and PJM have entered into a Settlement Agreement to resolve all outstanding issues arising from ReliabilityFirst's determination and findings of the violation⁵ of PRC-001-1 R3. According to the Settlement Agreement, AEP and PJM agree and stipulate to the terms of the Settlement Agreement and have agreed to the assessed penalty of zero dollars (\$0), in addition to other remedies and actions to mitigate the instant violation and facilitate future compliance under the terms and conditions of the Settlement Agreement. Accordingly, the violation identified as NERC Violation Tracking Identification Number RFC2013011659 is being filed in accordance with the NERC Rules of Procedure and the CMEP.

Statement of Findings Underlying the Violation

This Notice of Penalty incorporates the findings and justifications set forth in the Settlement Agreement executed on November 20, 2013, by and between ReliabilityFirst, AEP, and PJM, which is

⁴ See 18 C.F.R. § 39.7(c)(2)

⁵ 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.

included as Attachment a. The details of the findings and basis for the penalty are set forth in the Settlement Agreement and herein. This Notice of Penalty filing contains the basis for approval of the Settlement Agreement by the NERC Board of Trustees Compliance Committee (NERC BOTCC). In accordance with Section 39.7 of the Commission's regulations, 18 C.F.R. § 39.7 (2013), 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
ReliabilityFirst Corporation	American Electric Power Service Corporation and PJM Interconnection, LLC	NOC-2247	RFC2013011659	PRC-001-1	R3	High	\$0

PRC-001-1 R3.2

The purpose statement of Reliability Standard PRC-001-1 provides: "To ensure system protection is coordinated among operating entities."

PRC-001-1 R3.2 provides in pertinent part:

R3. A Generator Operator or Transmission Operator shall coordinate new protective systems and changes as follows.

R3.2. Each Transmission Operator shall coordinate all new protective systems and all protective system changes with neighboring Transmission Operators and Balancing Authorities.

PRC-001-1 R3.2 has a "High" Violation Risk Factor (VRF) and a "Lower" Violation Severity Level (VSL). The subject violation applies to AEP's Transmission Operator (TOP) function.⁶

⁶ See footnote 3 for explanation of AEP's applicable function.

NERC Notice of Penalty
AEP/PJM
January 30, 2014
Page 4

On December 20, 2012, FERC approved NERC's requested changes to the NERC Rules of Procedure, including the addition of Section 5.11 to NERC's CMEP. This section allows Independent System Operators and Regional Transmission Organizations to request that the Compliance Enforcement Authority make a determination as to whether a specified entity was responsible, in whole or in part, for the actions and omissions that caused or contributed to a violation of the Reliability Standards.

On January 17, 2013, PJM, after notification to AEP, submitted such a request to ReliabilityFirst for a determination as to whether AEP was responsible for the actions that may have caused or contributed to the instant violation of PRC-001-1 R3.2.

ReliabilityFirst determined that as a signatory to the PJM Consolidated Transmission Owners Agreement (TO Agreement), AEP is required to abide by the agreement's terms and provisions, including the PJM Compliance Bulletin for this Standard.

PJM, AEP, and ReliabilityFirst agree that PJM provided AEP with a reasonable request for information, pursuant to Article 4.1.5 of the TO Agreement, through the issuance of PJM Compliance Bulletin CB 001 NERC Standard PRC-001-1 - System Protection Coordination, Revision 2. This PJM Compliance Bulletin requires coordination when a modification is made to a protection system that changes its performance, and contains examples of modifications, including "[c]hanges in the reach of a distance relay or increasing the pickup of an overcurrent relay." AEP changed the reach of a distance relay and failed to coordinate that change with its neighboring entities.

ReliabilityFirst determined that AEP was wholly responsible for the actions or omissions that caused the instant violation.⁷ AEP's failure to comply with the terms of the TO Agreement, as clarified by the PJM Compliance Bulletin, caused PJM's violation of PRC-001-1 R3.2. On September 19, 2012, AEP submitted a Self-Report for noncompliance with PRC-001-1 R3.2.

However, due to the fact that AEP is not registered as a TOP for the Fostoria Central-Lemoyne 345 kV transmission line, which was the subject of the Self-Report, ReliabilityFirst did not pursue the matter.

On December 14, 2012, PJM submitted a Self-Report for the same matter reported in AEP's September 19, 2012 Self-Report.

⁷ In accordance with Section 5.11 of the CMEP, on January 30, 2013, ReliabilityFirst issued AEP a Notice of PJM's request for determination of responsibility, and a request for AEP to execute a nondisclosure agreement. On February 1, 2013, AEP issued a letter to ReliabilityFirst regarding its intent to participate in the enforcement action for the instant violation along with the executed nondisclosure agreement. On March 13, 2013, PJM, AEP, and ReliabilityFirst executed a letter of intent to engage in settlement discussions for the instant violation.

Each Self-Report stated that on February 10, 2012, AEP issued revised relay settings for line relaying on its Fostoria Central - Lemoyne 345 kV transmission line, which is an interconnection between AEP's Fostoria Central Station and FirstEnergy Corporation's (FirstEnergy's) Lemoyne station, both of which are located within the PJM footprint. AEP increased the reach of the forward-looking Zone 3 element by 10% to afford adequate backup protection for faults beyond the Lemoyne line end terminal. On March 15, 2012, AEP applied these settings to the in-service relay at Fostoria Central station. The AEP engineer revised the settings but failed to recognize the interconnection with FirstEnergy and did not notify FirstEnergy of the revised settings as required by PRC-001-1 R3.2.

On May 29, 2012, as a result of this lack of coordination, a misoperation occurred on the Lemoyne terminal at Fostoria Central station. The Fostoria Central - Lemoyne 345 kV line is protected by two primary high-speed systems using directional comparison blocking schemes with backup distance and overcurrent elements enabled. The 345 kV breakers on this line have breaker failure backup protection. On May 29, 2012, all the protection systems at Fostoria Central were in service, but the failure to coordinate the revised settings at issue caused the primary protection system at Fostoria Central station to operate for a fault on an adjacent transmission line emanating from Lemoyne. This occurred because the carrier-supervised protection zone in the primary system at AEP's Fostoria Central station overreached the carrier start protection zone in the primary protection system at First Energy's Lemoyne station. The overreaching trip of the Fostoria Central breakers did not affect bulk power system (BPS) stability because the Fostoria Central breakers were equipped with automatic reclosing, which successfully reclosed the Fostoria Central breakers 10 seconds after the overreaching trip.

ReliabilityFirst determined that PJM, in its capacity as a TOP, violated PRC-001-1 R3.2 due to AEP's failure to coordinate protective system changes with a neighboring TOP on behalf of PJM.

ReliabilityFirst determined the duration of the violation to be from March 15, 2012, the date AEP failed to notify PJM and FirstEnergy of the revised setting, through July 20, 2012, the date AEP coordinated the change with FirstEnergy.

ReliabilityFirst determined that this violation posed a moderate risk to the reliability of the BPS, but did not pose a serious or substantial risk. Specifically, the lack of coordination between AEP and FirstEnergy caused the misoperation at issue. The overreaching trip of the Fostoria Central breakers did not affect system stability because the Fostoria Central breakers were equipped with automatic reclosing, which successfully reclosed the Fostoria Central breakers 10 seconds after the overreaching trip.

Regional Entity's Basis for Penalty

According to the Settlement Agreement, ReliabilityFirst has assessed a penalty of zero dollars (\$0) for the referenced violation. In reaching this determination, ReliabilityFirst considered the following factors:

1. ReliabilityFirst determined that a monetary penalty is not warranted for this violation. In part, this determination is based on AEP's clear commitment to strengthening its internal controls and preventing recurrence of noncompliance. PJM and AEP's discovery of, and response to, the conduct at issue is behavior that ReliabilityFirst seeks to encourage, as these are positive, proactive steps to prevent recurrence of noncompliance. In addition to the Mitigation Plan, AEP strengthened its internal controls by enhancing its protection control information system, the system through which AEP makes changes to protection systems.

In addition, although AEP is wholly responsible for the violation, PJM also strengthened its internal controls by reviewing and updating its *Coordination of Protection on Shared Facilities* document to provide clarity to its member TOs;

2. the violation constituted AEP's first occurrence of violation of the subject NERC Reliability Standard;
3. AEP and PJM self-reported the violation, which was considered a mitigating factor in the penalty determination;
4. AEP and PJM were cooperative throughout the compliance enforcement process;
5. AEP and PJM each had a compliance program at the time of the violation, which ReliabilityFirst considered a mitigating factor;⁸

⁸ PJM senior management, including the PJM executive team and the PJM Board of Managers for the corporate compliance program, is involved in compliance matters. PJM has also established a formal compliance review committee, known as the Regulatory Oversight and Compliance Committee, which is charged with evaluating identified compliance issues and recommended actions from PJM senior management and, ultimately, the PJM Board of Managers. Furthermore, PJM established compliance with NERC and Regional Reliability Standards as a corporate goal. Finally, PJM put in place a program that allows PJM employees to raise concerns about compliance issues through anonymous comment boxes placed throughout the PJM campus.

AEP's compliance officer has independent access to the chief executive officer, executive committee, and board of directors. In addition, AEP's Reliability Compliance Committee is responsible for ensuring implementation and oversight of AEP's program to comply with the NERC Reliability Standards. The NERC Compliance Steering Committee works to: 1) establish clear, visible, simple, and efficient processes; 2) secure adequate resources for compliance; and 3) assign clear accountability for achieving results associated with compliance activities. AEP's compliance program provides an annual schedule of Standards to review and internal assessments of compliance by each affected business unit and by independent staff such as Internal Audits and Regulatory Services. AEP also utilizes a compliance management software program and

6. there was no evidence of any attempt to conceal the violation nor evidence of intent to do so;
7. the violation did not pose a serious or substantial risk to the reliability of the BPS, as discussed above; and
8. there were no other mitigating or aggravating factors or extenuating circumstances that would affect the assessed penalty.

After consideration of the above factors, ReliabilityFirst determined that, in this instance, the penalty amount of zero dollars (\$0) is appropriate and bears a reasonable relation to the seriousness and duration of the violation.

Status of Mitigation Plan⁹

PJM's Mitigation Plan to address its violation of PRC-001-1 R3 was submitted to ReliabilityFirst on February 11, 2013 with a proposed completion date of September 30, 2013. The Mitigation Plan was accepted by ReliabilityFirst on August 5, 2013 and approved by NERC on August 12, 2013. The Mitigation Plan for this violation is designated as RFCMIT008793 and was submitted as non-public information to FERC on August 14, 2013 in accordance with FERC orders.

PJM's Mitigation Plan required PJM to:

1. confirm that applicable new or changed relay settings on interconnection facilities have been coordinated with the neighboring TOs;
2. have the PJM Relay Subcommittee review and update its *Coordination of Protection on Shared Facilities* document. The document serves as a guideline for AEP's coordination of changes in protective relaying; and
3. ensure that each TO develops and implements relevant training for engineers that issue relay settings.

In addition to the actions taken by PJM according to the Mitigation Plan, AEP strengthened its internal controls by enhancing its protection control information system, the system through which AEP makes changes to protection systems. AEP revised the system to require users to select either "Issued Setting Requires Coordination with Interconnected Entity (Documented Notification Sent and/or Agreement

has clearly-defined procedures dictating the steps to take when compliance issues arise and mitigating activities are necessary. Furthermore, AEP provides tools and training regarding the Reliability Standards to its employees.

⁹ See 18 C.F.R. § 39.7(d)(7).

by Interconnect)" or "No Coordination Required or No Coordination Exists." By requiring selection of one of these two options, the user must manually determine whether a change requires coordination, reducing the likelihood of recurrence of the error at issue in this violation.

PJM certified on October 24, 2013 that the above Mitigation Plan requirements were completed on September 30, 2013. As evidence of completion of its Mitigation Plan, PJM submitted the following:

1. *PJMDOCS-746689.XLS.DRF*;
2. *PJM1 RFI 1 PRC-001_R3 2 Rev 1-BGE.pdf*;
3. *PJM1 RFI 1 PRC-001_R3 2 Rev 1-ComEd.pdf*;
4. *PJM1 RFI 1 PRC-001_R3.2 Rev 1 PECO.docx*;
5. *PRC-001 Mitigation - Part 1 -AEP.pdf*;
6. *PRC-001 Mitigation - Part 1 -Dayton.pdf*;
7. *PRC-001 Mitigation - Part 1 -DEOK.pdf*;
8. *PRC-001 Mitigation - Part 1 -Duq.pdf*;
9. *PRC-001 Mitigation - Part 1 -DVP.pdf*;
10. *PRC-001 Mitigation - Part 1 -PHI.log*;
11. *PRC-001 Mitigation - Part 1 -PPL.pdf*;
12. *PRC-001 Mitigation - Part 1 -PSEG.pdf*;
13. *PRC-001 Mitigation - Part 1 -UGI.pdf*; and
14. *Coordination_of_Protection_on_Shared_Facilities.DOC*.

Statement Describing the Assessed Penalty, Sanction or Enforcement Action Imposed¹⁰

Basis for Determination

Taking into consideration the Commission's direction in Order No. 693, the NERC Sanction Guidelines and the Commission's July 3, 2008, October 26, 2009 and August 27, 2010 Guidance Orders,¹¹ the

¹⁰ See 18 C.F.R. § 39.7(d)(4).

¹¹ *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

NERC BOTCC reviewed the Settlement Agreement and supporting documentation on January 14, 2014. The NERC BOTCC approved the Settlement Agreement, including ReliabilityFirst's assessment of zero dollar (\$0) financial penalty against AEP and PJM 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 violation at issue.

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

1. ReliabilityFirst determined that a monetary penalty is not warranted because AEP and PJM showed clear commitment to strengthening their internal controls and preventing recurrence of noncompliance, as discussed above;
2. ReliabilityFirst is committed to using the penalty process to incent strong compliance programs and encourage the development of robust internal controls;
3. the violation constituted AEP's first occurrence of violation of the subject NERC Reliability Standard;
4. AEP and PJM self-reported the violation, which was considered a mitigating factor in the penalty determination;
5. AEP and PJM were cooperative throughout the compliance enforcement process;
6. AEP and PJM each had a compliance program at the time of the violation which ReliabilityFirst considered a mitigating factor, as discussed above;
7. there was no evidence of any attempt to conceal a violation nor evidence of intent to do so;
8. the violation did not pose a serious or substantial risk to the reliability of the BPS, as discussed above; and
9. ReliabilityFirst reported that there were no other mitigating or aggravating factors or extenuating circumstances that would affect the assessed penalty.

For the foregoing reasons, the NERC BOTCC approved the Settlement Agreement and believes that the assessed penalty of zero dollars (\$0) is appropriate for the violation and circumstances at issue, and is consistent with NERC's goal to promote and ensure reliability of the BPS.

¶ 61,069 (2009); *North American Electric Reliability Corporation*, "Notice of No Further Review and Guidance Order," 132 FERC ¶ 61,182 (2010).

NERC Notice of Penalty
AEP/PJM
January 30, 2014
Page 10

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

Attachments to be Included as Part of this Notice of Penalty

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

- a) Settlement Agreement by and between ReliabilityFirst, AEP and PJM executed November 20, 2013, included as Attachment a;
- b) PJM's Self-Report for PRC-001-1 R3.2 dated December 14, 2012, included as Attachment b;
- c) PJM's Mitigation Plan designated as RFCMIT008793 submitted February 11, 2013, included as Attachment c; and
- d) PJM's Certification of Mitigation Plan Completion submitted October 24, 2013, included as Attachment d;

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

<p>Gerald W. Cauley President and Chief Executive Officer North American Electric Reliability Corporation 3353 Peachtree Road NE Suite 600, North Tower Atlanta, GA 30326 (404) 446-2560</p> <p>Charles A. Berardesco* Senior Vice President and General Counsel North American Electric Reliability Corporation 1325 G Street N.W., Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile charles.berardesco@nerc.net</p> <p>Robert V. Eckenrod Senior Counsel for PJM Interconnection, LLC PJM Interconnection, LLC Valley Forge Corporate Center 955 Jefferson Avenue Norristown, Pennsylvania 19403 (610) 666-3184 (610) 666-8211 eckenr@pjm.com</p> <p>John Crespo Deputy General Counsel American Electric Power Service Corporation 1 Riverside Plaza Columbus, Ohio 43215 (614) 716-3727 jccrespo@aep.com</p>	<p>Sonia C. Mendonça* Assistant General Counsel and Director of Enforcement North American Electric Reliability Corporation 1325 G Street N.W., Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile sonia.mendonca@nerc.net</p> <p>Edwin G. Kichline* North American Electric Reliability Corporation Senior Counsel and Associate Director, Enforcement Processing 1325 G Street N.W., Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile edwin.kichline@nerc.net</p> <p>Michael DeLoach Director – NERC Regulatory Compliance American Electric Power Service Corporation 1 Riverside Plaza Columbus, Ohio 43215 (614) 716-2370 medeloach@aep.com</p> <p>Thad Ness Reliability Standards Compliance Manager American Electric Power Service Corporation 1 Riverside Plaza Columbus, Ohio 43215 (614) 716-2053 tkness@aep.com</p>
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*Persons to be included on the Commission's service list are indicated with an asterisk. NERC requests waiver of the Commission's rules and regulations to permit the inclusion of more than two people on the service list.

NERC Notice of Penalty
AEP/PJM
January 30, 2014
Page 13

Conclusion

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

Respectfully submitted,

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/s/ Sonia Mendonça

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cc: American Electric Power Service Corporation and PJM Interconnection, LLC
ReliabilityFirst Corporation

Attachments

Attachment a

Settlement Agreement
by and between ReliabilityFirst,
AEP and PJM
executed November 20, 2013



In re: PJM INTERCONNECTION, LLC

and

AMERICAN ELECTRIC POWER SERVICE CORPORATION AS AGENT FOR APPALACHIAN POWER COMPANY, INDIANA MICHIGAN POWER COMPANY, KENTUCKY POWER COMPANY, KINGSFORT POWER COMPANY, OHIO POWER COMPANY, WHEELING POWER COMPANY, AEP OHIO TRANSMISSION COMPANY, AEP APPALACHIAN TRANSMISSION COMPANY, AEP WEST VIRGINIA TRANSMISSION COMPANY, AEP INDIANA MICHIGAN TRANSMISSION COMPANY AND AEP KENTUCKY TRANSMISSION COMPANY, INC.

NERC Registry ID Nos. NCR00879
NCR00682

Violation ID No.:

RFC2013011659 (PRC-001-1 R3.2)

**SETTLEMENT AGREEMENT
AMONG
RELIABILITYFIRST CORPORATION,
PJM INTERCONNECTION, LLC,
AND**

**AMERICAN ELECTRIC POWER SERVICE CORPORATION AS AGENT FOR
APPALACHIAN POWER COMPANY, INDIANA MICHIGAN POWER COMPANY,
KENTUCKY POWER COMPANY, KINGSPORT POWER COMPANY,
OHIO POWER COMPANY, WHEELING POWER COMPANY,
AEP OHIO TRANSMISSION COMPANY, AEP APPALACHIAN TRANSMISSION
COMPANY, AEP WEST VIRGINIA TRANSMISSION COMPANY,
AEP INDIANA MICHIGAN TRANSMISSION COMPANY AND
AEP KENTUCKY TRANSMISSION COMPANY, INC.**

I. INTRODUCTION

1. ReliabilityFirst Corporation (“ReliabilityFirst”), PJM Interconnection, LLC (“PJM”), and American Electric Power Service Corporation as agent for Appalachian Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, Wheeling Power Company, AEP Ohio Transmission Company, AEP Appalachian Transmission Company, AEP West Virginia Transmission Company, AEP Indiana Michigan Transmission Company and AEP Kentucky Transmission Company, Inc. (“AEP”) enter into this Settlement Agreement (“Agreement”) to resolve an Alleged Violation by PJM of PRC-001-1 Requirement 3.2, for which ReliabilityFirst finds AEP wholly responsible.
2. PJM, AEP, and ReliabilityFirst agree and stipulate to this Agreement in its entirety. The facts stipulated herein are stipulated solely for the purpose of resolving among PJM, AEP, and ReliabilityFirst the subject matter of this Agreement and do not constitute admissions or stipulations for any purpose other than PJM and AEP’s admission that the facts stipulated herein constitute an Alleged Violation of PRC-001-1 R3.2, for which AEP is wholly responsible.

Overview of PJM

3. PJM is a regional transmission organization that coordinates the movement of wholesale electricity in all or part of 13 states and the District of Columbia. PJM’s members, totaling more than 800, include power generators, transmission owners, electricity distributors, power marketers, and large consumers. PJM is headquartered in Valley Forge, Pennsylvania. PJM dispatches approximately 183,600 megawatts of generating capacity over 62,556 miles of transmission lines.
4. PJM is registered on the NERC Compliance Registry as a Balancing Authority (“BA”), Interchange Authority, Planning Authority, Reliability Coordinator, Reliability Planner, Transmission Operator (“TOP”), Transmission Planner, and Transmission Service Provider in the ReliabilityFirst region. In its capacity as a TOP, PJM is required to comply with PRC-001-1; however, under the terms of its governing agreements, including its Consolidated Transmission Owners Agreement and its Amended and Restated Operating Agreement, PJM has delegated certain tasks associated with compliance to the TOP Reliability Standards, including PRC-001-1, to its Transmission Owners.

Overview of AEP

5. AEP is engaged in the generation and transmission of electricity throughout the United States. AEP is one of the nation’s largest generators of electricity, and owns nearly 38,000 MW of generating capacity. AEP also owns the nation’s largest electricity transmission system, a nearly 39,000-mile network that includes more 765 kilovolt extra-high voltage transmission lines than all other U.S.

transmission systems combined. AEP's transmission system directly or indirectly serves approximately ten percent of the electricity demand in the Eastern Interconnection, the interconnected transmission system that covers 38 eastern and central U.S. states and eastern Canada.

6. AEP is registered on the NERC Compliance Registry as a Distribution Provider, Generator Owner, Generator Operator, Purchasing-Selling Entity, Load Serving Entity, Resource Planner, Transmission Owner ("TO"), and TOP in the ReliabilityFirst region.

Overview of CMEP Section 5.11 Procedure

7. On December 20, 2012, the Federal Energy Regulatory Commission (the "Commission") approved NERC's requested changes to the NERC Rules of Procedure and its Appendices, including the addition of Section 5.11, *Procedures for Third Party Involvement in an Enforcement Action against an ISO/RTO*, to Appendix 4C, the Compliance Monitoring Enforcement Program ("CMEP").
8. On January 17, 2013, PJM notified AEP of its intent to submit a request to ReliabilityFirst, pursuant to Section 5.11 of the CMEP, for a determination as to whether AEP was responsible, in whole or in part, for actions or omissions that may have caused or contributed to the Possible Violation of PRC-001-1 R3. On the same day, PJM submitted its request to ReliabilityFirst.
9. In accordance with Section 5.11 of the CMEP, on January 30, 2013, ReliabilityFirst issued AEP a Notice of PJM's request for determination of responsibility for Docket No. RFC2013011659 and a request for AEP to execute a nondisclosure agreement. On February 1, 2013, AEP issued a letter to ReliabilityFirst regarding its intent to participate in the enforcement action for RFC2013011659 along with the executed nondisclosure agreement. On March 13, 2013, PJM, AEP, and ReliabilityFirst executed a letter of intent to engage in settlement discussions for the Possible Violation of PRC-001-1 R3, RFC2013011659.
10. For the reasons stated below, ReliabilityFirst hereby determines that AEP was wholly responsible for actions or omissions that caused or contributed to the violation of PRC-001-1 R3.2.

II. ALLEGED VIOLATION OF PRC-001-1 R3.2 (RFC2013011659)

11. PRC-001-1 ensures that operating entities coordinate system protection. A violation of PRC-001-1 R3.2 has the potential to affect the reliable operation of the Bulk Power System by allowing operating entities to add new protective systems and make changes to existing protective systems without coordinating such changes with other entities that rely on such coordination to operate reliably.
12. PRC-001-1 R3 states, in pertinent part:

- R3.** A Generator Operator or Transmission Operator shall coordinate new protective systems and changes as follows.

* * * * *

- R3.2.** Each Transmission Operator shall coordinate all new protective systems and all protective system changes with neighboring Transmission Operators and Balancing Authorities.

13. ReliabilityFirst alleges that PJM, in its capacity as a TOP, violated PRC-001-1 R3.2 due to AEP's failure to coordinate protective system changes with a neighboring TOP on behalf of PJM.

Description of Alleged Violation and Risk Assessment

14. On September 19, 2012, AEP submitted a Self-Report to ReliabilityFirst identifying a Possible Violation of PRC-001-1 R3.2. However, due to the fact that AEP is not registered as a TOP for the Fostoria Central-Lemoyne 345 kV transmission line (the subject of the Self-Report), ReliabilityFirst did not pursue a Possible Violation of PRC-001-1 R3.2 for AEP. On December 14, 2012, PJM submitted a Self-Report to ReliabilityFirst identifying a Possible Violation of PRC-001-1 R3.2 for the same matter reported in AEP's September 19, 2012 Self-Report. See, PJM Self-Report, **Attachment A**.
15. Each Self-Report stated that on February 10, 2012, AEP issued revised relay settings for line relaying on its Fostoria Central – Lemoyne 345 kV transmission line, which is an interconnection between AEP's Fostoria Central Station and FirstEnergy's Lemoyne station, both of which are located within the PJM footprint. AEP increased the reach of the forward-looking Zone 3 element by 10% to afford adequate backup protection for faults beyond the Lemoyne line end terminal. On March 15, 2012, AEP applied these settings to the in-service relay at Fostoria Central station. The AEP engineer revising the settings, however, failed to recognize the interconnection with FirstEnergy and did not notify FirstEnergy of the revised settings as required by PRC-001-1 R3.2.
16. On May 29, 2012, as a result of this lack of coordination, a Misoperation occurred on the Lemoyne terminal at Fostoria central station. The Fostoria Central – Lemoyne 345kV line is protected by two primary high-speed systems using directional comparison blocking schemes with backup distance and overcurrent elements enabled. The 345kV breakers on this line have breaker failure backup protection. On May 29, 2012, all the protection systems at Fostoria Central were in service, but the failure to coordinate at issue in the Alleged Violation caused the primary protection system at Fostoria Central to operate for a fault on an adjacent transmission line emanating from Lemoyne. This occurred because the carrier supervised protection zone in the primary system at AEP's Fostoria Central station overreached the carrier start protection zone in the primary protection system at First Energy's Lemoyne station. The overreaching trip of the Fostoria Central breakers did not affect Bulk Electric System stability because the

Fostoria Central breakers were equipped with automatic reclosing, which successfully reclosed the Fostoria Central breakers 10 seconds after the overreaching trip.

17. The duration of this Alleged Violation is from March 15, 2012, the date that AEP failed to notify the PJM and FirstEnergy of the revised settings, to July 20, 2012, the date AEP coordinated the change with FirstEnergy.
18. ReliabilityFirst determined that the Alleged Violation posed a moderate risk to the Bulk Power System because the lack of coordination at issue in this Alleged Violation caused a Misoperation. The risk of the Misoperation caused by the lack of coordination was mitigated by the fact that the Fostoria Central breakers were equipped with automatic reclosing, which successfully reclosed the Fostoria Central breakers 10 seconds after the overreaching trip.¹

Determination of Responsibility

19. As a signatory to the Consolidated Transmission Owners Agreement (“TO Agreement”),² AEP is required to abide by the TO Agreement’s terms and provisions, including, but not limited to, those listed in Article 4.1.5, which states:

As required by the PJM Tariff, the Operating Agreement, the PJM Manuals, or as otherwise reasonably requested by PJM, each Party will provide to PJM necessary data, information and related technical support consistent with enabling PJM to monitor and analyze system conditions so that PJM may affirmatively determine that PJM is in compliance with NERC standards.

20. PJM, AEP, and ReliabilityFirst agree that PJM provided AEP with a reasonable request for information, pursuant to Article 4.1.5 of the TO Agreement, through the issuance of PJM Compliance Bulletin CB 001 NERC Standard PRC-001-1 – System Protection Coordination, Revision 2 (“the PJM Compliance Bulletin”).³
21. The PJM Compliance Bulletin lists PJM’s expectations of members related to PRC-001-1 R3.2, and states the following:

PJM expects that all member TOs coordinate any new protection system or any modification that changes the performance of the system with neighboring entities.

¹ PRC-001-1 R3.2 has a Violation Risk Factor of “High.” ReliabilityFirst determined that this Alleged Violation warranted a “Lower” Violation Severity Level.

² See FERC Docket No. ER10-2713; see also Signature Page, **Attachment B**.

³ PJM issues Compliance Bulletins for certain Reliability Standards to provide guidance regarding expected compliance-related activities.

At a minimum, TOs will coordinate any new or modified protection systems applied on the tie line(s) in question and shall also coordinate relative to any new or modified protection systems applied on adjacent lines if an impact on the performance of the protection systems of other TOs could reasonably be expected.

22. The PJM Compliance Bulletin requires coordination when a modification is made to a protection system that changes its performance and contains examples of modifications, including “[c]hanges in the reach of a distance relay or increasing the pickup of an overcurrent relay.” AEP changed the reach of a distance relay and failed to coordinate that change with its neighboring entities. AEP’s failure to comply with the terms of TO Agreement, as clarified by the PJM Compliance Bulletin, caused PJM’s violation of PRC-001-1 R3.2.
23. Based on the foregoing, ReliabilityFirst determined that AEP was wholly responsible for actions or omissions that caused the violation of PRC-001-1 R3.2.

Mitigating Actions

24. On February 11, 2013, PJM submitted to ReliabilityFirst its plan to address the Possible Violation of PRC-001-1 R3 on behalf of PJM and AEP. *See*, NERC Mitigation Plan ID No. RFCMIT008793, PJM Mitigation Plan, **Attachment C**. On August 5, 2013, ReliabilityFirst accepted this Mitigation Plan.
25. In this Mitigation Plan, PJM committed to certain actions to address the Alleged Violation of PRC-001-1 R3.2. PJM committed to confirm that applicable new or changed relay settings on interconnection facilities have been coordinated with the neighboring TOs. PJM’s Relay Subcommittee will review and update its Coordination of Protection on Shared Facilities document, which serves as a guideline for AEP’s coordination of changes in protective relaying. In addition, PJM committed to ensure that each TO develops and implements relevant training for engineers that issue relay settings.
26. PJM shall certify and provide evidence demonstrating the completion of the Mitigation Plan to ReliabilityFirst. Pursuant to Section 6.6 of the CMEP, ReliabilityFirst will verify PJM’s completion of the Mitigation Plan and promptly report its successful completion to NERC.
27. In addition to the Mitigation Plan, AEP strengthened its internal controls by enhancing its protection control information system, the system through which AEP makes changes to Protection Systems. AEP revised the system to require users to select either “Issued Setting Requires Coordination with Interconnected Entity (Documented Notification Sent and/or Agreement by Interconnect)” or “No Coordination Required or No Coordination Exists.”

III. ADJUSTMENT FACTORS

28. In addition to the above paragraphs, which are incorporated herein by reference, ReliabilityFirst considered the following factors in the penalty determination.
29. ReliabilityFirst also considered that it discovered the Alleged Violation through a Self-Report and applied mitigating credit. Effective oversight of the reliability of the Bulk Power System depends on robust and timely self-reporting by Registered Entities. PJM and AEP promptly identified and reported the Alleged Violation at issue in this Agreement. As a result, ReliabilityFirst seeks to encourage this type of self-reporting, characterized by timely reporting and correction by providing mitigating credit for this Self-Report.
30. ReliabilityFirst determined that a monetary penalty is not warranted for this Alleged Violation. This is in part based on AEP's clear commitment to strengthening its internal controls and preventing recurrence of noncompliance. PJM and AEP's discovery of and response to the conduct at issue is behavior that ReliabilityFirst seeks to encourage, as these are positive proactive steps to prevent recurrence of noncompliance. In addition to the Mitigation Plan, AEP strengthened its internal controls by enhancing its protection control information system, the system through which AEP makes changes to Protection Systems. AEP revised the system to require users to select either "Issued Setting Requires Coordination with Interconnected Entity (Documented Notification Sent and/or Agreement by Interconnect)" or "No Coordination Required or No Coordination Exists." By requiring selection of one of these two options, the user must manually determine whether a change requires coordination, reducing the likelihood of recurrence of the error at issue in this Alleged Violation. In addition, although AEP is wholly responsible for the Alleged Violation, PJM strengthened its internal controls by reviewing and updating its Coordination of Protection on Shared Facilities document to provide clarity to the TOs.
31. ReliabilityFirst is committed to using the penalty process to incent strong compliance programs and encourage the development of robust internal controls. PJM and AEP's responses to the Self-Report finding is behavior that ReliabilityFirst seeks to encourage, as these are positive proactive steps to prevent recurrence of noncompliance. In light of the risk posed by the instant Alleged Violation and PJM and AEP's improvements following the Self-Report, ReliabilityFirst determined that a monetary penalty was not necessary or appropriate, as it would neither incent desired behavior nor improve Bulk Power System reliability.
32. ReliabilityFirst further considered certain aspects of PJM's internal compliance program as mitigating factors. PJM senior management, including the PJM executive team and the PJM Board of Managers for the corporate compliance program, is involved in compliance matters. PJM has also established a formal compliance review committee, known as the Regulatory Oversight and Compliance Committee, which is charged with evaluating identified compliance

issues and recommended actions from PJM senior management and, ultimately, the PJM Board of Managers. Furthermore, PJM established compliance with NERC and Regional Reliability Standards as a corporate goal. Finally, PJM put in place a program that allows PJM employees to raise concerns about compliance issues through anonymous comment boxes placed throughout the PJM campus.

33. ReliabilityFirst also considered certain aspects of AEP's internal compliance program as mitigating factors. AEP's Compliance Officer has independent access to the CEO, Executive Committee, and Board of Directors. In addition, AEP's Reliability Compliance Committee is responsible for ensuring implementation and oversight of AEP's program to comply with the Reliability Standards. The NERC Compliance Steering Committee works to, *inter alia*, establish clear, visible, simple, and efficient processes; secure adequate resources for compliance; and assign clear accountability for achieving results associated with compliance activities. AEP's compliance program provides an annual schedule of standards to review and internal assessments of compliance by each affected business unit and by independent staff such as Internal Audits and Regulatory Services. AEP also utilizes a compliance management software program and has clearly-defined procedures dictating the steps to take when compliance issues arise and Mitigating Activities are necessary. Furthermore, AEP's tools and training enable employees to comply with the Reliability Standards.
34. When assessing the monetary penalty for the Alleged Violation at issue in this Agreement, ReliabilityFirst considered whether the facts of this Alleged Violation constitute a repetitive infraction. PJM has previous violations of PRC-001-1 R1, R3, and R4.⁴ Those previous violations concerned PJM's actions as a TOP and BA rather than the actions of a member TO. The instant Alleged Violation concerns the actions of AEP, one of PJM's member TOs, and ReliabilityFirst determined that AEP is wholly responsible for the conduct at issue in the instant Alleged Violation. As a result, ReliabilityFirst did not consider PJM's violation history related to PRC-001 in the penalty determination.

IV. PENALTY

35. Based upon the foregoing, PJM shall pay no monetary penalty to ReliabilityFirst.⁵

V. ADDITIONAL TERMS

36. ReliabilityFirst, PJM, and AEP agree that this Agreement is in the best interest of Bulk Electric System reliability. The terms and conditions of the Agreement are

⁴ See FERC Docket No. NP12-27-000 (filed May 30, 2012).

⁵ CMEP Section 5.11 requires the ISO/RTO to pay any monetary penalty imposed by ReliabilityFirst on the ISO/RTO, regardless of whether ReliabilityFirst has made a determination that a third party was responsible for the violation.

consistent with the regulations and orders of the Commission and the NERC Rules of Procedure.

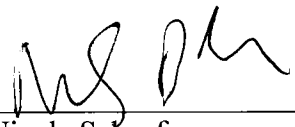
37. ReliabilityFirst shall report the terms of all settlements of compliance matters to NERC. NERC will review the Agreement for the purpose of evaluating its consistency with other settlements entered into for similar violations or under similar circumstances. Based on this review, NERC will either approve or reject this Agreement. If NERC rejects the Agreement, NERC will provide specific written reasons for such rejection and ReliabilityFirst will attempt to negotiate with PJM and AEP a revised settlement agreement that addresses NERC's concerns. If a settlement cannot be reached, the enforcement process shall continue to conclusion. If NERC approves the Agreement, NERC will (a) report the approved settlement to the Commission for review and approval by order or operation of law and (b) publicly post the Alleged Violation.
38. This Agreement shall become effective upon the Commission's approval of the proposed resolution of the above Alleged Violation as set forth in this Agreement by order or operation of law or as modified in a manner acceptable to the parties. PJM and AEP agree that this Agreement, upon its effective date, shall represent a final settlement of all matters set forth herein and binds PJM and AEP to perform the actions enumerated herein. PJM and AEP expressly waive their right to any hearing or appeal concerning any matter set forth herein, unless and only to the extent that PJM and AEP contend that any NERC or Commission action constitutes a material modification to this Agreement.
39. ReliabilityFirst reserves all rights to initiate enforcement actions against PJM or AEP in accordance with the NERC Rules of Procedure in the event that PJM or AEP fail to comply with any of the terms or conditions of this Agreement, including failure to timely complete the Mitigation Plan or other remedies of this Agreement. In the event PJM or AEP fail to comply with any of the terms or conditions of this Agreement, ReliabilityFirst may initiate an action or actions against PJM or AEP to the maximum extent allowed by the NERC Rules of Procedure, including, but not limited to, the imposition of the maximum statutorily allowed monetary penalty. PJM and AEP will retain all rights to defend against such action or actions in accordance with the NERC Rules of Procedure.
40. PJM and AEP consent to ReliabilityFirst's future use of this Agreement for the purpose of assessing the factors within the NERC Sanction Guidelines and applicable Commission orders and policy statements, including, but not limited to, the factor evaluating PJM's and AEP's history of violations. Such use may be in any enforcement action or compliance proceeding undertaken by NERC or any Regional Entity or both, provided however that PJM and AEP do not consent to the use of the conclusions, determinations, and findings set forth in this Agreement as the sole basis for any other action or proceeding brought by NERC or any Regional Entity or both, nor does PJM or AEP consent to the use of this Agreement by any other party in any other action or proceeding.

41. PJM and AEP each affirm that all of the matters set forth in this Agreement are true and correct to the best of its knowledge, information, and belief, and that each understands that ReliabilityFirst enters into this Agreement in express reliance on the representations contained herein, as well as any other representations or information provided by PJM or AEP to ReliabilityFirst during any of PJM or AEP's interaction with ReliabilityFirst relating to the subject matter of this Agreement.
42. Upon execution of this Agreement, ReliabilityFirst, PJM and AEP stipulate that ReliabilityFirst will be deemed to have determined that the Possible Violation addressed herein constitutes an Alleged Violation. ReliabilityFirst, PJM, and AEP further stipulate that all required, applicable information listed in Section 5.3 of the CMEP is included within this Agreement.
43. Each of the undersigned agreeing to and accepting this Agreement warrants that he or she is an authorized representative of the entity designated below, is authorized to bind such entity, and accepts the Agreement on the entity's behalf.
44. The undersigned agreeing to and accepting this Agreement warrant that they enter into this 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 ReliabilityFirst, PJM, or AEP has been made to induce the signatories or any other party to enter into this Agreement.
45. The Agreement may be signed in counterparts.
46. This Agreement is executed in triplicate, each of which so executed shall be deemed to be an original.

[SIGNATURE PAGE TO FOLLOW]

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ENDORSED BY:

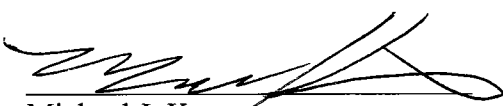


Nicole Schaefer
Managing Enforcement Attorney
ReliabilityFirst Corporation

11/18/13
Date

AGREED TO AND ACCEPTED BY:

PJM Interconnection, LLC:



Michael J. Kormos
Senior Vice President – Operations
PJM Interconnection, LLC

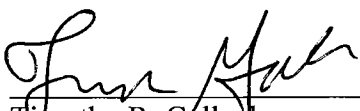
11/20/13
Date

American Electric Power Service Corporation as agent for Appalachian Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, Wheeling Power Company, AEP Ohio Transmission Company, AEP Appalachian Transmission Company, AEP West Virginia Transmission Company, AEP Indiana Michigan Transmission Company and AEP Kentucky Transmission Company, Inc.:

Richard E. Munczinski
Senior Vice President – Regulatory Services
American Electric Power Service Corporation

Date

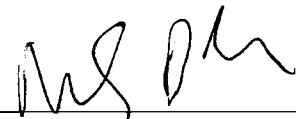
ReliabilityFirst Corporation:



Timothy R. Gallagher
President & Chief Executive Officer
ReliabilityFirst Corporation

11/18/13
Date

ENDORSED BY:



Nicole Schaefer
Managing Enforcement Attorney
ReliabilityFirst Corporation

11/18/13
Date

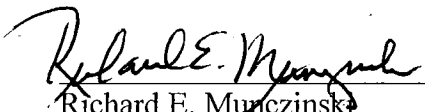
AGREED TO AND ACCEPTED BY:

PJM Interconnection, LLC:

Michael J. Kormos
Senior Vice President – Operations
PJM Interconnection, LLC

Date

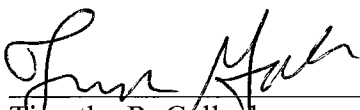
American Electric Power Service Corporation as agent for Appalachian Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, Wheeling Power Company, AEP Ohio Transmission Company, AEP Appalachian Transmission Company, AEP West Virginia Transmission Company, AEP Indiana Michigan Transmission Company and AEP Kentucky Transmission Company, Inc.:



Richard E. Munczinski
Senior Vice President – Regulatory Services
American Electric Power Service Corporation

11/20/13
Date

ReliabilityFirst Corporation:



Timothy R. Gallagher
President & Chief Executive Officer
ReliabilityFirst Corporation

11/18/13
Date

Attachment b

**PJM's Self-Report for PRC-001-1 R3.2
dated December 14, 2012**

Self Report - 2012

Entity Name: PJM Interconnection, LLC

Address: 955 Jefferson Ave.
Norristown PA 19403

NERC Registry ID: NCR00879

Standard Requirement: PRC-001-1 R3.2

Each Transmission Operator shall coordinate all new protective systems and all protective system changes with neighboring Transmission Operators and Balancing Authorities.

Date of Alleged Violation: March 15, 2012

Date Submitted: December 14, 2012

Self Report Status: Self Report has been submitted

Description and Cause: On February 10, 2012, revised relay settings were issued by Protection and Control Engineering for line relaying on the Fostoria Central- Lemoyne 345 kV transmission line. This line is an interconnection between AEP's Fostoria Central station and First Energy's (FE) Lemoyne station, all within the footprint of PJM. These settings were applied to the in-service relay at Fostoria Central station on March 15, 2012. FE was not notified so as to allow FE the opportunity to review the proposed revision. In these revised settings, AEP increased the reach of the forward-looking Zone 3 element by 10% to afford adequate backup protection for faults beyond the Lemoyne line end terminal. The AEP engineer revising the settings failed to recognize that the facility involved an interconnection with FE and thus did not notify FE of the revised setting.

Potential Impact to the Bulk Power System: The potential impact to the Bulk Electric System could be a loss of line relay setting coordination, leading to a potential Protection System Misoperation. The possibility of a Misoperation is dependent upon the fault location, system conditions at the time of the fault and relay settings on FE protection equipment.

Additional Comments		
From	Comment	User Name
Entity	This self-report replaces the self-report incorrectly submitted by AEP.	Mark Kuras

Attachment c

**PJM's Mitigation Plan
designated as RFCMIT008793
submitted February 11, 2013**

Mitigation Plan

Registered Entity: PJM Interconnection, LLC

Mit Plan Code	NERC Violation ID	Requirement	Violation Validated On	Mit Plan Version
	RFC2013011659	PRC-001-1 R3	null	1

Mitigation Plan Submitted On: February 11, 2013

Mitigation Plan Accepted On:

Mitigation Plan Proposed Completion Date: September 30, 2013

Actual Completion Date of Mitigation Plan:

Mitigation Plan Certified Complete by PJM On:

Mitigation Plan Completion Verified by RFC On:

Mitigation Plan Completed? (Yes/No): No

Section A: Compliance Notices

Section 6.2 of the NERC CMEP 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 B.
 - (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 or recommended to the applicable governmental authorities 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.
 - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) 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 alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
 - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
 - Regional Entity(ies) 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.
 - The user has read and accepts the conditions set forth in these Compliance Notices.

Section B: Registered Entity Information

B.1 Identify your organization:

Entity Name: PJM Interconnection, LLC
NERC Compliance Registry ID: NCR00879
Address: 955 Jefferson Ave.
Norristown PA 19403

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

Name: Mark Kuras
Title: Senior Lead Engineer
Email: kuras@pjm.com
Phone: 610-666-8924

Section C: Identification of Reliability Standard Violation(s) Associated with this Mitigation Plan

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

Violation ID	Date of Violation	Requirement
Requirement Description		
RFC2013011659	03/15/2012	PRC-001-1 R3
A Generator Operator or Transmission Operator shall coordinate new protective systems and changes as follows.		

C.2 Brief summary including the cause of the violation(s) and mechanism in which it was identified above:

On February 10, 2012, revised relay settings were issued by AEP's Protection and Control Engineering for line relaying on the Fostoria Central- Lemoyne 345 kV transmission line. This line is an interconnection between AEP's Fostoria Central station and First Energy's (FE) Lemoyne station and is fully within PJM. These settings were applied to the in-service relay at Fostoria Central station on March 15, 2012. Notification to FE was not performed to allow FE the opportunity to review the proposed revision. In these revised settings, AEP increased the reach of the forward-looking Zone 3 element by 10% to afford adequate backup protection for faults beyond the Lemoyne line end terminal.

The AEP engineer revising the settings failed to recognize that the facility involved an interconnection with FE and thus did not notify FE of the revised setting.

C.3 Provide any relevant information regarding the identification of the violation(s) associated with this Mitigation Plan:

None.

Section D: Details of Proposed Mitigation Plan

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

PJM1. Each PJM TO will confirm that applicable new or changed settings on interconnection facilities issued back to January of 2010, or to the date of the last RFC audit, SERC audit or PJM audit, whichever is later, have been coordinated with the neighboring TOs as required by the Coordination of Protection on Shared Facilities document.

PJM2. PJM Relay Subcommittee shall review Coordination of Protection on Shared Facilities document and update as necessary for clarity

PJM3. Each TO will develop and implement training for the engineers that issue relay settings. This training will cover the necessary coordination requirements as found in the PJM Coordination of Protection on Shared Facilities document.

- 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:

Proposed Completion date of Mitigation Plan: September 30, 2013

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

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date
PJM1	Each PJM TO will confirm that applicable new or changed settings on interconnection facilities issued back to January of 2010, or to the date of the last RFC audit, SERC audit or PJM audit, whichever is later, have been coordinated with the neighboring TOs as required by the Coordination of Protection on Shared Facilities document	03/29/2013	
PJM2	PJM Relay Subcommittee shall review Coordination of Protection on Shared Facilities document and update as necessary for clarity	06/28/2013	
PJM3	Each TO will develop and implement training for the engineers that issue relay settings. This training will cover the necessary coordination requirements as found in the PJM Coordination of Protection on Shared Facilities document.	09/23/2013	

- D.4 Additional Relevant Information (Optional)

Section E: Interim and Future Reliability Risk

E.1 Abatement of Interim BPS Reliability Risk

While your organization is implementing the Mitigation Plan proposed in Section 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 risk to the Bulk Power System is considered to be minimal during the completion of this mitigation plan. The PJM Relay Subcommittee will continue to track coordination of new or modified Protection Systems as required in the PJM Coordination of Protection on Shared Facilities document.

E.2 Prevention of Future BPS Reliability Risk

Describe how successful completion of the Mitigation Plan as laid out in Section 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:

The verification of coordination of past issued settings will afford the opportunity to further coordinate relay settings changes with interconnected entities. Updating internal process documents and providing training to individuals that issue relay settings will clarify and re-enforce the importance, expectations and process of issuing new or modified relay settings dealing with interconnected entities.

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

Section F: Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

(a) Submits the Mitigation Plan, as laid out in Section D, to the Regional Entity for acceptance 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 Executive Director of Reliability and Compliance of PJM Interconnection, LLC
2. I am qualified to sign this Mitigation Plan on behalf of PJM Interconnection, LLC
3. I have read and understand PJM Interconnection, LLC'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 and the NERC CMEP currently in effect or the NERC CMEP-Province of Manitoba, Schedule B currently in effect, whichever is applicable.
4. I have read and am familiar with the contents of the foregoing Mitigation Plan.
5. PJM Interconnection, LLC Agrees to be bound by, and comply with, this Mitigation Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authorities in Canada.

Authorized Individual Signature: _____

(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

Authorized Individual

Name: Thomas T. Bowe

Title: Executive Director of Reliability and Compliance

Authorized On: February 11, 2013

Attachment d

**PJM's Certification of
Mitigation Plan Completion
submitted October 24, 2013**

Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request additional data or information and conduct follow-up assessments, on-site or other Spot Checking, or Compliance Audits as it deems necessary to verify that all required actions in the Mitigation Plan have been completed and the Registered Entity is in compliance with the subject Reliability Standard. (CMEP Section 6.6)

Registered Entity Name: PJM Interconnection, LLC

NERC Registry ID: NCR00879

NERC Violation ID(s): RFC2013011659

Mitigated Standard Requirement(s): PRC-001-1 R3,

Scheduled Completion as per Accepted Mitigation Plan: September 30, 2013

Date Mitigation Plan completed: September 30, 2013

RFC Notified of Completion on Date: October 24, 2013

Entity Comment: PJM has completed the mitigation plan. Please note that the date entered initially was 09/23/2013 for the final milestone, however a note was entered indicating that the system would not allow us to enter 09/30/2013, as we had intended. PJM completed the mitigation by 09/30/2013.

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	PJMDOCS-746689.XLS.DRF	This spreadsheet documents the completion dates of each of the applicable member companies performing the training necessary to complete Milestone activity "PJM3". Note that each company completed the training prior to 09/30/2013.	25
Entity	PJM1 RFI 1 PRC-001_R3 2 Rev 1-BGE.pdf	Portion of evidence related to milestone "PJM1".	13,576
Entity	PJM1 RFI 1 PRC-001_R3 2 Rev 1-BGE.pdf	Portion of evidence related to milestone "PJM1".	13,576
Entity	PJM1 RFI 1 PRC-001_R3 2 Rev 1-ComEd.pdf	Portion of evidence related to milestone "PJM1".	28,626
Entity	PJM1 RFI 1 PRC-001_R3.2 Rev 1 PECO.docx	Portion of evidence related to milestone "PJM1".	12,690
Entity	PRC-001 Mitigation - Part 1 - AEP.pdf	Portion of evidence related to milestone "PJM1".	72,035
Entity	PRC-001 Mitigation - Part 1 - Dayton.pdf	Portion of evidence related to milestone "PJM1".	78,152
Entity	PRC-001 Mitigation - Part 1 - DEOK.pdf	Portion of evidence related to milestone "PJM1".	72,479
Entity	PRC-001 Mitigation - Part 1 - Duq.pdf	Portion of evidence related to milestone "PJM1".	76,147

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	PRC-001 Mitigation - Part 1 - DVP.pdf	Portion of evidence related to milestone "PJM1".	77,873
Entity	PRC-001 Mitigation - Part 1 - PHI.log	Portion of evidence related to milestone "PJM1".	263
Entity	PRC-001 Mitigation - Part 1 - PPL.pdf	Portion of evidence related to milestone "PJM1".	101,343
Entity	PRC-001 Mitigation - Part 1 - PSEG.pdf	Portion of evidence related to milestone "PJM1".	76,422
Entity	PRC-001 Mitigation - Part 1 - UGI.pdf	Portion of evidence related to milestone "PJM1".	75,521
Entity	Coordination_of_Protection_on_Shared_Facilities.DOC	Evidence of completion of Milestone "PJM2"; "Coordination of Protection of Shared Facilities", which was updated on 05/16/2013 (as indicated by the date stamp on the footer of the document) and indicates that the milestone was met prior to the 06/28/2013 de date.	36,352

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Stephanie Monzon

Title: Manager, NERC & Regional Coordination, PJM

Email: monzos@pjm.com

Phone: 01 (610) 666-8870

Authorized Signature _____ Date _____

(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)