

May 30, 2013

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 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, FERC Docket No. NP13-_-000

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby provides this Notice of Penalty¹ regarding 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 (AEP), NERC Registry ID# NCR00682,² in accordance with the Federal Energy Regulatory Commission's (Commission or FERC) rules, regulations and orders, as well as NERC's Rules of Procedure including Appendix 4C (NERC Compliance Monitoring and Enforcement Program (CMEP)).³

Headquartered in Columbus, Ohio, AEP is a large investor-owned electric utility with approximately 38,000 MW of generation capacity and 39,000 miles of transmission line that includes more 765 kV

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 (2011). *Mandatory Reliability Standards for the Bulk-Power System*, FERC Stats. & Regs. ¶ 31,242 (2007) (Order No. 693), *reh'g denied*, 120 FERC ¶ 61,053 (2007) (Order No. 693-A). See 18 C.F.R § 39.7(c)(2).

² ReliabilityFirst Corporation confirmed that AEP was included on the NERC Compliance Registry as a Distribution Provider (DP), Generator Owner (GO), Generator Operator (GOP), Purchasing-Selling Entity (PSE), Load Serving Entity (LSE), Resource Planner (RP), Transmission Owner (TO), and Transmission Operator (TOP) on May 30, 2007. As a TOP, AEP is subject to the requirements of NERC Reliability Standard COM-002-2, EOP-001-0, EOP-003-1, IRO-001-1.1, PER-002-0 and TOP-001-1. As a TO, AEP is subject to the requirements of NERC Reliability Standard FAC-009-1.

³ See 18 C.F.R § 39.7(c)(2).

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extra-high voltage transmission lines than all other U.S. transmission systems combined. AEP operates in 11 eastern and central U.S. states and three NERC regions: ReliabilityFirst Corporation (ReliabilityFirst), Southwest Power Pool Regional Entity (SPP RE), and Texas Reliability Entity, Inc. (Texas RE). AEP's transmission system directly or indirectly serves approximately 10 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.

This Notice of Penalty is being filed with the Commission because ReliabilityFirst and AEP have entered into a Settlement Agreement to resolve all outstanding issues arising from ReliabilityFirst's determination and findings of the violations⁴ of COM-002-2, EOP-001-0, EOP-003-1, FAC-009-1, IRO-001-1.1, PER-002-0, and TOP-001-1. According to the Settlement Agreement, AEP admits to the facts of the violations, and has agreed to the assessed penalty of two hundred twenty-five thousand dollars (\$225,000), in addition to other remedies and actions to mitigate the instant violations and facilitate future compliance under the terms and conditions of the Settlement Agreement. Accordingly, the violations identified as NERC Violation Tracking Identification Numbers RFC201000608, RFC2012010145, RFC2012010146, RFC2012010147, RFC2012010148, RFC2012010149, RFC2012010150, RFC2012010151, RFC2012010152, and RFC2012010154 are being filed in accordance with the NERC Rules of Procedure and the CMEP.

Statement of Findings Underlying the Violations

This Notice of Penalty incorporates the findings and justifications set forth in the Settlement Agreement executed on March 8, 2013, by and between ReliabilityFirst and AEP, which is included as Attachment a. The details of the findings and basis for the penalty are set forth in the Settlement Agreement and herein. This Notice of Penalty filing contains the basis for approval of the Settlement Agreement by the NERC Board of Trustees Compliance Committee (NERC BOTCC). In accordance with Section 39.7 of the Commission's regulations, 18 C.F.R. § 39.7 (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.

⁴ 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.

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Region	Registered Entity	NOC ID	NERC Violation ID	Reliability Std.	Req. (R)	VRF	Total Penalty
ReliabilityFirst Corporation	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	NOC-1875	RFC201000608	COM-002-2	R2	Medium	\$225,000
			RFC2012010145	EOP-001-0	R3	Medium	
			RFC2012010146	EOP-003-1	R1	High	
			RFC2012010147	EOP-003-1	R8	High	
			RFC2012010148	FAC-009-1	R1	Medium	
			RFC2012010149	IRO-001-1.1	R8	High	
			RFC2012010150	PER-002-0	R1	Medium	
			RFC2012010151	TOP-001-1	R1	High	
			RFC2012010152	TOP-001-1	R2	High	
			RFC2012010154	TOP-001-1	R5	High	

Overview of Kenzie Creek Event

These violations are related to an event that occurred on June 23, 2010 at approximately 5:20 p.m., when PJM Interconnection, LLC (PJM), AEP’s Reliability Coordinator (RC), experienced multiple outages on the AEP 138 kV system in the Benton Harbor area of southwest Michigan (Kenzie Creek Event). The Kenzie Creek area is fed by looped 138 kV and 69 kV circuits and sourced by two 345 kV/138 kV transformers at Benton Harbor and Kenzie Creek and four 138 kV circuits from Indiana: New Carlisle, Olive, Twin Branch, and East Elkhart. The 20-mile Kenzie Creek - Valley 138 kV transmission line is divided in two by the Colby substation, with approximately 10 miles of transmission line on either side.

On June 23, 2010, prior to the Kenzie Creek Event, there were planned outages of the Benton Harbor - Cook and Benton Harbor - Palisades 345 kV lines, as well as the Benton Harbor #1 345 kV/138 kV transformer. System conditions on June 23, 2010 in the area consisted of high temperatures, severe weather, and high load. In addition, PJM's day-ahead analysis had identified two post-contingency

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overloads in the AEP zone that exceeded the Emergency Rating for the loss of the Benton Harbor - Riverside 138 kV line. These facilities were the Colby - Kenzie Creek and Colby - Valley 138 kV lines.

At 11:19 a.m., the Hickory Creek - Olive 138 kV line tripped due to storm activity, which increased loading on the parallel path. System load increased, and at 12:11 p.m., PJM issued a post-contingency local load relief warning for 45 MW in the New Carlisle and Riverside areas of AEP. The post-contingency local load relief warning is supposed to provide advance notice to a TO of the potential for manual load dump in its area. The warning is issued after all other means of transmission constraint control have been exhausted or until sufficient generation is online to control the constraint within designated limits and timelines identified in PJM's guidelines. At 5:02 p.m., AEP opened the New Carlisle 138 kV "P" circuit breaker to alleviate loading on the line, which added approximately 7 MVA to the Kenzie Creek - Colby 138 kV line segment.

At 5:10 p.m., due to a vegetation event,⁵ the Hickory Creek - Kenzie Creek 138 kV line tripped and locked out at the Hickory Creek end. This resulted in Kenzie Creek radially feeding two 138 kV facilities, and the addition of 9 MVA of load on the Kenzie Creek - Colby 138 kV line segment.

At 5:20 p.m., due to a vegetation event,⁶ the Kenzie Creek - Riverside 138 kV line tripped and locked out, increasing the Kenzie Creek - Valley 138 kV line to 207 MVA, which was above the facility's load dump rating of 186 MVA. AEP had reduced the Kenzie Creek - Valley 138 kV circuit rating by more than 50% in May 2010 due to an identified physical obstruction under this line.

Subsequently, AEP opened the Valley 69 kV breaker "C", which provided approximately 9 MVA of relief on the Kenzie Creek - Valley 138 kV circuit. At 6:29 p.m., AEP opened the Valley 138 kV breaker "K", which provided approximately 27 MVA of relief on the Kenzie Creek - Valley 138 kV circuit. During this time, the Kenzie Creek - Valley 138 kV line loading was below the load dump rating but above the Emergency Rating. Load was trending downward, reducing the loading on the Kenzie Creek - Valley 138 kV circuit. Finally, at 8:25 p.m., the Hickory - Olive 138 kV circuit returned to service, remedying the overload of the Kenzie Creek - Valley 138 kV circuit.

⁵ This transmission line is not subject to FAC-003-1.

⁶ This transmission line is also not subject to FAC-003-1.

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These outages resulted in the Kenzie Creek - Valley 138 kV circuit exceeding its load dump rating for a period of approximately one hour and nine minutes and exceeding its Emergency Rating for a period of approximately three hours and five minutes.

Overview of Compliance Investigation (CI) and risk to the bulk power system (BPS)

On August 27, 2010, AEP and PJM conducted an apparent cause analysis of the Kenzie Creek Event, and on September 9, 2010, AEP submitted a Self-Report to ReliabilityFirst identifying a violation of COM-002-2 R2 resulting from the Kenzie Creek Event, addressed above. On March 29, 2011, ReliabilityFirst initiated a CI regarding the Kenzie Creek Event.⁷ On February 13, 2012, ReliabilityFirst notified AEP that during the CI, it discovered 10 violations. Although it may appear that similar facts and circumstances constitute multiple violations, the violations addressed in this Notice of Penalty present, to varying degrees, distinct risks to the BPS. Each of these distinct risks required AEP to perform separate mitigating activities.

The transmission system in the Benton Harbor area was one contingency away from an unsustainable condition, including low voltage in the Benton Harbor area and thermal overloads on the remaining lines into the Benton Harbor area. Various events could have caused additional thermal overloading and low voltages. Furthermore, AEP was hindered from taking certain actions by lack of supervisory control for certain elements necessary to mitigate the situation.

Several of the violations described below posed a serious and substantial risk to the reliability of the BPS. The overall risk and harm posed to the BPS by the violations resulting from the Kenzie Creek Event were mitigated by the following factors. The Benton Harbor area's placement in the Interconnection coupled with the network topology isolated the involved facilities in a manner that reduced the risk of cascading outages and the overall harm to the BPS. Specifically, there was no identified risk of low voltage tripping generation and spreading beyond the Benton Harbor area. Additionally, due to the number of lines out of service at the time of the event, after an additional contingency outage, cascading outages beyond the immediate area were unlikely. Furthermore, there was real-time monitoring of conditions, and although there were certain failures as discussed below, AEP and PJM discussed the situation throughout the Kenzie Creek Event. The specific factors that reduced the risk and harm to the BPS of each individual violation are addressed below.

⁷ One violation discovered during the CI is addressed in the following separate filing. On March 11, 2013, ReliabilityFirst issued a Notice of Dismissal to AEP for a violation of TOP-001-1 R3 (RFC2012010153). On March 8, 2013, NERC approved the pre-filing of this Notice of Dismissal.

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COM-002-2

The purpose statement of COM-002-2 provides: “To ensure Balancing Authorities, Transmission Operators, and Generator Operators have adequate communications and that these communications capabilities are staffed and available for addressing a real-time emergency condition. To ensure communications by operating personnel are effective.”

COM-002-2 R2 provides: “Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall issue directives in a clear, concise, and definitive manner; shall ensure the recipient of the directive repeats the information back correctly; and shall acknowledge the response as correct or repeat the original statement to resolve any misunderstandings.”

COM-002-2 R2 has a “Medium” Violation Risk Factor (VRF) and a “Severe” Violation Severity Level (VSL). The subject violation applies to AEP’s TOP function.

On September 9, 2010, AEP self-reported a violation of COM-002-2 R2. In order to alleviate the overload on the Kenzie Creek - Valley transmission path, AEP discussed options with its Transmission Dispatch Center (TDC), but the communications lacked clarity and directness.

Two instances of communication occurred between the AEP System Control Center (SCC) operators and the AEP TDC operators where the AEP operators did not utilize three-part communication. First, at approximately 5:37 p.m. on June 23, 2010, pursuant to ongoing conversations with PJM, the AEP SCC operator was required to direct the AEP TDC operator to open circuit breaker “C” at the Valley substation. The AEP SCC operator used non-definitive language and therefore did not issue a directive in a clear, concise, and definitive manner. In addition, the AEP SCC operator did not acknowledge the AEP TDC operator’s response as correct or repeat the original statement to resolve any misunderstandings.

At approximately 6:26 p.m. on June 23, 2010, pursuant to ongoing conversations with PJM, the AEP SCC operator was to direct the AEP TDC operator to open circuit breaker “K” at the Valley substation. Beginning at 6:24 p.m., AEP SCC operators and AEP TDC operators discussed whether AEP TDC saw any issues opening the “K” circuit breaker. After lengthy discussions regarding the opening of the “K” circuit breaker, the AEP SCC operator used non-definitive language and therefore did not issue a directive in a clear, concise, and definitive manner.

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ReliabilityFirst determined that AEP had a violation of COM-002-2 R2 because AEP did not issue directives in a clear, concise, and definitive manner.

ReliabilityFirst determined the duration of the violation to be one hour on June 23, 2010, when AEP used improper communication.

ReliabilityFirst determined that this violation posed a moderate risk to the reliability of the BPS, but did not pose a serious or substantial risk. A violation of COM-002-2 R2 increases the likelihood that the recipients of RC, TOP, and Balancing Authority (BA) directives will not execute directives as intended due to unclear communications. AEP's improper communication could have led to implementation delays in executing the appropriate course of action. The risk posed to the reliability of the BPS was mitigated because the Benton Harbor area's placement in the Interconnection coupled with the network topology isolated the involved facilities in a manner that reduced the risk of cascading outages and the overall harm to the BPS. Specifically, there was no identified risk of low voltage tripping generation and spreading beyond the Benton Harbor area. Additionally, due to the number of lines out of service at the time of the event, after an additional contingency outage, cascading outages beyond the immediate area were unlikely.

EOP-001-0

The purpose statement of Reliability Standard EOP-001-0 provides: "Each Transmission Operator and Balancing Authority needs to develop, maintain, and implement a set of plans to mitigate operating emergencies. These plans need to be coordinated with other Transmission Operators and Balancing Authorities, and the Reliability Coordinator."

EOP-001-0 R3 provides in pertinent part:

R3. Each Transmission Operator and Balancing Authority shall:

R3.3. Develop, maintain, and implement a set of plans for load shedding.

EOP-001-0 R3 has a "Medium" VRF and a "Lower" VSL. The subject violation applies to AEP's TOP function.

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During the CI, ReliabilityFirst discovered a violation of EOP-001-0 R3. AEP has in place an emergency operating plan that contains transmission emergency procedures detailing a set of plans for load shedding. However, during the Kenzie Creek Event, AEP did not fully implement its set of plans for load shedding. AEP's emergency operating plan outlines thermal operating guidelines to mitigate real-time exceedance of the load dump rating on its transmission lines. AEP also utilizes its emergency operating plan in conjunction with the procedures outlined in the document *PJM Manual 13, Emergency Operations Section 5: Transmission Security Emergencies* and *PJM Manual 03, Transmission Operations Section 2: Thermal Operating Guidelines*.

AEP's transmission emergency procedure located in its emergency operating plan states that during actual thermal overloads, action must be taken immediately to reduce facility loadings and/or voltages. Instead of shedding load, AEP took immediate steps to reconfigure the transmission system by opening circuit breakers, which only provided a minimal amount of load relief and did not mitigate the operating emergency. The line exceeded its emergency rating for three hours and five minutes and its load dump rating for one hour and nine minutes.

AEP's transmission emergency procedure also states that AEP will use load shedding during emergency conditions to prevent cascading outages and the spread of customer outages. The procedure also states that in addition to using all available emergency procedures as the last transmission measures for transmission emergencies, operators are required to implement load shedding. While AEP took some action, it did not utilize load shedding to prevent localized thermal overloads as required by its procedure. Instead, the Kenzie Creek - Valley 138 kV line exceeded its emergency rating for approximately three hours and its load dump rating for approximately one hour.

ReliabilityFirst determined that AEP had a violation of EOP-001-0 R3 because AEP failed to implement its set of plans for load shedding.

ReliabilityFirst determined the duration of the violation to be three hours on June 23, 2010, when AEP did not fully implement its set of plans for load shedding.

ReliabilityFirst determined that this violation posed a serious and substantial risk to the reliability of the BPS. A violation of EOP-001-0 R3 increases the likelihood that TOPs will be unsure whether and how to implement load shedding. AEP was monitoring the situation searching for solutions, and attempted various switching options to alleviate the overload. AEP opened the "C" and "K" breakers at

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Valley to reduce loading on the Kenzie Creek - Valley 138 kV line. Although these actions provided minimal load relief, AEP was aware of the situation and quickly took actions to attempt to resolve it.

EOP-003-1

The purpose statement of Reliability Standard EOP-003-1 provides: “A Balancing Authority and Transmission Operator operating with insufficient generation or transmission capacity must have the capability and authority to shed load rather than risk an uncontrolled failure of the Interconnection.”

EOP-003-1 R1 and R8 provide in pertinent part:

R1. After taking all other remedial steps, a Transmission Operator or Balancing Authority operating with insufficient generation or transmission capacity shall shed customer load rather than risk an uncontrolled failure of components or cascading outages of the Interconnection.

R8. Each Transmission Operator or Balancing Authority shall have plans for operator controlled manual load shedding to respond to real-time emergencies. The Transmission Operator or Balancing Authority shall be capable of implementing the load shedding in a timeframe adequate for responding to the emergency.

EOP-003-1 R1 has a “High” VRF and a “Severe” VSL. EOP-003-1 R8 has a “High” VRF and a “High” VSL. The subject violations apply to AEP’s TOP function.

EOP-003-1 R1

During the CI, ReliabilityFirst discovered a violation of EOP-003-1 R1. During the Kenzie Creek Event, there was thermal overload on the Kenzie Creek - Valley 138 kV line, resulting in insufficient transmission capacity. Instead of shedding customer load as required by the Standard, AEP searched for switching options in the Kenzie Creek area to alleviate the condition.

ReliabilityFirst determined that AEP had a violation of EOP-003-1 R1 because AEP failed to shed customer load when necessary.

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ReliabilityFirst determined the duration of the violation to be three hours and five minutes on June 23, 2010, when the Kenzie Creek Valley 138 kV line exceeded its emergency rating, risking an uncontrolled failure of components.

AEP determined that this violation posed a serious and substantial risk to the BPS. A violation of EOP-003-1 R1 increases the likelihood of an uncontrolled failure of components and/or cascading outages of the Interconnection. Also, the loss of the Kenzie Creek - Valley 138 kV line would have caused overloads on one of the two remaining 138 kV circuits in addition to the underlying subtransmission within the Kenzie Creek area. Furthermore, the loss of the Kenzie Creek 345 kV/138 kV transformer would have caused voltages to fall at four nearby 138 kV busses and four nearby 138 kV lines to exceed their load dump ratings. During the time period that the Kenzie Creek - Valley 138 kV line exceeded its emergency and load dump ratings and AEP did not shed load, AEP was risking an uncontrolled failure of components. AEP was monitoring the situation, searching for solutions, and attempted various switching options to alleviate the overload. AEP opened the "C" and "K" breakers at Valley to reduce loading on the Kenzie Creek - Valley 138 kV line. Although these actions provided minimal load relief, AEP was aware of the situation and attempted to resolve it.

EOP-003-1 R8

During the CI, ReliabilityFirst discovered a violation of EOP-003-1 R8. AEP has in place plans for operator-controlled manual load shedding to respond to real-time emergencies, as described above. Partly as a result of AEP's lack of supervisory control in certain areas, AEP was not capable of implementing load shedding in a time frame adequate for responding to the emergency. Ultimately, although AEP's policies required load shedding in this situation because the load dump rating was exceeded, AEP did not shed load and was not capable of implementing load shedding in a time frame adequate for responding to the emergency.

ReliabilityFirst determined that AEP had a violation of EOP-003-1 R8 because AEP failed to be capable of implementing load shedding in a time frame adequate for responding to the emergency.

ReliabilityFirst determined the duration of the violation to be from June 23, 2010, when AEP did not fully implement its set of plans for load shedding, to October 24, 2012, when AEP completed its Mitigation Plan.

ReliabilityFirst determined that this violation posed a moderate risk to the reliability of the BPS, but did not pose a serious or substantial risk. A violation of EOP-003-1 R8 increases the likelihood that a TOP

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will be unable to respond to real-time emergencies by implementing load shedding. The risk to the reliability of the BPS was mitigated by the following factors. AEP was monitoring the situation, searching for solutions, and attempted various switching options to alleviate the overload. AEP opened the “C” and “K” breakers at the Valley substation to reduce loading on the Kenzie Creek - Valley 138 kV line. Although these actions provided minimal load relief, AEP was aware of the situation and attempted to resolve it.

FAC-009-1

The purpose statement of Reliability Standard FAC-009-1 provides: “To ensure that Facility Ratings used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.”

FAC-009-1 R1 provides: “The Transmission Owner and Generator Owner shall each establish Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings Methodology.”

FAC-009-1 R1 has a “Medium” VRF and a “Lower” VSL. The subject violation applies to AEP’s TO function.

During the CI, ReliabilityFirst discovered a violation of FAC-009-1 R1. Pursuant to its Facility Ratings Methodology, AEP only assigns an Emergency Rating, which is a function of the maximum operating temperature above the normal Facility Rating, once it conducts a clearance study.⁸ In May 2010, AEP conducted a clearance study for the Kenzie Creek - Colby - Valley 138 kV line and identified a clearance violation. As a result, AEP derated these lines from 296 MVA Normal, 398 MVA Emergency, and 458 MVA load dump to 143 MVA Normal/Emergency and 164 MVA load dump.

During the Kenzie Creek Event, AEP operated the Kenzie Creek - Colby - Valley transmission lines at the correct decreased Facility Rating of 143 MVA Normal Rating/Emergency Rating and 164 load dump rating. At approximately the time the Kenzie Creek Event concluded, however, AEP received a request to verify the ratings on the subject line. AEP mistakenly provided PJM with the rating contained in the permanent ratings database, which does not include temporary ratings. This increased the Facility

⁸ In its *Recommendation to Industry: Consideration of Actual Field Conditions in Determination of Facility Ratings*, issued October 7, 2010, NERC identified a reliability concern due to Facilities in the field not matching a registered entity’s design specifications. Registered entities were required to conduct assessments of their systems and remediate all issues identified during the assessment.

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Rating back to 296 MVA Normal Rating, 398 MVA Emergency Rating, and 458 MVA load dump rating for the Kenzie Creek Colby - Valley transmission line. During the time of the violation, AEP utilized a database to transmit Facility Rating information to PJM and sent an email to communicate temporary Ratings. Because the temporary Rating email was not consulted, AEP did not transmit the decreased Ratings to PJM. On June 24, 2010, AEP identified and corrected this discrepancy, and decreased the Rating. On July 8, 2010, AEP resolved the clearance issue and increased the Rating.

ReliabilityFirst determined that AEP had a violation of FAC-009-1 R1 because AEP provided a Rating for one 138 kV transmission line that was inconsistent with the temporarily derated condition of the line.

ReliabilityFirst determined the duration of the violation to be from June 23, 2010, when AEP provided PJM with the Facility Rating inconsistent with its Facility Ratings Methodology, through June 24, 2010, when AEP revised its Facility Rating to be consistent with its Facility Ratings Methodology.

ReliabilityFirst determined that this violation posed a minimal and not serious or substantial risk to the reliability of the BPS. AEP and PJM were utilizing the correct Facility Rating during the Kenzie Creek Event. In addition, the violation occurred for a short duration, and AEP had in place a process for handling temporary rating changes where an operational rating may differ from the rating shown in the official ratings database used in planning studies. Furthermore, this instance was an isolated failure to implement that procedure.

IRO-001-1.1

The purpose statement of Reliability Standard IRO-001-1.1 provides:

Reliability Coordinators must have the authority, plans, and agreements in place to immediately direct reliability entities within their Reliability Coordinator Areas to re-dispatch generation, reconfigure transmission, or reduce load to mitigate critical conditions to return the system to a reliable state. If a Reliability Coordinator delegates tasks to others, the Reliability Coordinator retains its responsibilities for complying with NERC and regional standards. Standards of conduct are necessary to ensure the Reliability Coordinator does not act in a manner that favors one market participant over another.

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IRO-001-1.1 R8 provides:

Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities shall comply with Reliability Coordinator directives unless such actions would violate safety, equipment, or regulatory or statutory requirements. Under these circumstances, the Transmission Operator, Balancing Authority, Generator Operator, Transmission Service Provider, Load-Serving Entity, or Purchasing-Selling Entity shall immediately inform the Reliability Coordinator of the inability to perform the directive so that the Reliability Coordinator may implement alternate remedial actions.

IRO-001-1.1 R8 has a “High” VRF and a “Severe” VSL. The subject violation applies to AEP’s TOP function.

During the CI, ReliabilityFirst discovered a violation of IRO-001-1.1 R8. During the Kenzie Creek Event, PJM, AEP's RC, directed AEP to open the 34 kV “B” and “D” breakers at the Valley substation. Pursuant to ongoing conversations with PJM regarding options, AEP did not perceive a clear directive was issued and as a result did not comply with PJM's three directives to open the 34 kV “B” and “D” breakers at the Valley substation. Instead, after the first directive, the AEP SCC operator expressed hesitance to shed load. After the second directive, the AEP SCC operator stated that the AEP TDC was having difficulty opening those breakers because it was concerned about encountering more issues. After the third directive, the AEP SCC operator engaged in further discussion with PJM about the opening of the breakers and subsequent discussion with the AEP TDC operator about the opening of the breakers. AEP, however, did not open the “B” and “D” breakers at the Valley substation. Therefore, AEP did not comply with RC directives and did not inform the RC of the inability to perform the directives, as required by IRO-001-1.1 R8.

ReliabilityFirst determined that AEP had a violation of IRO-001-1.1 R8 because AEP failed to comply with RC directives or inform the RC of the inability to perform the directives.

ReliabilityFirst determined the duration of the violation to be from June 23, 2010, the date AEP did not comply with RC directives, through October 24, 2012, when AEP completed its Mitigation Plan.

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, a violation of IRO-001-1.1 R8 results in TOPs, BAs,

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and GOPs disregarding RC directives, which is detrimental to the reliable operation of the BPS. The risk posed to the reliability of the BPS was mitigated by the following factor. There was real-time monitoring of the conditions, as evidenced by the fact that AEP and PJM were communicating in an attempt to resolve the issue despite AEP's failure to implement certain of PJM's directives.

PER-002-0

The purpose statement of Reliability Standard PER-002-0 provides: "Each Transmission Operator and Balancing Authority must provide their personnel with a coordinated training program that will ensure reliable system operation."

PER-002-0 R1 provides: "Each Transmission Operator and Balancing Authority shall be staffed with adequately trained operating personnel."

PER-002-0 R1 has a "Medium" VRF and a "Lower" VSL. The subject violation applies to AEP's TOP function.

During the CI, ReliabilityFirst discovered a violation of PER-002-0 R1. AEP provides training regarding load shedding to its system operators. The training, however, merely mentions that load shedding is a viable option to alleviate contingencies instead of requiring load shedding to alleviate contingencies. In addition, AEP's training is related to capacity deficiencies and does not include training regarding alleviating actual thermal overloads. While AEP trained its operators in load shedding related to Interconnection reliability operating limits, the Kenzie Creek Event related to an actual thermal overload and did not involve Interconnection reliability operating limits. As a result, AEP system operators were inadequately trained to implement load shedding for a localized situation such as the Kenzie Creek Event.

ReliabilityFirst determined that AEP had a violation of PER-002-0 R1 because AEP failed to be staffed with adequately trained operating personnel.

ReliabilityFirst determined the duration of the violation to be from June 23, 2010, the date of the Kenzie Creek Event, through October 24, 2012, when AEP completed its Mitigation Plan.

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, a violation of PER-002-0 R1 allows inadequately trained operating personnel to operate the BPS, which affects the reliable operation of the BPS.

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Although the AEP operators on duty were NERC-certified and had completed required training, they demonstrated uncertainty during the Kenzie Creek Event. The risk posed to the reliability of the BPS was mitigated by the following factor. The AEP system operators had high-level load shedding training that could have been translated to a localized situation. During the Kenzie Creek Event, however, the AEP system operators did not translate this knowledge to the instant situation.

TOP-001-1

The purpose statement of Reliability Standard TOP-001-1 provides: “To ensure reliability entities have clear decision-making authority and capabilities to take appropriate actions or direct the actions of others to return the transmission system to normal conditions during an emergency.”

TOP-001-1 R1, R2, and R5 provide in pertinent part:

R1. Each Transmission Operator shall have the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its area and shall exercise specific authority to alleviate operating emergencies.

R2. Each Transmission Operator shall take immediate actions to alleviate operating emergencies including curtailing transmission service or energy schedules, operating equipment (e.g., generators, phase shifters, breakers), shedding firm load, etc.

R5. Each Transmission Operator shall inform its Reliability Coordinator and any other potentially affected Transmission Operators of real time or anticipated emergency conditions, and take actions to avoid, when possible, or mitigate the emergency.

TOP-001-1 R1, R2, and R5 each have a “High” VRF and a “Severe” VSL. The subject violations apply to AEP’s TOP function.

TOP-001-1 R1

During the CI, ReliabilityFirst discovered a violation of TOP-001-1 R1 and determined that during the Kenzie Creek Event, AEP exhibited several instances of failure to comply with the Standard. First, during discussions between PJM and the AEP SCC operator about opening the “E” breaker at the Colby substation, AEP stated that it would make the request of AEP TDC. Subsequently, when discussing the opening of the “E” breaker at the Colby substation with AEP TDC, AEP SCC requested AEP TDC to open the breaker. The AEP TDC operator stated that it needed to check with the distribution dispatch center

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to determine whether it was possible to open the “E” breaker, demonstrating that AEP TDC did not consider the communication from AEP SCC as a directive. Pursuant to ongoing conversations with PJM regarding options, AEP did not perceive a clear directive was issued by PJM. *ReliabilityFirst* concluded that the discussion between PJM and AEP SCC constituted a directive, and AEP SCC did not communicate it as such to AEP TDC. AEP SCC should have communicated it as a directive to AEP TDC. As a result, AEP did not demonstrate that it has the responsibility and clear decision-making authority to take the necessary actions. Furthermore, AEP did not exercise its specific authority to alleviate the operating emergency.

Second, during a discussion between AEP SCC and AEP TDC, the AEP SCC operator asked how the AEP TDC operator felt about opening the 138 kV circuit breaker “K.” *ReliabilityFirst* concluded this constituted a directive and should have been communicated as such to AEP TDC instead of posed in the form of a question. As a result, the AEP SCC operator did not demonstrate its clear decision-making authority.

Third, during discussions between the AEP SCC operator and the AEP TDC supervisor, AEP TDC suggested delaying the opening of any additional breakers until the AEP TDC supervisor arrived at the control center. The AEP SCC operator acknowledged this course of action. *ReliabilityFirst* concluded that deferral to the AEP TDC supervisor implied that the AEP SCC operator could not make the decision to open additional breakers. This demonstrates that the AEP SCC did not have clear decision-making authority in the situation.

ReliabilityFirst determined that AEP had a violation of TOP-001-1 R1 because it failed to have the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its area and exercise specific authority to alleviate operating emergencies.

ReliabilityFirst determined the duration of the violation to be from June 23, 2010, the date of the Kenzie Creek Event, through October 24, 2012, when AEP completed its Mitigation Plan.

ReliabilityFirst determined that this violation posed a serious and substantial risk to the BPS. A violation of TOP-001-1 R1 has the potential to affect the reliable operation of the BPS by increasing the likelihood that a TOP will have unclear operating capabilities and responsibilities. The risk posed to the reliability of the BPS was mitigated by the following factors. Despite the instances of unclear decision-making authority, the AEP operator did open the “C” and “K” breakers and continued to work with PJM throughout the Kenzie Creek Event.

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TOP-001-1 R2

During the CI, ReliabilityFirst discovered a violation of TOP-001-1 R2. According to AEP and PJM thermal operating guidelines, an actual load dump overload should be corrected within five minutes. At 5:22 p.m., PJM notified AEP of the overload on the Kenzie Creek - Valley 138 kV line. However, AEP did not take action until approximately 15 minutes later at 5:38 p.m., when it opened the "C" circuit breaker. This action was ineffective, and actual loading remained above the load dump rating. AEP did not take further action until approximately 50 minutes later at 6:29 p.m. when it opened the "K" breaker. While actual loading reduced to below the load dump rating, the line still remained above its Emergency Rating. As a result, AEP did not take immediate actions to alleviate the operating emergency.

ReliabilityFirst determined that AEP had a violation of TOP-001-1 R2 because AEP failed to take immediate actions to alleviate operating emergencies, including shedding firm load.

ReliabilityFirst determined the duration of the violation to be for approximately one hour and 15 minutes on June 23, 2010, the time during which AEP did not take immediate actions to alleviate the operating emergency.

ReliabilityFirst determined that this violation posed serious and substantial risk to the reliability of the BPS. A violation of TOP-001-1 R2 affects the reliable operation of the BPS by increasing the likelihood that a TOP will delay actions to alleviate operating emergencies. Although AEP did not take immediate action, it did work to alleviate the operating emergency.

TOP-001-1 R5

During the CI, ReliabilityFirst discovered a violation of TOP-001-1 R5. During the Kenzie Creek Event, PJM, AEP's RC, informed AEP that the Kenzie Creek - Valley 138 kV line was above its load dump rating. The AEP SCC operator maintained, however, that the line was only exceeding its Emergency Rating, not the load dump rating. This exchange between AEP and PJM demonstrates that AEP, as the TOP, did not inform its RC of the real-time emergency condition. Instead, PJM, the RC, informed AEP of the real-time emergency condition.

ReliabilityFirst determined that AEP had a violation of TOP-001-1 R5 for failing to inform its RC of a real-time emergency condition.

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ReliabilityFirst determined the duration of the violation to be one hour and nine minutes on June 23, 2010, the time during which AEP exceeded the load dump rating.

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, a violation of TOP-001-1 R5 affects the reliable operation of the BPS by increasing the likelihood that a TOP will fail to mitigate an emergency. Although AEP did not initiate the communication with PJM regarding the emergency conditions, AEP and PJM did discuss possible controlling actions within two minutes of the initial load dump rating exceedance, which mitigated to some extent the risk posed to the reliability of the BPS.

Regional Entity's Basis for Penalty

According to the Settlement Agreement, ReliabilityFirst has assessed a penalty of two hundred twenty-five thousand dollars (\$225,000) for the referenced violations. In reaching this determination, ReliabilityFirst considered the following factors:

1. AEP had an internal compliance program (ICP) at the time of the violations which ReliabilityFirst considered a mitigating factor. However, due to evidence of AEP's lack of effective internal controls, ReliabilityFirst only applied partial mitigating credit;⁹
2. AEP self-reported the violation of COM-002-2 R2, which ReliabilityFirst considered a mitigating factor;

⁹ ReliabilityFirst considered the following aspects of AEP's ICP as mitigating factors. 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 Reliability Standards. The NERC Compliance Steering Committee works to: 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 ICP 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.

Effective oversight of the reliability of the BPS depends on robust compliance programs implemented by registered entities. AEP had an operator performing the system operator function who did not take sufficient actions to control the situation, and AEP did not discover this condition until the occurrence of a real-life event rather than through refresher training or simulations and drills. This demonstrates AEP's lack of effective internal controls, especially with respect to system operator training, and as a result, ReliabilityFirst applied partial mitigating credit for AEP's ICP.

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3. ReliabilityFirst also considered as a mitigating factor the positive degree and quality of AEP's cooperation and remedial action during the enforcement process. AEP was cooperative throughout its interactions with the ReliabilityFirst in connection with the instant violations and also promptly submitted effective Mitigation Plans to remediate the violations;
4. ReliabilityFirst considered AEP's compliance history as an aggravating factor in the penalty determination;¹⁰
5. there was no evidence of any attempt to conceal a violation nor evidence of intent to do so;
6. the violation of FAC-009-1 R1 posed a minimal risk but did not pose a serious or substantial risk to the reliability of the BPS, as discussed above;
7. the violations of COM-002-2 R2, EOP-003-1 R8, IRO-001-1.1 R8, PER-002-0 R1, and TOP-001-1 R5 posed a moderate risk but did not pose a serious or substantial risk to the reliability of the BPS, as discussed above;
8. the violations of EPO-001-0 R3, EOP-003-1 R1, and TOP-001-1 R1 and R2 posed a serious and substantial risk to the reliability of the BPS, as discussed above;
9. AEP voluntarily conducted an apparent cause analysis to reassess and improve the operator control action communication protocol and provided lessons learned to the industry regarding the Kenzie Creek Event during the 2011 PJM System Operator Seminar; and
10. 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 two hundred and twenty-five thousand dollars (\$225,000) is appropriate and bears a reasonable relation to the seriousness and duration of the violations.

¹⁰ AEP is also registered in the Texas RE region as American Electric Power Service Corp as agent for AEP Texas North Co, AEP Texas Central Co, and Public Service of Oklahoma (NCR04006); and is registered in the SPP RE region as American Electric Power Service Corporation as agent for Public Svc. Co. of Oklahoma & SW Ele Pwr Co. (NCR01056). AEP's other violations across the three regions in which its various related entities operate were not considered by ReliabilityFirst to be an aggravating factor because they did not involve the same or similar Standards nor was there any indication of broader corporate issues. In addition, ReliabilityFirst did not consider AEP's CIP history of noncompliance when determining the penalty for the instant violations.

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Status of Mitigation Plans¹¹COM-002-2 R2 (RFC201000608)

AEP's Mitigation Plan to address its violation of COM-002-2 R2 was submitted to ReliabilityFirst on November 18, 2010 stating it had been completed on October 1, 2010. The Mitigation Plan was accepted by ReliabilityFirst on December 16, 2010 and approved by NERC on December 30, 2010. The Mitigation Plan for this violation is designated as MIT-10-3188 and was submitted as non-public information to FERC on January 5, 2011 in accordance with FERC orders.

AEP's Mitigation Plan required AEP to:

1. reinforce with operators the need for effective communications when requesting other parties to perform actions; and
2. provide refresher training on effective communications to operators

AEP certified on December 2, 2010 that the above Mitigation Plan requirements were completed on October 1, 2010. As evidence of completion of its Mitigation Plan, AEP submitted the following:

1. attendance records for operators who attended AEP's refresher training seminar; and
2. AEP's internal communication plan.

On December 18, 2012, after reviewing AEP's submitted evidence, ReliabilityFirst verified that AEP's Mitigation Plan was completed on October 1, 2010.

EOP-001-0 R3, EOP-003-1 R1 and R8, IRO-001-1.1 R8, PER-002-0 R1 and TOP-001-1 R1, R2 and R5 (RFC2012010145, RFC2012010146, RFC2012010147, RFC2012010149, RFC2012010150, RFC2012010151, RFC2012010152 and RFC2012010154)

AEP's Mitigation Plan to address its violations of EOP-001-0 R3, EOP-003-1 R1 and R8, IRO-001-1.1 R8, PER-002-0 R1, and TOP-001-1 R1, R2, and R5 was submitted to ReliabilityFirst on October 12, 2012 with a proposed completion date of December 21, 2012. AEP submitted a revised Mitigation Plan on November 30, 2012 with a proposed completion date of December 21, 2012. The Mitigation Plan was accepted by ReliabilityFirst on December 6, 2012 and approved by NERC on December 17, 2012. The

¹¹ See 18 C.F.R § 39.7(d)(7).

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Mitigation Plan for this violation is designated as RFCMIT008269-1 and was submitted as non-public information to FERC on December 18, 2012 in accordance with FERC orders.

AEP's Mitigation Plan required AEP to:

1. deliver communication training and an apparent cause analysis review to the East System Control Center operators;
2. require the East System Control Center operators to participate in the 2011 PJM System Operator Seminar, which covered the Kenzie Creek Event, communications, and load shedding;
3. enhance its load shedding tool functionality to serve the operators' needs better when dealing with events such as the Kenzie Creek Event;
4. revise its communication plan;
5. develop a facility load shedding program training;
6. deliver training on the authority to act policy, facility load shedding program, and directives to East System Control Center operators and transmission dispatchers;
7. conduct a discussion with management and review of the authority to act policy, revised communication plan, and facility load shedding program capabilities; and
8. revise the emergency operating plan.

AEP certified on December 21, 2012 that the above Mitigation Plan requirements were completed on December 3, 2012. As evidence of completion of its Mitigation Plan, AEP submitted the following:

1. Kenzie mitigation steps.xls;
2. Kenzie Creek Event – Certification Signature and Evidence.pdf; and
3. Video of FLS Training.mp4.

On February 13, 2013, after reviewing AEP's submitted evidence, ReliabilityFirst verified that AEP's Mitigation Plan was completed on December 3, 2012.

RFC2012010148 (FAC-009-1 R1)

AEP's Mitigation Plan to address its violation of FAC-009-1 R1 was submitted to ReliabilityFirst on September 28, 2012 with a proposed completion date of September 30, 2012. The Mitigation Plan was

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accepted by ReliabilityFirst on October 8, 2012 and approved by NERC on October 31, 2012. The Mitigation Plan for this violation is designated as RFCMIT008053 and was submitted as non-public information to FERC on November 1, 2012 in accordance with FERC orders.

AEP's Mitigation Plan required AEP to:

1. develop a formal training for handling temporary rating changes where an operational rating may vary from ratings shown in the official ratings database used in planning studies; and
2. provide training for relevant personnel.

AEP certified on October 2, 2012 that the above Mitigation Plan requirements were completed on September 21, 2012. As evidence of completion of its Mitigation Plan, AEP submitted the document, RFC FAC-009-1 Mitigation Plan Evidence_20120926.pdf.

On February 15, 2013, after reviewing AEP's submitted evidence, ReliabilityFirst verified that AEP's Mitigation Plan was completed on September 21, 2012.

Statement Describing the Assessed Penalty, Sanction or Enforcement Action Imposed¹²

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,¹³ the NERC BOTCC reviewed the Settlement Agreement and supporting documentation on May 7, 2013. The NERC BOTCC approved the Settlement Agreement, including ReliabilityFirst's assessment of a two hundred twenty-five thousand dollar (\$225,000) financial penalty against AEP 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.

¹² See 18 C.F.R. § 39.7(d)(4).

¹³ *North American Electric Reliability Corporation*, "Guidance Order on Reliability Notices of Penalty," 124 FERC ¶ 61,015 (2008); *North American Electric Reliability Corporation*, "Further Guidance Order on Reliability Notices of Penalty," 129 FERC ¶ 61,069 (2009); *North American Electric Reliability Corporation*, "Notice of No Further Review and Guidance Order," 132 FERC ¶ 61,182 (2010).

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

1. AEP had a compliance program at the time of the violation which ReliabilityFirst considered a partial mitigating factor, as discussed above;
2. AEP self-reported the violation of COM-002-2 R2;
3. ReliabilityFirst reported that AEP was cooperative throughout the compliance enforcement process;
4. the violations constituted AEP's third occurrence of violations of FAC-009-1 R1, as discussed above;
5. there was no evidence of any attempt to conceal a violation nor evidence of intent to do so;
6. the violation of FAC-009-1 R1 posed a minimal risk but did not pose a serious or substantial risk to the reliability of the BPS, as discussed above;
7. the violations of COM-002-2 R2, EOP-003-1 R8, IRO-001-1.1 R8, PER-002-0 R1, and TOP-001-1 R5 posed a moderate risk but did not pose a serious or substantial risk to the reliability of the BPS, as discussed above;
8. the violations of EPO-001-0 R3, EOP-003-1 R1, and TOP-001-1 R1 and R2 posed a serious and substantial risk to the reliability of the BPS, as discussed above;
9. AEP conducted an apparent cause analysis, as discussed above; and
10. 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 two hundred twenty-five thousand dollars (\$225,000) is appropriate for the violations and circumstances at issue, and is consistent with NERC's goal to promote and ensure reliability of the BPS.

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

Attachments to be Included as Part of this Notice of Penalty

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

- a) Settlement Agreement by and between ReliabilityFirst and AEP executed on March 8, 2013, included as Attachment a;
- b) AEP's Self-Report for COM-002-2 R2 dated September 9, 2012, included as Attachment b;
- c) AEP's Summary of Possible Violation for EOP-001-0 R3 dated November 29, 2011, included as Attachment c;
- d) AEP's Summary of Possible Violation for EOP-003-1 R1 dated November 29, 2011, included as Attachment d;
- e) AEP's Summary of Possible Violation for EOP-003-1 R8 dated November 29, 2011, included as Attachment e;
- f) AEP's Summary of Possible Violation for FAC-009-1 R1, included as Attachment f;
- g) AEP's Summary of Possible Violation for IRO-001-1.1 R8 dated November 29, 2011, included as Attachment g;
- h) AEP's Summary of Possible Violation for PER-002-0 R1 dated November 29, 2011, included as Attachment h;
- i) AEP's Summary of Possible Violation for TOP-001-1 R1 dated November 29, 2011, included as Attachment i;
- j) AEP's Summary of Possible Violation for TOP-001-1 R2 dated November 29, 2011, included as Attachment j;
- k) AEP's Summary of Possible Violation for TOP-001-1 R5 dated November 29, 2011, included as Attachment k;
- l) AEP's Mitigation Plan designated as MIT-10-3188 for COM-002-2 R2 submitted November 19, 2010, included as Attachment l;
- m) AEP's Certification of Mitigation Plan Completion for COM-002-2 R2 submitted December 2, 2010, included as Attachment m;
- n) ReliabilityFirst's Verification of Mitigation Plan Completion COM-002-2 R2 dated December 18, 2010, included as Attachment n;

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- o) AEP's Mitigation Plan designated as RFCMIT008269-1 for EOP-001-0 R3, EOP-003-1 R1 and R8, IRO-001-1.1 R8, PER-002-0 R1, and TOP-001-1 R1, R2, and R5 submitted November 30, 2012, included as Attachment o;
- p) AEP's Certification of Mitigation Plan Completion for EOP-001-0 R3, EOP-003-1 R1 and R8, IRO-001-1.1 R8, PER-002-0 R1, and TOP-001-1 R1, R2, and R5 submitted December 21, 2012, included as Attachment p; and
- q) ReliabilityFirst's Verification of Mitigation Plan Completion for EOP-001-0 R3, EOP-003-1 R1 and R8, IRO-001-1.1 R8, PER-002-0 R1, and TOP-001-1 R1, R2, and R5 dated February 13, 2013, included as Attachment q;
- r) AEP's Mitigation Plan designated as RFCMIT008053 for FAC-009-1 R1 submitted September 28, 2012, included as Attachment r;
- s) AEP's Certification of Mitigation Plan Completion for FAC-009-1 R1 submitted October 2, 2012, included as Attachment s; and
- t) ReliabilityFirst's Verification of Mitigation Plan Completion FAC-009-1 R1 dated February 15, 2013, included as Attachment t.

A Form of Notice Suitable for Publication¹⁴

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

¹⁴ See 18 C.F.R § 39.7(d)(6).

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

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<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>	

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Conclusion

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

Respectfully submitted,

/s/ Sonia Mendonça

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cc: Appalachian Power Company, Columbus Southern Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, and Wheeling Power Company
ReliabilityFirst Corporation

Attachments

Attachment a

**Settlement Agreement by and between
Reliability*First* and AEP executed on March 8,
2013**



In re: AMERICAN ELECTRIC POWER	)	Docket Nos. RFC201000608;
SERVICE CORPORATION AS AGENT	)	RFC2012010145;
FOR APPALACHIAN POWER	)	RFC2012010146;
COMPANY, COLUMBUS SOUTHERN	)	RFC2012010147;
POWER COMPANY, INDIANA	)	RFC2012010148;
MICHIGAN POWER COMPANY,	)	RFC2012010149;
KENTUCKY POWER COMPANY,	)	RFC2012010150;
KINGSPORT POWER COMPANY,	)	RFC2012010151;
OHIO POWER COMPANY, AND	)	RFC2012010152; and
WHEELING POWER COMPANY	)	RFC2012010154
)	
)	
NERC Registry ID No. NCR00682	)	NERC Reliability Standards:
	)	COM-002-2, Requirement 2;
	)	EOP-001-0, Requirement 3;
	)	EOP-003-1, Requirement 1;
	)	EOP-003-1, Requirement 8;
	)	FAC-009-1, Requirement 1;
	)	IRO-001-1.1, Requirement 8;
	)	PER-002-0, Requirement 1;
	)	TOP-001-1, Requirement 1;
	)	TOP-001-1, Requirement 2; and
	)	TOP-001-1, Requirement 5

**SETTLEMENT AGREEMENT
BETWEEN
RELIABILITYFIRST CORPORATION
AND
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**

I. INTRODUCTION

1. ReliabilityFirst Corporation (“ReliabilityFirst”) and 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 (“AEP”) enter into this Settlement Agreement (“Agreement”) to resolve alleged violations by AEP of COM-002-2, Requirement 2; EOP-001-0, Requirement 3; EOP-003-1, Requirements 1 and 8; FAC-009-1, Requirement 1; IRO-001-1.1, Requirement 8; PER-002-0, Requirement 1; and TOP-001-1, Requirements 1; 2; and 5.

2. AEP and ReliabilityFirst agree and stipulate to this Agreement in its entirety. The facts stipulated herein are stipulated solely for the purpose of resolving between AEP and ReliabilityFirst the subject matter of this Agreement and do not constitute admissions or stipulations for any purpose, other than AEP’s admission that the facts stipulated herein constitute violations of Reliability Standards COM-002-2, Requirement 2; EOP-001-0, Requirement 3; EOP-003-1, Requirements 1 and 8; FAC-009-1, Requirement 1; IRO-001-1.1, Requirement 8; PER-002-0, Requirement 1; and TOP-001-1, Requirements 1; 2; and 5.

Overview of AEP

3. 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 kV 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.
4. 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, and Transmission Operator in the ReliabilityFirst region with the NERC Registry Identification Number NCR00682. In its capacity as a Transmission Operator, AEP is required to comply with COM-002-2, EOP-001-0, EOP-003-1, IRO-001-1.1, PER-002-0, and TOP-001-1, and in its capacity as a Transmission Owner, AEP is required to comply with FAC-009-1.

Overview of Kenzie Creek Event

5. On June 23, 2010, at approximately 1720 Eastern Standard Time, PJM Interconnection, LLC (“PJM”) experienced multiple outages on the AEP

138 kV system in the Benton Harbor area of southwest Michigan (the “Kenzie Creek Event”).

6. The Kenzie Creek area is fed by looped 138 kV and 69 kV circuits and sourced by two 345 kV/138 kV transformers at Benton Harbor and Kenzie Creek and four 138 kV circuits from Indiana, New Carlisle, Olive, Twin Branch, and East Elkhart. The twenty mile Kenzie Creek – Valley 138 kV transmission line is divided in two by the Colby substation with approximately ten miles of transmission line on either side.
7. On June 23, 2010, prior to the Kenzie Creek Event, there were planned outages of the Benton Harbor – Cook and Benton Harbor – Palisades 345 kV lines as well as the Benton Harbor #1 345 kV/138 kV transformer. System conditions on June 23, 2010 in the area consisted of high temperatures, severe weather, and high load. In addition, PJM’s day-ahead analysis had identified two post-contingency overloads in the AEP zone which exceeded the Emergency Rating for the loss of the Benton Harbor – Riverside 138 kV line. These facilities were the Colby – Kenzie Creek and Colby – Valley 138 kV lines.
8. At 1119, the Hickory Creek – Olive 138 kV line tripped due to storm activity, which increased loading on the parallel path. System load increased, and at 1211, PJM issued a Post Contingency Local Load Relief Warning¹ for 45 MW in the New Carlisle and Riverside areas of AEP. At 1702, AEP opened the New Carlisle 138 kV “P” circuit breaker to alleviate loading on the line, which added approximately 7 MVA to the Kenzie Creek – Colby 138 kV line segment.
9. At 1710, due to a vegetation event, the Hickory Creek – Kenzie Creek 138 kV line tripped and locked out at the Hickory Creek end. This resulted in Kenzie Creek radially feeding two 138 kV facilities, and the addition of 9 MVA of load on the Kenzie Creek – Colby 138 kV line segment.
10. At 1720, due to a vegetation event², the Kenzie Creek – Riverside 138 kV line tripped and locked out, increasing the Kenzie Creek – Valley 138 kV line to 207 MVA, which was above the facility’s Load Dump Rating of 186 MVA. AEP had reduced the Kenzie Creek – Valley 138 kV circuit Rating by more than 50% in May, 2010 due to an identified physical obstruction under this line.

¹ “The purpose of the Post Contingency Local Load Relief Warning is to provide advance notice to a transmission owner(s) of the potential for manual load dump in their area(s). It is issued after all other means of transmission constraint control have been exhausted or until sufficient generation is on-line to control the constraint within designated limits and timelines as identified in PJM Manual 3 Transmission Operations, Section 2 – Thermal Operating Guidelines.” PJM Manual 13 Emergency Operations, Section 5.4, p. 70 (January 1, 2012) (emphasis added).

² This transmission line is not subject to FAC-003-1.

11. Subsequently, AEP opened the Valley 69 kV breaker “C”, which provided approximately 9 MVA of relief on the Kenzie Creek – Valley 138 kV circuit. At 1829, AEP opened the Valley 138 kV breaker “K”, which provided approximately 27 MVA of relief on the Kenzie Creek – Valley 138 kV circuit. During this time, the Kenzie Creek – Valley 138 kV line loading was below the Load Dump Rating but above the Emergency Rating. Load was trending downward, reducing the loading on the Kenzie Creek – Valley 138 kV circuit. Finally, at 2025, the Hickory – Olive 138 kV circuit returned to service, remedying the overload of the Kenzie Creek – Valley 138 kV circuit.
12. These outages resulted in the Kenzie Creek – Valley 138 kV circuit exceeding its Load Dump Rating for a period of approximately one hour and nine minutes and exceeding its Emergency Rating for a period of approximately three hours and five minutes.

Overview of Compliance Investigation

13. On August 27, 2010, AEP and PJM conducted an Apparent Cause Analysis of the Kenzie Creek Event, and on September 9, 2010, AEP submitted a self report to ReliabilityFirst identifying a possible violation of COM-002-2, R2 resulting from the Kenzie Creek Event, addressed below. On March 29, 2011, ReliabilityFirst initiated a Compliance Investigation (“CI”) regarding the Kenzie Creek Event. On February 13, 2012, ReliabilityFirst notified AEP that during the CI, it discovered ten possible violations.³ Although it may appear that similar facts and circumstances constitute multiple alleged violations, the alleged violations addressed in this Agreement present, to varying degrees, distinct risks to the bulk-power system. Each of these distinct risks required AEP to perform separate mitigating activities as described below.
14. The transmission system in the Benton Harbor area was one contingency away from an unsustainable condition including low voltage in the Benton Harbor area and thermal overloads on the remaining lines into the Benton Harbor area. Various events could have caused additional thermal overloading and low voltages. Furthermore, AEP was hindered from taking certain actions by lack of supervisory control for certain elements necessary to mitigate the situation.
15. The overall risk and harm posed to the bulk-power system by the alleged violations resulting from the Kenzie Creek Event were mitigated by the following factors. The Benton Harbor area’s placement in the interconnection coupled with the network topology isolated the implicated

³ One possible violation discovered during the CI is addressed in a separate filing.

facilities in a manner that reduced the risk of cascading outages and the overall harm to the bulk electric system. Specifically, there was no identified risk of low voltage tripping generation and spreading beyond the Benton Harbor area. Additionally, due to the number of lines out of service at the time of the event, after an additional contingency outage, cascading outages beyond the immediate area were unlikely. Furthermore, there was real-time monitoring of conditions, and although there were certain failures as discussed below, AEP and PJM discussed the situation throughout the Kenzie Creek Event. This Agreement includes additional specific factors that reduced the risk and harm to the bulk-power system of each individual alleged violations below.

II. ALLEGED VIOLATIONS

A. Alleged Violation of COM-002-2, R2 (RFC201000608)

16. COM-002-2 ensures that Responsible Entities have adequate communications and that these communications capabilities are staffed and available for addressing real-time emergencies, and that operating personnel communicate effectively. COM-002-2, R2 states:
 - R2. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall issue directives in a clear, concise, and definitive manner; shall ensure the recipient of the directive repeats the information back correctly; and shall acknowledge the response as correct or repeat the original statement to resolve any misunderstandings.
17. ReliabilityFirst alleges that AEP violated COM-002-2, R2 by failing to issue directives in a clear, concise, and definitive manner; ensure the recipient of the directive repeats the information back correctly; and acknowledge the response as correct or repeat the original statement to resolve any misunderstandings.

Description of Alleged Violation and Risk Assessment

18. On September 9, 2010, AEP submitted a self report to ReliabilityFirst identifying a possible violation of COM-002-2, R2. See Self Report Form (attached as **Attachment A**). In order to alleviate the overload on the Kenzie Creek – Valley transmission path, AEP as the Transmission Operator discussed many options with its Transmission Dispatch Center (“TDC”). However, the communications lacked clarity and directness. Specifically, AEP as the Transmission Operator did not issue directives to its TDC in a clear, concise, and definitive manner.

19. Two instances of communication occurred between the AEP System Control Center (“SCC”) operators and the AEP TDC operators where the AEP operators did not utilize three-part communication. First, at approximately 1737 on June 23, 2010, pursuant to ongoing conversations with PJM, the AEP SCC operator was required to direct the AEP TDC operator to open circuit breaker “C” at the Valley substation. The AEP SCC operator used non-definitive language and therefore did not issue a directive in a clear, concise, and definitive manner. In addition, the AEP SCC operator did not acknowledge the AEP TDC operators’ response as correct or repeat the original statement to resolve any misunderstandings.
20. Second, at approximately 1826 on June 23, 2010, pursuant to ongoing conversations with PJM, the AEP SCC operator was to direct the AEP TDC operator to open circuit breaker “K” at the Valley substation. Beginning at 1824, AEP SCC operators and AEP TDC operators discussed whether AEP TDC saw any issues opening the “K” circuit breaker. After lengthy discussions regarding the opening of the “K” circuit breaker, the AEP SCC operator used non-definitive language and therefore did not issue a directive in a clear, concise, and definitive manner.
21. The duration of this alleged violation is for approximately one hour on June 23, 2010, the time during which AEP used improper communications.
22. A violation of COM-002-2, R2 increases the likelihood that the recipients of Reliability Coordinator, Transmission Operator, and Balancing Authority directives will not execute directives as intended due to unclear communications. AEP’s improper communication could have led to implementation delays in executing the appropriate course of action. However, the risk posed by the foregoing facts and circumstances was mitigated by the following factors.⁴ The AEP TDC operator did in fact open the correct circuit breakers and there was no apparent time delay doing so, despite the lack of clear, concise, definitive directives.
23. In light of the nature of the alleged violation, offset by the aforementioned mitigating factors, ReliabilityFirst determined that this alleged violation posed a moderate risk to the reliability of the bulk-power system.

Mitigating Actions

⁴ COM-002-2, R2 has a Violation Risk Factor (“VRF”) of “Medium,” consistent with the VRF Matrix promulgated by NERC. Applying the Violation Severity Level (“VSL”) Matrix promulgated by NERC, ReliabilityFirst determined that the facts and circumstances of this violation warranted a “Severe” VSL.

24. On November 19, 2010, AEP submitted to ReliabilityFirst a mitigation plan to address the alleged violation of COM-002-2, R2. See NERC Mitigation Plan ID MIT-10-3188 (attached as **Attachment B**). On December 16, 2010, ReliabilityFirst accepted this mitigation plan. On December 30, 2010, NERC approved this mitigation plan and on January 5, 2011, NERC submitted it to the Federal Energy Regulatory Commission (the “Commission”) as confidential, non-public information.
25. In this mitigation plan, AEP committed to take certain actions to mitigate the alleged violation. AEP Transmission Operations Management reinforced the need for effective communications when requesting other parties to perform actions with operators.
26. On December 2, 2010, AEP submitted to ReliabilityFirst a certification of completion for this mitigation plan, which stated that AEP completed this mitigation plan as of October 1, 2010. See Certification of Mitigation Plan Completion (attached as **Attachment C**). On December 18, 2012, ReliabilityFirst verified AEP’s completion of this mitigation plan. See Verification of Mitigation Plan Completion for MIT-10-3188 (attached as **Attachment D**).

B. Alleged Violation of EOP-001-0, R3 (RFC2012010145)

27. EOP-001-0 ensures that Transmission Operators develop, maintain, and implement a set of plans to mitigate operating emergencies. In pertinent part, EOP-001-0, R3 states:

R3. Each Transmission Operator and Balancing Authority shall:

* * * * *

R3.3. Develop, maintain, and implement a set of plans for load shedding.

28. ReliabilityFirst alleges that AEP violated EOP-001-0, R3 by failing to implement its set of plans for load shedding.

Description of Alleged Violation and Risk Assessment

29. During the CI, ReliabilityFirst discovered a possible violation of EOP-001-0, R3. AEP has in place an Emergency Operating Plan that contains Transmission Emergency Procedures detailing a set of plans for load shedding. However, during the Kenzie Creek Event, AEP did not fully implement its set of plans for load shedding.
30. AEP’s Emergency Operating Plan outlines thermal operating guidelines to mitigate real-time exceedance of the Load Dump Rating on its transmission lines. AEP also utilizes its Emergency Operating Plan in

conjunction with the procedures outlined in PJM Manual 13, “Emergency Operations” Section 5: Transmission Security Emergencies” and PJM Manual 03, “Transmission Operations” Section 2: Thermal Operating Guidelines.

31. AEP’s Transmission Emergency Procedure located in the Emergency Operating Plan states that during actual thermal overloads, action must be taken to immediately reduce facility loadings and/or voltages. Instead of shedding load, AEP took immediate steps to reconfigure the transmission system by opening circuit breakers, which only provided a minimal amount of load relief and did not mitigate the operating emergency. The line, however, exceeded its Emergency Rating for three hours and five minutes and its Load Dump Rating for one hour and nine minutes.
32. In addition, AEP’s Transmission Emergency Procedure located in the Emergency Operating Plan states that it will use load shedding during emergency conditions to prevent cascading outages and the spread of customer outages. Furthermore, this procedure states that in addition to using all available emergency procedures as the last transmission measures for transmission emergencies, operators are required to implement load shedding. While AEP took actions, it did not utilize load shedding to prevent localized thermal overloads. Instead, the Kenzie Creek – Valley 138 kV line exceeded its Emergency Rating for approximately three hours and its Load Dump Rating for approximately one hour.
33. PJM Manual 3, “Transmission Operations,” states that when flow is greater than the Emergency Rating, the Transmission Owner must use non-cost actions, off-cost actions, emergency procedures, plus load shedding within fifteen minutes of the violation of the Emergency Rating. Furthermore, PJM Manual 3 states that when flow is greater than the Load Dump Rating, the Transmission Owner must shed load to below the Emergency Rating within five minutes of the violation of the Load Dump Rating.
34. During the Kenzie Creek Event, the Kenzie Creek – Valley 138 kV line exceeded its Emergency Rating for three hours and five minutes, well beyond the fifteen minute period to correct the thermal limit exceedance required by PJM Manual 3. Similarly, during the Kenzie Creek Event, the Kenzie Creek – Valley 138 kV line exceeded its Load Dump Rating for one hour and nine minutes, well beyond the five minute period to correct the thermal limit exceedance required by PJM Manual 3. AEP attempted to implement actions other than shedding load; however, pursuant to the PJM Manuals, AEP was required to shed load within fifteen minutes when the line exceeded its Emergency Rating and within five minutes when the line exceeded its Load Dump Rating.

35. As a result of the foregoing, AEP did not fully implement its set of plans for load shedding.
36. The duration of this alleged violation is for approximately three hours on June 23, 2010, the time during which AEP did not fully implement its set of plans for load shedding.
37. A violation of EOP-001-0, R3 increases the likelihood that Transmission Operators will be unsure whether and how to implement load shedding. The risk posed by the foregoing facts and circumstances was mitigated by the following factors.⁵ AEP was monitoring the situation searching for solutions, and attempted various switching options to alleviate the overload. AEP opened the “C” and “K” breakers at Valley to reduce loading on the Kenzie Creek – Valley 138 kV line. Although these actions provided minimal load relief, AEP was aware of the situation and quickly took actions to attempt to resolve it.
38. In light of the nature of the alleged violation, offset by the aforementioned mitigating factors, ReliabilityFirst determined that this alleged violation posed a serious risk to the reliability of the bulk-power system.

C. Alleged Violation of EOP-003-1, R1 (RFC2012010146)

39. EOP-003-1 ensures that Transmission Operators operating with insufficient transmission capacity have the capability and authority to shed load rather than risk an uncontrolled failure of the Interconnection. EOP-003-1, R1 states:

R1. After taking all other remedial steps, a Transmission Operator or Balancing Authority operating with insufficient generation or transmission capacity shall shed customer load rather than risk an uncontrolled failure of components or cascading outages of the Interconnection.

40. ReliabilityFirst alleges that AEP violated EOP-003-1, R1 by failing to shed customer load when necessary.

Description of Alleged Violation and Risk Assessment

41. During the CI, ReliabilityFirst discovered a possible violation of EOP-003-1, R1. During the Kenzie Creek Event, there was a thermal overload

⁵ EOP-001-0, R3 has a VRF of “Medium,” consistent with the VRF Matrix promulgated by NERC. Applying the VSL Matrix promulgated by NERC, ReliabilityFirst determined that the facts and circumstances of this violation warranted a “Lower” VSL.

on the Kenzie Creek – Valley 138 kV line, constituting insufficient transmission capacity. Instead of shedding customer load, AEP searched for switching options in the Kenzie Creek area to alleviate the condition.

42. After the Kenzie Creek Event, AEP stated that the loss of the Kenzie Creek – Valley 138 kV line would have caused overloads on one of the two remaining 138 kV circuits in addition to the underlying subtransmission within the Kenzie Creek area. In addition, the loss of the Kenzie Creek 345 kV/138 kV transformer would have caused voltages to fall at four nearby 138 kV busses and four nearby 138 kV lines to exceed their Load Dump Ratings.
43. During the time period that the Kenzie Creek – Valley 138 kV line exceeded its Emergency and Load Dump Ratings and AEP did not shed load, AEP was risking an uncontrolled failure of components.
44. The duration of this alleged violation is for three hours and five minutes on June 23, 2010, the date and time during which the Kenzie Creek – Valley 138 kV line exceeded its Emergency Rating, risking an uncontrolled failure of components.
45. A violation of EOP-003-1, R1 increases the likelihood of an uncontrolled failure of components and/or cascading outages of the Interconnection. The risk posed by the foregoing facts and circumstances was mitigated by the following factors.⁶ AEP was monitoring the situation, searching for solutions, and attempted various switching options to alleviate the overload. AEP opened the “C” and “K” breakers at Valley to reduce loading on the Kenzie Creek – Valley 138 kV line. Although these actions provided minimal load relief, AEP was aware of the situation and attempted to resolve it.
46. In light of the nature of the alleged violation, offset by the aforementioned mitigating factors, ReliabilityFirst determined that this alleged violation posed a serious risk to the reliability of the bulk-power system.

D. Alleged Violation of EOP-003-1, R8 (RFC2012010147)

47. EOP-003-1 ensures that Transmission Operators operating with insufficient transmission capacity have the capability and authority to shed load rather than risk an uncontrolled failure of the Interconnection. In pertinent part, EOP-003-1, R8 states:

⁶ EOP-003-1, R1 has a VRF of “High,” consistent with the VRF Matrix promulgated by NERC. Applying the VSL Matrix promulgated by NERC, ReliabilityFirst determined that the facts and circumstances of this violation warranted a “Severe” VSL.

- R8.** Each Transmission Operator or Balancing Authority shall have plans for operator controlled manual load shedding to respond to real-time emergencies. The Transmission Operator or Balancing Authority shall be capable of implementing the load shedding in a timeframe adequate for responding to the emergency.
48. ReliabilityFirst alleges that AEP violated EOP-003-1, R8 by failing to be capable of implementing load shedding in a timeframe adequate for responding to the emergency.

Description of Alleged Violation and Risk Assessment

49. During the CI, ReliabilityFirst discovered a possible violation of EOP-003-1, R8. AEP has in place plans for operator controlled manual load shedding to respond to real-time emergencies, as described above. Partly as a result of AEP's lack of supervisory control in certain areas, however, AEP was not capable of implementing load shedding in a timeframe adequate for responding to the emergency. Ultimately, although AEP's policies required load shedding in this situation because the Load Dump Rating was exceeded, AEP did not shed load and was not capable of implementing load shedding in a timeframe adequate for responding to the emergency.
50. The duration of this alleged violation is from June 23, 2010, the date AEP did not fully implement its set of plans for load shedding, to October 24, 2012, the date AEP completed its mitigating activities.
51. A violation of EOP-003-1, R8 increases the likelihood that a Transmission Operator will be unable to respond to real-time emergencies by implementing load shedding. The risk posed by the foregoing facts and circumstances was mitigated by the following factors.⁷ AEP was monitoring the situation, searching for solutions, and attempted various switching options to alleviate the overload. AEP opened the "C" and "K" breakers at Valley to reduce loading on the Kenzie Creek – Valley 138 kV line. Although these actions provided minimal load relief, AEP was aware of the situation and attempted to resolve it.
52. In light of the nature of the alleged violation, offset by the aforementioned mitigating factors, ReliabilityFirst determined that this alleged violation posed a moderate risk to the reliability of the bulk-power system.

⁷ EOP-003-1, R8 has a VRF of "High," consistent with the VRF Matrix promulgated by NERC. Applying the VSL Matrix promulgated by NERC, ReliabilityFirst determined that the facts and circumstances of this violation warranted a "High" VSL.

E. Alleged Violation of FAC-009-1, R1 (RFC2012010148)

53. FAC-009-1 ensures that when developing Facility Ratings, Responsible Entities consider all applicable equipment and Facility Rating methods, and that Responsible Entities develop Facility Ratings pursuant to an established methodology. FAC-009-1, R1 states:

R1. The Transmission Owner and Generator Owner shall each establish Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings Methodology.

54. ReliabilityFirst alleges that AEP violated FAC-009-1, R1 by providing a rating for one 138 kV transmission line that was inconsistent with the temporarily de-rated condition of the line.

Description of Alleged Violation and Risk Assessment

55. During the CI, ReliabilityFirst discovered a possible violation of FAC-009-1, R1. Pursuant to AEP's Facility Ratings Methodology, AEP only assigns Emergency Ratings which is a function of the maximum operating temperature above the normal Facility Rating once it conducts a clearance study.⁸ In May, 2010, AEP conducted a clearance study for the Kenzie Creek – Colby – Valley 138 kV line and identified a clearance violation. As a result, AEP derated these lines from 296 MVA Normal, 398 MVA Emergency, and 458 MVA Load Dump to 143 MVA Normal/Emergency and 164 MVA Load Dump.
56. During the Kenzie Creek Event, AEP operated the Kenzie Creek – Colby – Valley transmission lines at the correct decreased Facility Rating of 143 MVA Normal/Emergency and 164 Load Dump. At approximately the time the Kenzie Creek Event concluded, however, AEP received a request to verify the ratings on the subject line. AEP mistakenly provided PJM with the rating contained in the permanent ratings database, which does not include temporary ratings. This increased the Rating back to 296 MVA Normal, 398 MVA Emergency, and 458 MVA Load Dump for the Kenzie Creek – Colby – Valley transmission lines. During the time of the alleged violation, AEP utilized a database to transmit Facility Rating information to PJM and sent an email to communicate temporary Ratings. Because the temporary rating email was not consulted, AEP did not transmit the decreased Ratings to PJM. On June 24, 2010, AEP identified

⁸ In its Recommendation to Industry: Consideration of Actual Field Conditions in Determination of Facility Ratings, issued October 7, 2010, NERC identified a reliability concern due to Facilities in the field not matching a Registered Entity's design specifications. Registered Entities were required to conduct assessments of their systems and remediate all issues identified during the assessment.

and corrected this discrepancy, and decreased the Rating. On July 8, 2010, AEP resolved the clearance issue and increased the Rating.

57. The duration of this alleged violation is from June 23, 2010, the date AEP provided PJM with the Facility Rating inconsistent with its Facility Ratings Methodology, to June 24, 2010, the date AEP revised the Facility Rating to be consistent with its Facility Ratings Methodology.
58. A violation of FAC-009-1, R1 has the potential to affect the reliable operation of the bulk-power system by enabling Registered Entities to operate without proper Facility Ratings. The risk posed by the foregoing facts and circumstances was mitigated by the following factors.⁹ AEP and PJM were utilizing the correct Facility Rating during the Kenzie Creek Event. The violation occurred for a short duration, and AEP had in place a process for handling temporary Rating changes where an operational Rating may differ from the Rating shown in the official Ratings database used in planning studies. This instance was an isolated failure to implement that procedure.
59. In light of the nature of the alleged violation, offset by the aforementioned mitigating factors, ReliabilityFirst determined that this alleged violation posed a minimal risk to the reliability of the bulk-power system.

Mitigating Actions

60. On September 28, 2012, AEP submitted to ReliabilityFirst a mitigation plan to address the alleged violation of FAC-009-1, R1. *See* NERC Mitigation Plan ID RFCMIT008053-1 (attached as **Attachment E**). On October 8, 2012, ReliabilityFirst accepted this mitigation plan. On October 31, 2012, NERC approved this mitigation plan, and on November 1, 2012, NERC submitted it to the Commission as confidential, non-public information.
61. In this mitigation plan, AEP committed to develop formal training for the temporary Ratings process and provide that training to relevant personnel to mitigate the alleged violation.
62. On October 2, 2012, AEP submitted to ReliabilityFirst a certification of completion for this mitigation plan, which stated that AEP completed this mitigation plan as of September 21, 2012. *See* Certification of Mitigation Plan Completion (attached as **Attachment F**). ReliabilityFirst will verify

⁹ FAC-009-1, R1 has a VRF of “Medium,” consistent with the VRF Matrix promulgated by NERC. Applying the VSL Matrix promulgated by NERC, ReliabilityFirst determined that the facts and circumstances of this violation warranted a “Lower” VSL.

AEP's completion of this mitigation plan and promptly report its successful completion to NERC.

F. Alleged Violations of IRO-001-1.1, R8 (RFC2012010149)

63. IRO-001-1.1 ensures that Reliability Coordinators have the authority, plans, and agreements in place to immediately direct reliability entities within their Reliability Coordinator areas to re-dispatch generation, reconfigure transmission, or reduce load to mitigate critical conditions to return the system to a reliable state.
64. IRO-001-1.1, R8 states:
 - R8.** Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities shall comply with Reliability Coordinator directives unless such actions would violate safety, equipment, or regulatory or statutory requirements. Under these circumstances, the Transmission Operator, Balancing Authority, Generator Operator, Transmission Service Provider, Load-Serving Entity, or Purchasing-Selling Entity shall immediately inform the Reliability Coordinator of the inability to perform the directive so that the Reliability Coordinator may implement alternate remedial actions.
65. ReliabilityFirst alleges that AEP violated IRO-001-1.1, R8 by failing to comply with Reliability Coordinator directives or inform the Reliability Coordinator of the inability to perform the directives.

Description of Alleged Violations and Risk Assessment

66. During the CI, ReliabilityFirst discovered a possible violation of IRO-001-1.1, R8. During the Kenzie Creek Event, PJM, AEP's Reliability Coordinator, directed AEP to open the 34 kV "B" and "D" breakers at the Valley substation. Pursuant to ongoing conversations with PJM regarding options, AEP did not perceive a clear directive was issued and as a result did not comply with PJM's three directives to open the 34 kV "B" and "D" breakers at Valley. Instead, after the first directive, the AEP SCC operator expressed hesitance to shed load. After the second directive, the AEP SCC operator stated that the AEP TDC was having difficulty opening those breakers because it was concerned about encountering more issues. After the third directive, the AEP SCC operator engaged in further discussion with PJM about the opening of the breakers and subsequent discussion with the AEP TDC operator about the opening of the breakers. AEP, however, did not open the "B" and "D" breakers at the Valley substation. Therefore, AEP did not comply with Reliability

Coordinator directives and did not inform the Reliability Coordinator of the inability to perform the directives, as required by IRO-001-1.1, R8.

67. The duration of this alleged violation is from June 23, 2010, the date AEP did not comply with Reliability Coordinator directives, to October 24, 2012, the date AEP completed its mitigating activities.
68. A violation of IRO-001-1.1, R8 affects the reliable operation of the bulk-power system by allowing Transmission Operators, Balancing Authorities, and Generator Operators to disregard Reliability Coordinator directives. The risk posed by the foregoing facts and circumstances was mitigated by the following factors.¹⁰ AEP and PJM were communicating in an attempt to resolve the issue despite AEP's failure to implement certain of PJM's directives.
69. In light of the nature of the alleged violation, offset by the aforementioned mitigating factors, ReliabilityFirst determined that this alleged violation posed a moderate risk to the reliability of the bulk-power system.

G. Alleged Violation of PER-002-0, R1 (RFC2012010150)

70. PER-002-0 ensures that each Transmission Operator and Balancing Authority provide their personnel with a coordinated training program that will ensure reliable system operation. PER-002-0, R1 states:
 - R1.** Each Transmission Operator and Balancing Authority shall be staffed with adequately trained operating personnel.
71. ReliabilityFirst alleges that AEP violated PER-002-0, R1 by failing to be staffed with adequately trained operating personnel.

Description of Alleged Violation and Risk Assessment

72. During the CI, ReliabilityFirst discovered a possible violation of PER-002-0, R1. AEP provides training regarding load shedding to its system operators. The training, however, merely mentions that load shedding is a viable option to alleviate contingencies. In addition, AEP's training is related to capacity deficiencies and does not include training regarding alleviating actual thermal overloads. Furthermore, AEP trained its operators in load shedding related to Interconnection Reliability Operating Limits. The Kenzie Creek Event related to an actual thermal overload and did not implicate an Interconnection Reliability Operating Limit. As a

¹⁰ IRO-001-1.1, R8 has a VRF of "High," consistent with the VRF Matrix promulgated by NERC. Applying the VSL Matrix promulgated by NERC, ReliabilityFirst determined that the facts and circumstances of this violation warranted a "Severe" VSL.

result, AEP system operators were inadequately trained to implement load shedding for a localized situation such as the Kenzie Creek Event.

73. The duration of this alleged violation is from June 23, 2010, the date of the Kenzie Creek Event, to October 24, 2012, the date AEP completed its mitigating activities.
74. A violation of PER-002-0, R1 affects the reliable operation of the bulk-power system by allowing inadequately trained operating personnel to operate the bulk-power system. The AEP operators on duty, were NERC certified and had completed required training, but demonstrated uncertainty during the Kenzie Creek Event. The risk posed by the foregoing facts and circumstances was mitigated by the following factors.¹¹ The AEP system operators had high-level load shedding training that could have been translated to a localized situation. During the Kenzie Creek Event, however, the AEP system operators did not translate this knowledge to the instant situation.
75. In light of the nature of the alleged violation, offset by the aforementioned mitigating factors, ReliabilityFirst determined that this alleged violation posed a moderate risk to the reliability of the bulk-power system.

H. Alleged Violation of TOP-001-1, R1 (RFC2012010151)

76. TOP-001-1 ensures that reliability entities have clear decision-making authority and capabilities to take appropriate actions or direct the actions of others to return the transmission system to normal conditions during an emergency. TOP-001-1, R1 states:
 - R1.** Each Transmission Operator shall have the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its area and shall exercise specific authority to alleviate operating emergencies.
77. ReliabilityFirst alleges that AEP violated TOP-001-1, R1 by failing to have the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its area and exercise specific authority to alleviate operating emergencies.

¹¹ PER-002-0, R1 has a VRF of “Medium,” consistent with the VRF Matrix promulgated by NERC. Applying the VSL Matrix promulgated by NERC, ReliabilityFirst determined that the facts and circumstances of this violation warranted a “Lower” VSL.

Description of Alleged Violation and Risk Assessment

78. During the CI, ReliabilityFirst discovered a possible violation of TOP-001-1, R1 and determined that during the Kenzie Creek Event, AEP exhibited several instances of failure to comply with TOP-001-1, R1.
79. First, during discussions between PJM and the AEP SCC operator about opening the “E” breaker at Colby, AEP stated that it will make the request of AEP TDC. Subsequently, when discussing the opening of the “E” breaker at Colby with AEP TDC, AEP SCC requested AEP TDC to open the breaker. The AEP TDC operator stated that it needed to check with the Distribution Dispatch Center to determine whether it was possible to open the “E” breaker, demonstrating that AEP TDC did not consider the communication from AEP SCC as a directive. Pursuant to ongoing conversations with PJM regarding options, AEP did not perceive a clear directive was issued by PJM. ReliabilityFirst concluded that the discussion between PJM and AEP SCC constituted a directive, and AEP SCC did not communicate it as such to AEP TDC. AEP SCC should have communicated it as a directive to AEP TDC. As a result, AEP did not demonstrate that it has the responsibility and clear decision-making authority to take the necessary actions. Furthermore, AEP did not exercise its specific authority to alleviate the operating emergency.
80. Second, during a discussion between AEP SCC and AEP TDC, the AEP SCC operator asked how the AEP TDC operator felt about opening the 138 kV circuit breaker “K.” ReliabilityFirst concluded this constituted a directive and should have been communicated as such to AEP TDC. As a result, the AEP SCC operator did not demonstrate its clear decision-making authority.
81. Third, during discussions between the AEP SCC operator and the AEP TDC supervisor, AEP TDC suggested delaying the opening of any additional breakers until the AEP TDC supervisor arrived at the control center. The AEP SCC operator acknowledged this course of action. ReliabilityFirst concluded that, deferral to the AEP TDC supervisor implied that the AEP SCC operator could not make the decision to open additional breakers. This demonstrates that the AEP SCC did not have clear decision-making authority in the situation.
82. The duration of this alleged violation is from June 23, 2010, the date of the Kenzie Creek Event, to October 24, 2012, the date AEP completed its mitigating activities.
83. A violation of TOP-001-1, R1 has the potential to affect the reliable operation of the bulk-power system by increasing the likelihood that a Transmission Operator will have unclear operating capabilities and

responsibilities. The risk posed by the foregoing facts and circumstances was mitigated by the following factors.¹² Despite the aforementioned instances of unclear decision-making authority, the AEP operator did open the “C” and “K” breakers and continued to work with PJM throughout the Kenzie Creek Event.

84. In light of the nature of the alleged violation, offset by the aforementioned mitigating factors, ReliabilityFirst determined that this alleged violation posed a serious risk to the reliability of the bulk-power system.

I. Alleged Violation of TOP-001-1, R2 (RFC2012010152)

85. TOP-001-1 ensures that reliability entities have clear decision-making authority and capabilities to take appropriate actions or direct the actions of others to return the transmission system to normal conditions during an emergency. TOP-001-1, R2 states:

R2. Each Transmission Operator shall take immediate actions to alleviate operating emergencies including curtailing transmission service or energy schedules, operating equipment (e.g., generators, phase shifters, breakers), shedding firm load, etc.

86. ReliabilityFirst alleges that AEP violated TOP-001-1, R2 by failing to take immediate actions to alleviate operating emergencies including shedding firm load.

Description of Alleged Violation and Risk Assessment

87. During the CI, ReliabilityFirst discovered a possible violation of TOP-001-1, R2. According to AEP and PJM thermal operating guidelines, an actual load dump overload should be corrected within five minutes. At 1722, PJM notified AEP of the overload on the Kenzie Creek – Valley 138 kV line. However, AEP did not take action until 1738, approximately fifteen minutes later, when it opened the “C” circuit breaker. This action was ineffective, and actual loading remained above the Load Dump Rating. AEP did not take further action until approximately 50 minutes later at 1829 when it opened the “K” breaker. While actual loading reduced to below the Load Dump Rating, the line still remained above its Emergency Rating. As a result, AEP did not take immediate actions to alleviate the operating emergency.

¹² TOP-001-1, R1 has a VRF of “High,” consistent with the VRF Matrix promulgated by NERC. Applying the VSL Matrix promulgated by NERC, ReliabilityFirst determined that the facts and circumstances of this violation warranted a “Severe” VSL.

88. The duration of this alleged violation is for approximately one hour and fifteen minutes on June 23, 2010, the time during which AEP did not take immediate actions to alleviate the operating emergency.
89. A violation of TOP-001-1, R2 affects the reliable operation of the bulk-power system by increasing the likelihood that a Transmission Operator will delay actions to alleviate operating emergencies. The risk posed by the foregoing facts and circumstances was mitigated by the following factors.¹³ AEP was working to alleviate the operating emergency although it did not take actions quickly enough.
90. In light of the nature of the alleged violation, offset by the aforementioned mitigating factors, ReliabilityFirst determined that this alleged violation posed a serious risk to the reliability of the bulk-power system.

J. Alleged Violation of TOP-001-1, R5 (RFC2012010154)

91. TOP-001-1 ensures that reliability entities have clear decision-making authority and capabilities to take appropriate actions or direct the actions of others to return the transmission system to normal conditions during an emergency. TOP-001-1, R5 states:

R5. Each Transmission Operator shall inform its Reliability Coordinator and any other potentially affected Transmission Operators of real time or anticipated emergency conditions, and take actions to avoid, when possible, or mitigate the emergency.

92. ReliabilityFirst alleges that AEP violated TOP-001-1, R5 by failing to inform its Reliability Coordinator of a real time emergency condition.

Description of Alleged Violation and Risk Assessment

93. During the CI, ReliabilityFirst discovered a possible violation of TOP-001-1, R5. During the Kenzie Creek Event, PJM, AEP's Reliability Coordinator, informed AEP that the Kenzie Creek – Valley 138 kV line was above its Load Dump Rating. However, the AEP SCC operator maintained that the line was only exceeding its Emergency Rating, not the Load Dump Rating. This exchange between AEP and PJM demonstrates that AEP as the Transmission Operator did not inform its Reliability Coordinator of the real time emergency condition. Instead, PJM as the Reliability Coordinator informed AEP of the real time emergency condition.

¹³ TOP-001-1, R2 has a VRF of "High," consistent with the VRF Matrix promulgated by NERC. Applying the VSL Matrix promulgated by NERC, ReliabilityFirst determined that the facts and circumstances of this violation warranted a "Severe" VSL.

94. The duration of this alleged violation is for one hour and nine minutes on June 23, 2010, the time during which AEP exceeded the Load Dump Rating.
95. A violation of TOP-001-1, R5 affects the reliable operation of the bulk-power system by increasing the likelihood that a Transmission Operator will fail to mitigate an emergency. AEP did not initiate dialog with PJM of the emergency conditions. The risk posed by the foregoing facts and circumstances was mitigated by the following factors.¹⁴ AEP and PJM were discussing possible controlling actions within two minutes of the initial Load Dump Rating exceedance.
96. In light of the nature of the alleged violation, offset by the aforementioned mitigating factors, ReliabilityFirst determined that this alleged violation posed a moderate risk to the reliability of the bulk-power system.

III. MITIGATING ACTIONS

97. On October 12, 2012, AEP submitted to ReliabilityFirst a mitigation plan to address the alleged violations of EOP-001-0, R3; EOP-003-1, R1; EOP-003-1, R8; IRO-001-1.1, R8; PER-002-0, R1; and TOP-001-1, R1, R2, and R5. See NERC Mitigation Plan ID RFCMIT008269 (attached as **Attachment G**).¹⁵ On December 6, 2012, ReliabilityFirst accepted this mitigation plan. On December 18, 2012, NERC approved and submitted this mitigation plan to the Commission as confidential, non-public information.
98. In this mitigation plan, AEP committed to take certain actions to address the alleged violation. AEP delivered communication training and an Apparent Cause Analysis review to the East System Control Center Operators, and the East System Control Center Operators participated in the 2011 PJM System Operator Seminar, which covered the Kenzie Creek Event, communications, and load shedding. AEP committed to enhance its load shedding tool functionality; revise its communication plan; deliver training on the Authority to Act policy to East System Control Center Operators and East Transmission Dispatchers; develop a Facility Load Shedding program training; conduct management discussion and review of the Authority to Act policy, revised communication plan, and Facility

¹⁴ TOP-001-1, R5 has a VRF of “High,” consistent with the VRF Matrix promulgated by NERC. Applying the VSL Matrix promulgated by NERC, ReliabilityFirst determined that the facts and circumstances of this violation warranted a “Severe” VSL.

¹⁵ On November 19, 2010, AEP submitted a separate mitigation plan that addresses the alleged violation of COM-002-2, R2. On September 28, 2012, AEP submitted a separate mitigation plan that addresses the alleged violation of FAC-009-1, R1.

Load Shedding program capabilities; deliver Facility Load Shedding program training to East System Control Center Operators and East Transmission Dispatchers; revise the Emergency Operating Plan; and deliver training on Directives to East System Control Center Operators and Transmission Dispatchers.

99. On December 21, 2012, AEP submitted to ReliabilityFirst a certification of completion for this mitigation plan, which stated that AEP completed this mitigation plan as of December 3, 2012. *See* Certification of Mitigation Plan Completion (attached as **Attachment H**). On February 13, 2013, ReliabilityFirst verified AEP's completion of this mitigation plan. *See* Mitigation Plan Verification for RFCMIT008269 (attached as **Attachment I**).

IV. ADJUSTMENT FACTORS

100. ReliabilityFirst considered the following aspects of AEP's 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.
101. Effective oversight of the reliability of the bulk power system depends on robust compliance programs implemented by Registered Entities. AEP had an operator performing the system operator function who did not take sufficient actions to control the situation, and AEP did not discover this condition until the occurrence of a real-life event rather than through refresher training or simulations and drills. This demonstrates AEP's lack of effective internal controls especially with respect to system operator training, and as a result, ReliabilityFirst applied partial mitigating credit for AEP's internal compliance program.
102. ReliabilityFirst considered as a mitigating factor that AEP voluntarily conducted an Apparent Cause Analysis to reassess and improve the operator control action communication protocol and provided lessons

learned to the industry regarding the Kenzie Creek Event during the 2011 PJM System Operator Seminar.

103. ReliabilityFirst considered that AEP discovered all of the alleged violations through the occurrence of an event. Similarly, ReliabilityFirst considered that AEP did not discover and self-disclose any of the alleged violations except the COM-002-2, R2 alleged violation and therefore only applied self-reporting mitigating credit for the alleged violation of COM-002-2, R2.
104. ReliabilityFirst considered as a mitigating factor, however, the positive degree and quality of AEP's cooperation and remedial action during the CI and enforcement process. AEP was cooperative throughout its interactions with ReliabilityFirst in connection with the alleged violations and also promptly submitted effective mitigation plans to remediate the alleged violations.
105. When assessing the penalty for the alleged violations at issue in this Agreement, ReliabilityFirst considered whether the facts of these alleged violations evidenced any (a) repeated or continuing conduct similar to that underlying a prior violation of the same or a closely-related Reliability Standard Requirement; (b) conduct addressed in any previously submitted mitigation plan for a prior violation of the same or a closely-related Reliability Standard Requirement; or (c) multiple violations of the same Standard and Requirement. [REDACTED]

V. MONETARY PENALTY

106. Based on the foregoing, AEP shall pay a monetary penalty of \$225,000 to ReliabilityFirst.
107. ReliabilityFirst shall present an invoice to AEP within 20 days after the Agreement is approved by the Commission or affirmed by operation of law. Upon receipt, AEP shall have 30 days to remit payment. ReliabilityFirst will notify NERC if it does not timely receive the payment from AEP.
108. If AEP fails to timely remit the monetary penalty payment to ReliabilityFirst, interest will commence to accrue on the outstanding balance, pursuant to 18 C.F.R. § 35.19a(a)(2)(iii), on the earlier of (a) the 31st day after the date on the invoice issued by ReliabilityFirst to AEP for

the monetary penalty payment or (b) the 51st day after the Agreement is approved by the Commission or operation of law.

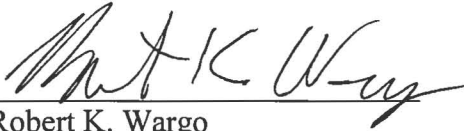
VI. ADDITIONAL TERMS

109. ReliabilityFirst and AEP agree that this Agreement is in the best interest of bulk-power system reliability. The terms and conditions of the Agreement are consistent with the regulations and orders of the Commission and the NERC Rules of Procedure.
110. 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 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 review and approval by order or operation of law and (b) publicly post the alleged violations and the terms provided for in this Agreement.
111. This Agreement shall become effective upon the Commission's approval of the proposed resolution of the above alleged violations as set forth in this Agreement by order or operation of law or as modified in a manner acceptable to the parties. AEP agrees that this Agreement, upon its effective date, shall represent a final settlement of all matters set forth herein and binds AEP to perform the actions enumerated herein. AEP expressly waives its rights to any hearing or appeal concerning any matter set forth herein, unless and only to the extent that AEP contends that any NERC or Commission action constitutes a material modification to this Agreement.
112. ReliabilityFirst reserves all rights to initiate enforcement actions against AEP in accordance with the NERC Rules of Procedure in the event that AEP fails to comply with any of the terms or conditions of this Agreement, including failure to timely complete mitigation plans or other remedies of this Agreement. In the event AEP fails to comply with any of the terms or conditions of this Agreement, ReliabilityFirst may initiate an action or actions against 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. AEP will retain all rights to defend against such action or actions in accordance with the NERC Rules of Procedure.

113. AEP consents 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 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 AEP does 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 AEP consent to the use of this Agreement by any other party in any other action or proceeding.
114. AEP affirms 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 it 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 AEP to ReliabilityFirst during any of AEP's interactions with ReliabilityFirst relating to the subject matter of this Agreement.
115. Upon execution of this Agreement, ReliabilityFirst and AEP stipulate that ReliabilityFirst will be deemed to have determined that each Possible Violation addressed herein constitutes an Alleged Violation. ReliabilityFirst and AEP further stipulate that all required, applicable information listed in Section 5.3 of the CMEP is included within this Agreement.
116. Each of the undersigned agreeing 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.
117. 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 or AEP has been made to induce the signatories or any other party to enter into this Agreement.
118. The Agreement may be signed in counterparts.
119. This Agreement is executed in duplicate, each of which so executed shall be deemed to be an original.

[SIGNATURE PAGE TO FOLLOW]

ENDORSED BY:



Robert K. Wargo
Director of Analytics & Enforcement
ReliabilityFirst Corporation

3/1/2013
Date

AGREED TO AND ACCEPTED BY:

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:



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

3/8/13
Date

ReliabilityFirst Corporation:



Timothy R. Gallagher
President & Chief Executive Officer
ReliabilityFirst Corporation

3/1/13
Date

Attachment b

**AEP's Self-Report for COM-002-2 R2 dated
September 9, 2012**



COMPLIANCE MONITORING AND ENFORCEMENT PROGRAM

VIOLATION SELF-REPORTING FORM

This Violation Self-Reporting Form can be used for submittals via e-mail for violations of the Reliability Standards identified by a self-assessment.

1. Date: 9/9/2010
2. Registered Entity: American Electric Power
3. NERC Registry ID: Joint Registration ID (JRO) (if applicable :) NCR00682
4. Multiple Regional Registered Entity (MRRE) Regional Affiliates (if applicable :) NA
5. Reliability Standard COM-002-2 Requirement ^a: R2
6. Reporting for registered function(s): Transmission Operator
7. Date Violation was Discovered: 8/27/2010 (date of final ACA)
Beginning Date of Violation: 6/23/2010
End or Expected End Date of Violation: 6/23/2010
8. Has this violation been previously reported: Yes or No
If yes, Provide NERC Violation ID number:
9. Has this violation been reported to another region(s): Yes or No
If yes, Provide Region(s):
10. Is the violation still occurring: Yes or No
11. Detail description and cause of the violation:

On June 23 2010, multiple, nearly simultaneous, outages occurred on the AEP 138 kV system in southwest Michigan in the Kenzie Creek area. This resulted in the Kenzie Creek – Valley 138Kv circuit exceeding its load dump rating and its emergency rating for an extended period. AEP and PJM performed an Apparent Cause Analysis (ACA) [Attachment 1] to identify the cause(s) of the duration of the event.

AEP and PJM operators discussed many options to alleviate the overload on the Kenzie Creek-Colby-Valley transmission path. Communications lacked clarity and directness during this event, which led to implementation delays in executing the appropriate course of action.

Because AEP did not utilize clear and concise communications during this event, AEP may be non-compliant with COM-002-2, R2.

The relevant causal factor identified in the ACA was that AEP and PJM operators did not consistently utilize clear and concise communications during this event.

12. Violation Risk Factor: Lower () – Medium (X) – High () – Not Specified () Select One

13. Violation Severity Level: Lower () – Moderate () – High () – Severe (X) Select One
Provide justification for this determination: Potential non-compliance matches the severity level described in VSL table.

14. Provide a determination of the Potential Impact to the Bulk Electric System: The potential impact to the BES was limited and localized to the Kenzie Creek area.

15. Mitigation Plan attached^b: Yes or No

16. Additional Comments:

17. Officer Verification: I understand that this information is being provided as required by the ReliabilityFirst Compliance Monitoring and Enforcement Program. Any review of this violation will require all information certified on this form be supported by appropriate documentation.

Officer's Name: Michael Heyeck



Title: Senior VP-Transmission

E-mail address: mheyeck@aep.com

Phone: 614-552-1700

Primary Compliance Contact: Thad Ness

E-mail address: tkness@aep.com

Phone: 614-716-2057

**E-mail Submittals to self-reports@rfirst.org Subject Line: (Registered No.) - Violation Self-Report
For any questions regarding compliance submittals, please e-mail self-reports@rfirst.org.**

- ^a. Report on a requirement basis. If the violation is to a sub requirement, or multiple sub requirements, include all sub requirements relevant to this violation.
- ^b. Mitigation Plans are to be submitted to mitigationplan@rfirst.org with the subject line **(Registered No. - Mitigation Plan)**.

Attachment c

AEP's Summary of Possible Violation for EOP-001-0 R3 dated November 29, 2011



Summary for Possible Violation (PV)

Registered Entity: American Electric Power Service Corporation

NERC ID#: NCR00682

Compliance Monitoring Process: Compliance Violation Investigations

Standard and Requirement: EOP-001-0, R3 and R3.3

Registered Function(s) in Violation: Transmission Operator

Initial PV Date (Actual Date Discovered): 11/29/2011

Date for Determination of Penalty/Sanction (Beginning Date of Violation): 6/23/2010

Violation Risk Factor: VRF - Medium

Violation Severity Level: VSL - Level 3

Violation Reported By: Audit Team

Basis for the PV: AEP as the TOP did not implement their set of plans for load shedding to alleviate the load dump overload on the Kenzie Creek – Valley 138 kV line.

Facts and Evidence pertaining to the PV: *AEP's Emergency Operating Plan, Section VI - Transmission Emergency Procedures, Version 13 dated April 2010:*

- a. Page VI-5, Item No.4, Actual Thermal Overloads and/or Actual Voltage Under/Over Limits states that action must be taken immediately to reduce facility loadings and/or raise or lower voltages.
- b. Page VI-6, Emergency Actions, Item No.2 states that load shedding will be used under emergency conditions to prevent cascading outages, and the spread of customer outages. Item No.4 states that load shedding will be targeted to minimize the amount shed by choosing loads that will effectively help the emergency condition(s). The SCC is to work with the RC and under NERC guidelines, achieve an effective and timely resolution of each problem.

c. Pages VI-7 and VI-8 list and describe transmission measures that will be used for transmission emergencies. Item No. 15 states that all other available emergency procedures will be implemented including load shedding.

- AEP did not implement its plan to mitigate the operating emergency on the Kenzie Creek – Valley 138 kV line. Specifically, AEP failed to implement load shedding procedures to correct the overload in a timely manner as required by AEP’s Emergency operating plan.
- Instead of shedding load, the transmission system in the Kenzie Creek area was re-configured by AEP opening the "C" and "K" breakers at Valley which provided a minimal amount of load relief and did not mitigate the operating emergency. The Kenzie Creek – Valley 138 kV line remained over its Emergency and Load Dump ratings for approximately 3 hours and five minutes. Loading did not subside until, a combination of this switching, a decrease in system load, and the return of the Hickory Creek – Kenzie Creek and Hickory Creek - Olive 138 kV lines allowed the Kenzie Creek - Valley 138 kV line flow to drop below the emergency rating without further corrective action (system re-configuration or load shedding) by AEP.

Potential Impact to Bulk Electrical System (BES): (Minimal, Moderate, or Severe)

- **Provide Explanation for Potential Impact to BES:** This failure to shed load led to the Kenzie Creek – Valley 138 kV line exceeding its emergency rating for three hours and five minutes; well in excess of the 15 minute time limit to correct emergency rating exceedances as required by AEP and PJM procedures.

REVISION HISTORY

Revision	Prepared By	Approved By	Date	Comments
Rev. 0	Renata Fellmeth	Gary Campbell	7/1/2009	New Document
Rev. 1	Renata Fellmeth	Gary Campbell	9/3/2009	Changed PAV to PV. Removed the word "Alleged."
Rev. 2	Renata Fellmeth	Gary Campbell	5/14/2010	Added word "Potential" to sentences, 'Impact to Bulk Electrical System (BES)' and 'Provide Explanation for Impact to BES.' Added clarification in brackets after the following sentences: 'Initial PV Date' and 'Date for Determination of Penalty/Sanction.'
Rev. 3	Renata Fellmeth	Gary Campbell	6/15/2010	Unlocked form so that the form is user friendly – cutting and pasting.
Rev. 4	Renata Fellmeth	Gary Campbell	9/15/2010	Added Vimarie Luna to the distribution list.
Rev. 5	Renata Fellmeth	Gary Campbell	11/19/2010	Removed Bob Berglund from PV summary distribution list.
Rev. 6	Renata Fellmeth	Gary Campbell	1/20/2011	Changed titles, Summary reports for 693 and CIP will now be sent to the appropriate 693 or CIP manager.

Attachment d

AEP's Summary of Possible Violation for EOP-003-1 R1 dated November 29, 2011



Summary for Possible Violation (PV)

Registered Entity: American Electric Power Service Corporation

NERC ID#: NCR00682

Compliance Monitoring Process: Compliance Violation Investigations

Standard and Requirement: EOP-003-1, R1

Registered Function(s) in Violation: Transmission Operator

Initial PV Date (Actual Date Discovered): 11/29/2011

Date for Determination of Penalty/Sanction (Beginning Date of Violation): 6/23/2010

Violation Risk Factor: VRF - High

Violation Severity Level: VSL - Level 4

Violation Reported By: Audit Team

Basis for the PV: When operating with insufficient transmission capacity resulting from the loss of multiple 138 kV lines in the Kenzie Creek area, AEP as the Transmission Operator (TOP) should have shed customer load rather than risk an uncontrolled failure of the Kenzie Creek – Valley 138 kV line.

Facts and Evidence pertaining to the PV:

- Transcript records and testimony from AEP operator show that AEP operators were focused on taking other actions except shedding load to relieve the Kenzie Creek – Valley 138 kV line overload condition. AEP operators contend that evaluating switching options become the primary focus of their efforts due to a lack of SCADA (Supervisory Control And Data Acquisition) control in the Kenzie Creek area which limited their load shedding options.

- Loss of the Kenzie Creek - Valley 138 kV line would have likely resulted in additional component failures within the Kenzie Creek area. According to AEP's response to RFI-2, Question 2, loss of the Kenzie Creek – Valley 138 kV line would have caused overloads on one of the two remaining 138 kV circuits plus the underlying sub-transmission within the Kenzie Creek area.
- Real-time contingency analysis results obtained from PJM's response to RFI-1, also show the loss of the Kenzie Creek 345/138 kV transformer would have caused: (1) voltages to fall below the load dump rating at four nearby 138 kV buses, and (2) caused four nearby 138 kV lines to exceed their load dump thermal ratings. Also, non-convergences occurred associated with contingencies on three nearby 138 kV lines which included the Kenzie Creek - Colby - Valley 138 kV line.

Potential Impact to Bulk Electrical System (BES): (Minimal, **Moderate**, or Severe)

Provide Explanation for Potential Impact to BES: AEP, as the TOP, failed to shed load during the event risking the failure of additional transmission components within the Kenzie Creek area.

REVISION HISTORY

Revision	Prepared By	Approved By	Date	Comments
Rev. 0	Renata Fellmeth	Gary Campbell	7/1/2009	New Document
Rev. 1	Renata Fellmeth	Gary Campbell	9/3/2009	Changed PAV to PV. Removed the word "Alleged."
Rev. 2	Renata Fellmeth	Gary Campbell	5/14/2010	Added word "Potential" to sentences, 'Impact to Bulk Electrical System (BES)' and 'Provide Explanation for Impact to BES.' Added clarification in brackets after the following sentences: 'Initial PV Date' and 'Date for Determination of Penalty/Sanction.'
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Rev. 5	Renata Fellmeth	Gary Campbell	11/19/2010	Removed Bob Berglund from PV summary distribution list.
Rev. 6	Renata Fellmeth	Gary Campbell	1/20/2011	Changed titles, Summary reports for 693 and CIP will now be sent to the appropriate 693 or CIP manager.

Attachment e

**AEP's Summary of Possible Violation for EOP-
003-1 R8 dated November 29, 2011**



Summary for Possible Violation (PV)

Registered Entity: American Electric Power Service Corporation

NERC ID#: NCR00682

Compliance Monitoring Process: Compliance Violation Investigations

Standard and Requirement: EOP-003-1, R8

Registered Function(s) in Violation: Transmission Operator

Initial PV Date (Actual Date Discovered): 11/29/2011

Date for Determination of Penalty/Sanction (Beginning Date of Violation): 6/23/2010

Violation Risk Factor: VRF - High

Violation Severity Level: VSL - Level 4

Violation Reported By: Audit Team

Basis for the PV: AEP, as the Transmission Operator (TOP), did not have a plan for operator-controlled manual load shedding with the capability to be implemented in a timeframe adequate for responding to the real-time emergency in the Kenzie Creek area.

Facts and Evidence pertaining to the PV:

- *AEP East/PJM Manual – Manual Load Shedding Guidelines, Version 13 dated April 2010.* Provided in response to AEP RFI-1 Question 15. This plan was insufficient to implement during the system event since it is primarily directed toward mitigating capacity deficiency emergencies.
- During questioning, AEP operators were unable to show that they utilized AEP's Emergency Operating Plan, Section IV during the event. This plan in conjunction with PJM Manual 13 were mentioned as the procedures used during the event, but the

operators acknowledged during questioning that these plans would not and did not relieve the overload at Kenzie Creek.

- Capacity emergencies are only one type of emergency that can occur on the transmission system. By AEP so narrowly focusing their plan on this single type of emergency, AEP failed to meet the reliability objective of this NERC Reliability Standard requirement.

Potential Impact to Bulk Electrical System (BES): (Minimal, Moderate, or Severe)

Provide Explanation for Potential Impact to BES: AEP's load shedding plans were insufficient for this event since the plan only addressed processes and procedures for shedding large blocks of load primarily geared toward mitigating capacity deficiency emergencies and not local transmission emergencies.

REVISION HISTORY

Revision	Prepared By	Approved By	Date	Comments
Rev. 0	Renata Fellmeth	Gary Campbell	7/1/2009	New Document
Rev. 1	Renata Fellmeth	Gary Campbell	9/3/2009	Changed PAV to PV. Removed the word "Alleged."
Rev. 2	Renata Fellmeth	Gary Campbell	5/14/2010	Added word "Potential" to sentences, 'Impact to Bulk Electrical System (BES)' and 'Provide Explanation for Impact to BES.' Added clarification in brackets after the following sentences: 'Initial PV Date' and 'Date for Determination of Penalty/Sanction.'
Rev. 3	Renata Fellmeth	Gary Campbell	6/15/2010	Unlocked form so that the form is user friendly – cutting and pasting.
Rev. 4	Renata Fellmeth	Gary Campbell	9/15/2010	Added Vimarie Luna to the distribution list.
Rev. 5	Renata Fellmeth	Gary Campbell	11/19/2010	Removed Bob Berglund from PV summary distribution list.
Rev. 6	Renata Fellmeth	Gary Campbell	1/20/2011	Changed titles, Summary reports for 693 and CIP will now be sent to the appropriate 693 or CIP manager.

Attachment f

AEP's Summary of Possible Violation for FAC-009-1 R1 dated November 29, 2011



Summary for Possible Violation (PV)

Registered Entity: American Electric Power Service Corporation

NERC ID#: NCR00682

Compliance Monitoring Process: Compliance Violation Investigations

Standard and Requirement: FAC-009-1, R1

Registered Function(s) in Violation: Transmission Owner

Initial PV Date (Actual Date Discovered): 11/29/2011

Date for Determination of Penalty/Sanction (Beginning Date of Violation): 6/23/2010

Violation Risk Factor: VRF - Medium

Violation Severity Level: VSL - Level 1

Violation Reported By: Audit Team

Basis for the PV: AEP, as the Transmission Owner, violated its established Facility Ratings methodology when the Kenzie Creek-Colby-Valley 138 kV line was incorrectly re-rated, then again de-rated during the event.

Facts and Evidence pertaining to the PV:

1. TERM Ticket Revision, Ticket ID 278243, Colby-Kenzie Creek, Estimated Start: 5/03/10, Actual Start: 5/11/10; Actual End: 6/24/10, Reason for Change: Procedure/calculation method. Ticket Type: Immediate-Permanent – *Demonstrates that this line was initially de-rated to 143 MVA normal/emergency and 164 MVA load dump based on the clearance study.*
2. TERM Ticket Revision, Ticket ID 278259, Colby-Kenzie Creek, Estimated Start: 6/23/10 @2044; Actual Start: 6/24/10 @0810; Actual End: 6/28/10 @1033 Reason for

Change: Configuration Change. Ticket Type: Immediate – Permanent – *Demonstrates that this line was re-rated to 296 MVA normal, 398 MVA emergency, and 458 MVA load dump with the clearance issue still in effect.*

3. TERM Ticket Revision, Ticket ID 287432, Colby-Kenzie Creek, Estimated Start: 6/24/10 @1700, Actual Start: 6/25/10 @0826, Actual End: 6/28/10 @1033, Reason for Changes: Clerical error, Ticket Type: Immediate – Temporary– *Demonstrates that this line was again de-rated to 143 MVA normal/emergency and 164 MVA load dump.*

Potential Impact to Bulk Electrical System (BES): (Minimal, **Moderate**, or Severe)

Provide Explanation for Potential Impact to BES: The sudden re-rate back to the original rating of the Kenzie Creek – Colby line section on the day of the event was not consistent with AEP’s Facility Ratings Methodology. In response to RFI-1, Question 18, AEP admitted that the rating change submitted to PJM via TERM on the day of the event was done in error. This change was inconsistent with AEP's Facility Ratings Methodology because it failed to account for the previously identified clearance violation which had caused in initial de-rate.

REVISION HISTORY

Revision	Prepared By	Approved By	Date	Comments
Rev. 0	Renata Fellmeth	Gary Campbell	7/1/2009	New Document
Rev. 1	Renata Fellmeth	Gary Campbell	9/3/2009	Changed PAV to PV. Removed the word "Alleged."
Rev. 2	Renata Fellmeth	Gary Campbell	5/14/2010	Added word "Potential" to sentences, 'Impact to Bulk Electrical System (BES)' and 'Provide Explanation for Impact to BES.' Added clarification in brackets after the following sentences: 'Initial PV Date' and 'Date for Determination of Penalty/Sanction.'
Rev. 3	Renata Fellmeth	Gary Campbell	6/15/2010	Unlocked form so that the form is user friendly – cutting and pasting.
Rev. 4	Renata Fellmeth	Gary Campbell	9/15/2010	Added Vimarie Luna to the distribution list.
Rev. 5	Renata Fellmeth	Gary Campbell	11/19/2010	Removed Bob Berglund from PV summary distribution list.
Rev. 6	Renata Fellmeth	Gary Campbell	1/20/2011	Changed titles, Summary reports for 693 and CIP will now be sent to the appropriate 693 or CIP manager.

Attachment g

Summary of Possible Violation for IRO-001- 1.1 R8 dated November 29, 2011



Summary for Possible Violation (PV)

Registered Entity: American Electric Power Service Corporation

NERC ID#: NCR00682

Compliance Monitoring Process: Compliance Violation Investigations

Standard and Requirement: IRO-001-1.1, R8

Registered Function(s) in Violation: Transmission Operator

Initial PV Date (Actual Date Discovered): 11/29/2011

Date for Determination of Penalty/Sanction (Beginning Date of Violation): 6/23/2010

Violation Risk Factor: VRF - High

Violation Severity Level: VSL - Level 4

Violation Reported By: Audit Team

Basis for the PV: AEP, as the Transmission Operator (TOP), did not immediately comply with the Reliability Coordinator (RC) load dump directives nor clearly inform the RC of the inability to perform a specific directive.

Facts and Evidence pertaining to the PV:

- The PJM operator instructed the AEP operator to open the 34 KV, B and D breakers at Valley. AEP did not comply with these PJM requests to open the "B" and "D" breakers at Valley. AEP did not specifically inform PJM of their inability to open the B and D breakers at that time.
- The AEP operators did not comply with PJM's directives to open the B and D breakers in order to shed load, and there is no indication that complying with PJM's directives would have violated safety, equipment or regulatory requirements. Furthermore, the

operators did not inform PJM of their inability to perform the directive to open the B and D breakers, so as to allow PJM to implement alternate remedial actions.

Potential Impact to Bulk Electrical System (BES): (Minimal, Moderate, or Severe)

Provide Explanation for Potential Impact to BES: Failure to comply with a RC load dump directive could have resulted in the uncontrolled failure of the Kenzie Creek – Valley 138 kV line causing additional 138 kV line overloads and 138 kV low voltage conditions in the Kenzie Creek area.

REVISION HISTORY

Revision	Prepared By	Approved By	Date	Comments
Rev. 0	Renata Fellmeth	Gary Campbell	7/1/2009	New Document
Rev. 1	Renata Fellmeth	Gary Campbell	9/3/2009	Changed PAV to PV. Removed the word "Alleged."
Rev. 2	Renata Fellmeth	Gary Campbell	5/14/2010	Added word "Potential" to sentences, 'Impact to Bulk Electrical System (BES)' and 'Provide Explanation for Impact to BES.' Added clarification in brackets after the following sentences: 'Initial PV Date' and 'Date for Determination of Penalty/Sanction.'
Rev. 3	Renata Fellmeth	Gary Campbell	6/15/2010	Unlocked form so that the form is user friendly – cutting and pasting.
Rev. 4	Renata Fellmeth	Gary Campbell	9/15/2010	Added Vimarie Luna to the distribution list.
Rev. 5	Renata Fellmeth	Gary Campbell	11/19/2010	Removed Bob Berglund from PV summary distribution list.
Rev. 6	Renata Fellmeth	Gary Campbell	1/20/2011	Changed titles, Summary reports for 693 and CIP will now be sent to the appropriate 693 or CIP manager.

Attachment h

AEP's Summary of Possible Violation for PER-002-0 R1 dated November 29, 2011



Summary for Possible Violation (PV)

Registered Entity: American Electric Power Service Corporation

NERC ID#: NCR00682

Compliance Monitoring Process: Compliance Violation Investigations

Standard and Requirement: PER-002-0, R1

Registered Function(s) in Violation: Transmission Operator

Initial PV Date (Actual Date Discovered): 11/29/2011

Date for Determination of Penalty/Sanction (Beginning Date of Violation): 6/23/2010

Violation Risk Factor: VRF - High

Violation Severity Level: VSL - Level 4

Violation Reported By: Audit Team

Basis for the PV: AEP system operating personnel appeared to lack the necessary knowledge and skills for correcting the actual overload on the Kenzie Creek - Valley 138 kV line.

Facts and Evidence pertaining to the PV:

The reviewed evidence pointed to a lack of adequate training of AEP operating personnel with respect to load shedding for localized events. Although the training documents provided by AEP mentioned that load shedding is a viable option to alleviate contingencies, training on manual load shedding was related to capacity deficiencies, and did not include alleviating actual thermal overloads. Furthermore, during interviews, the operators mentioned that the only training they received on load shedding was to alleviate Interconnection Reliability Operating Limits (IROLs). The operators were not trained on load shedding for a localized event such as the Kenzie Creek event.

Potential Impact to Bulk Electrical System (BES): (Minimal, **Moderate**, or Severe)

Provide Explanation for Potential Impact to BES: The AEP operators interviewed lacked the knowledge necessary to operate the Bulk Electric System (BES) to alleviate the load dump overload on the Kenzie Creek – Valley 138 kV line.

REVISION HISTORY

Revision	Prepared By	Approved By	Date	Comments
Rev. 0	Renata Fellmeth	Gary Campbell	7/1/2009	New Document
Rev. 1	Renata Fellmeth	Gary Campbell	9/3/2009	Changed PAV to PV. Removed the word "Alleged."
Rev. 2	Renata Fellmeth	Gary Campbell	5/14/2010	Added word "Potential" to sentences, 'Impact to Bulk Electrical System (BES)' and 'Provide Explanation for Impact to BES.' Added clarification in brackets after the following sentences: 'Initial PV Date' and 'Date for Determination of Penalty/Sanction.'
Rev. 3	Renata Fellmeth	Gary Campbell	6/15/2010	Unlocked form so that the form is user friendly – cutting and pasting.
Rev. 4	Renata Fellmeth	Gary Campbell	9/15/2010	Added Vimarie Luna to the distribution list.
Rev. 5	Renata Fellmeth	Gary Campbell	11/19/2010	Removed Bob Berglund from PV summary distribution list.
Rev. 6	Renata Fellmeth	Gary Campbell	1/20/2011	Changed titles, Summary reports for 693 and CIP will now be sent to the appropriate 693 or CIP manager.

Attachment i

AEP's Summary of Possible Violation for TOP-001-1 R1 dated November 29, 2011



Summary for Possible Violation (PV)

Registered Entity: American Electric Power Service Corporation

NERC ID#: NCR00682

Compliance Monitoring Process: Compliance Violation Investigations

Standard and Requirement: TOP-001-1, R1

Registered Function(s) in Violation: Transmission Operator

Initial PV Date (Actual Date Discovered): 11/29/2011

Date for Determination of Penalty/Sanction (Beginning Date of Violation): 6/23/2010

Violation Risk Factor: VRF - High

Violation Severity Level: VSL - Level 4

Violation Reported By: Audit Team

Basis for the PV: The AEP System Control Center (SCC), as the Transmission Operator (TOP), failed to exercise their specific authority to alleviate the operating emergency, thus the AEP Transmission Dispatch Center (TDC) operators failed to take the actions requested by PJM to the SCC.

Facts and Evidence pertaining to the PV:

AEP voice transcripts in response to RFI-1 dated August 18, 2011:

1. Page 3 of 54, Lines 4-5 involves the discussion between the SCC and TDC about opening something or shedding load. SCC is asking for suggestions. Clear decision making authority was not demonstrated by SCC.

2. Page 4 of 54, Line 14 involves another discussion between the SCC and TDC where the SCC is again asking for suggestions.
3. Page 19, Lines 20-21 involves a discussion between the SCC and TDC where the SCC asks how the TDC feels about opening the 138 kV circuit breaker K going towards Hydromatic. In this case, the SCC should have issued a directive instead of asking.
4. Page 20 of 54, line 17 which includes the following statement: *"I'm just trying to avoid shedding load is essentially what I'm looking"*. This demonstrates that the SCC was unwilling to take the necessary actions needed to alleviate the Kenzie Creek – Valley 138 kV line overload. During this conversation, the TDC acknowledged to avoid shedding load.
5. Page 21, Lines 17-18 involves a discussion between the SCC and TDC (supervisor) who suggests to hold off on opening anything else until he gets into Fort Wayne. SCC acknowledges his decision.

Potential Impact to Bulk Electrical System (BES): (Minimal, Moderate, or Severe)

- **Provide Explanation for Potential Impact to BES:** The AEP Operators did not exercise specific authority to alleviate the overload at Kenzie Creek. Although the operators were aware of the time limitation requirements for the Kenzie Creek - Colby – Valley 138 kV line load dump overload, they did not take immediate action to alleviate the condition, which placed additional transmission components within the Kenzie Creek area at risk.

REVISION HISTORY

Revision	Prepared By	Approved By	Date	Comments
Rev. 0	Renata Fellmeth	Gary Campbell	7/1/2009	New Document
Rev. 1	Renata Fellmeth	Gary Campbell	9/3/2009	Changed PAV to PV. Removed the word "Alleged."
Rev. 2	Renata Fellmeth	Gary Campbell	5/14/2010	Added word "Potential" to sentences, 'Impact to Bulk Electrical System (BES)' and 'Provide Explanation for Impact to BES.' Added clarification in brackets after the following sentences: 'Initial PV Date' and 'Date for Determination of Penalty/Sanction.'
Rev. 3	Renata Fellmeth	Gary Campbell	6/15/2010	Unlocked form so that the form is user friendly – cutting and pasting.
Rev. 4	Renata Fellmeth	Gary Campbell	9/15/2010	Added Vimarie Luna to the distribution list.
Rev. 5	Renata Fellmeth	Gary Campbell	11/19/2010	Removed Bob Berglund from PV summary distribution list.
Rev. 6	Renata Fellmeth	Gary Campbell	1/20/2011	Changed titles, Summary reports for 693 and CIP will now be sent to the appropriate 693 or CIP manager.

Attachment j

AEP's Summary of Possible Violation for TOP-001-1 R2 dated November 29, 2011



Summary for Possible Violation (PV)

Registered Entity: American Electric Power Service Corporation

NERC ID#: NCR00682

Compliance Monitoring Process: Compliance Violation Investigations

Standard and Requirement: TOP-001-1, R2

Registered Function(s) in Violation: Transmission Operator

Initial PV Date (Actual Date Discovered): 11/29/2011

Date for Determination of Penalty/Sanction (Beginning Date of Violation): 6/23/2010

Violation Risk Factor: VRF - High

Violation Severity Level: VSL - Level 4

Violation Reported By: Audit Team

Basis for the PV: AEP, as the Transmissin Operator (TOP), did not take immediate actions to alleviate the Kenzie Creek area operating emergency.

Facts and Evidence pertaining to the PV:

1. AEP Sequence of Events for the Kenzie Creek event:
 - a. At 1738, the Valley 69 kV CB 'C' was opened to reduce loading on Kenzie Creek-Valley 138 kV line. Actual loading on the Kenzie Creek-Valley 138 kV line remained above its load dump rating after this switching was completed. This action was ineffective, provided only minimal relief, and failed to alleviate the overload of the Kenzie Creek - Valley 138 kV line. Although opening the C breaker at Valley provided little relief, AEP waited 57 minutes until attempting any additional action to alleviate the overload.

- b. At 1829, the Valley 138 kV CB “K” was opened to reduce loading on the Kenzie Creek – Valley 138 kV line. Actual loading on the Kenzie Creek – Valley 138 kV line was reduced to be below its load dump rating but still remained above its normal/emergency rating.

Potential Impact to Bulk Electrical System (BES): (Minimal, Moderate, or Severe)

Provide Explanation for Potential Impact to BES: AEP operating personnel did not take immediate action to alleviate the Kenzie Creek - Valley 138 kV actual load dump overload. Per AEP and PJM thermal operating guidelines, the actual load dump overload is to be corrected in 5 minutes. The actual load dump overload existed for approximately 1 hour and 9 minutes. The actual emergency overload existed for approximately 3 hours and 5 minutes.

REVISION HISTORY

Revision	Prepared By	Approved By	Date	Comments
Rev. 0	Renata Fellmeth	Gary Campbell	7/1/2009	New Document
Rev. 1	Renata Fellmeth	Gary Campbell	9/3/2009	Changed PAV to PV. Removed the word "Alleged."
Rev. 2	Renata Fellmeth	Gary Campbell	5/14/2010	Added word "Potential" to sentences, 'Impact to Bulk Electrical System (BES)' and 'Provide Explanation for Impact to BES.' Added clarification in brackets after the following sentences: 'Initial PV Date' and 'Date for Determination of Penalty/Sanction.'
Rev. 3	Renata Fellmeth	Gary Campbell	6/15/2010	Unlocked form so that the form is user friendly – cutting and pasting.
Rev. 4	Renata Fellmeth	Gary Campbell	9/15/2010	Added Vimarie Luna to the distribution list.
Rev. 5	Renata Fellmeth	Gary Campbell	11/19/2010	Removed Bob Berglund from PV summary distribution list.
Rev. 6	Renata Fellmeth	Gary Campbell	1/20/2011	Changed titles, Summary reports for 693 and CIP will now be sent to the appropriate 693 or CIP manager.

Attachment k

AEP's Summary of Possible Violation for TOP-001-1 R5 dated November 29, 2011



Summary for Possible Violation (PV)

Registered Entity: American Electric Power Service Corporation

NERC ID#: NCR00682

Compliance Monitoring Process: Compliance Violation Investigations

Standard and Requirement: TOP-001-1, R5

Registered Function(s) in Violation: Transmission Operator

Initial PV Date (Actual Date Discovered): 11/29/2011

Date for Determination of Penalty/Sanction (Beginning Date of Violation): 6/23/2010

Violation Risk Factor: VRF - High

Violation Severity Level: VSL - Level 4

Violation Reported By: Audit Team

Basis for the PV: AEP, as the Transmission Operator (TOP), did not inform PJM of the Kenzie Creek - Valley 138 kV load dump actual nor mitigate the emergency with the defined time periods.

Facts and Evidence pertaining to the PV:

1. AEP voice transcripts in response to RFI-1 dated August 18, 2011:
 - a. Page 2 of 54, Line 5 demonstrates that PJM alerted AEP of the Kenzie Creek - Riverside 138 kV line trip.
 - b. Page 2 of 54, Line 18 demonstrates that PJM alerted AEP of the actual load dump overload.
 - c. Page 22 of 54, line 22 demonstrates that the SCC operator was not aware that the Kenzie Creek - Valley 138 kV line flow was at the load dump rating.

- d. Page 23 of 54, Line 23 demonstrates that the SCC operator believed that the Kenzie Creek – Valley 138 kV line flow was only over the emergency rating, not the load dump rating.

Potential Impact to Bulk Electrical System (BES): (Minimal, Moderate, or Severe)

Provide Explanation for Potential Impact to BES: Although PJM and AEP were discussing possible controlling actions within two minutes of the initial load dump exceedance, AEP, as the TOP, failed to promptly apprise the load dump exceedance and clearly communicate the problem to its RC, which delayed any effective corrective action to alleviate the Kenzie Creek – Valley 138 kV actual load dump overload.

REVISION HISTORY

Revision	Prepared By	Approved By	Date	Comments
Rev. 0	Renata Fellmeth	Gary Campbell	7/1/2009	New Document
Rev. 1	Renata Fellmeth	Gary Campbell	9/3/2009	Changed PAV to PV. Removed the word "Alleged."
Rev. 2	Renata Fellmeth	Gary Campbell	5/14/2010	Added word "Potential" to sentences, 'Impact to Bulk Electrical System (BES)' and 'Provide Explanation for Impact to BES.' Added clarification in brackets after the following sentences: 'Initial PV Date' and 'Date for Determination of Penalty/Sanction.'
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Rev. 5	Renata Fellmeth	Gary Campbell	11/19/2010	Removed Bob Berglund from PV summary distribution list.
Rev. 6	Renata Fellmeth	Gary Campbell	1/20/2011	Changed titles, Summary reports for 693 and CIP will now be sent to the appropriate 693 or CIP manager.

Attachment I

AEP's Mitigation Plan designated as MIT-10-3188 for COM-002-2 R2 submitted November 19, 2010

Mitigation Plan Submittal Form

Date this Mitigation Plan is being submitted: 11/19/2010

Section A: Compliance Notices & Mitigation Plan Requirements

- A.1 Notices and requirements applicable to Mitigation Plans and this Submittal Form are set forth in "Attachment A - Compliance Notices & Mitigation Plan Requirements."
- A.2 This form must be used to submit required Mitigation Plans for review and acceptance by ReliabilityFirst and approval by NERC.
- A.3 I have reviewed Attachment A and understand that this Mitigation Plan Submittal Form will not be accepted unless this box is checked.

Section B: Registered Entity Information

- B.1 Identify your organization.

Company Name: American Electric Power Service Corp, 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

Company Address: 1 Riverside Plaza, Columbus, OH 43215

NERC Compliance Registry ID: NCR00682

- B.2 Identify the individual in your organization who will be the Entity Contact regarding this Mitigation Plan.

Name: Thad Ness

Title: Reliability Standards Compliance Manager

Email: tkness@aep.com

Phone: 614-716-2053



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

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

NERC Violation ID #	Reliability Standard	Requirement Number	Violation Risk Factor	Alleged or Confirmed Violation Date ^(*)	Method of Detection (e.g., Audit, Self-report, Investigation)
RFC201000608	COM-002-2	R2	Medium	8/27/2010	Self-Report

(*) Note: The Alleged or Confirmed Violation Date shall be expressly specified by the Registered Entity, and subject to modification by ReliabilityFirst, as: (i) the date the Alleged or Confirmed violation occurred; (ii) the date that the Alleged or Confirmed violation was self-reported; or (iii) the date that the Alleged or Confirmed violation has been deemed to have occurred on by ReliabilityFirst. Questions regarding the date to use should be directed to the ReliabilityFirst contact identified in Section G of this form.

C.2 Identify the cause of the Alleged or Confirmed violation(s) identified above. Additional detailed information may be provided as an attachment.

On June 23, 2010, multiple, nearly simultaneous, outages occurred on the AEP 138 kV system in southwest Michigan in the Kenzie Creek area. This resulted in the Kenzie Creek-Valley 138 kV circuit exceeding its load dump rating and its emergency rating for an extended period. AEP and PJM performed an Apparent Cause Analysis (ACA) to identify the cause(s) of the duration of the event.

AEP and PJM operators discussed many options to alleviate the overload on the Kenzie Creek-Colby-Valley transmission path. Communications lacked clarity and directness during this event, which led to implementation delays in executing the appropriate course of action.

Because AEP was not optimal in our communication techniques during this event, AEP may be non-compliant with COM-002-2, R2.

Note: If a formal root cause analysis evaluation was performed, submit a copy of the summary report.



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

None

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 Alleged or Confirmed violations identified above in Part C.1 of this form. Additional detailed information may be provided as an attachment.

AEP Transmission Operations Management has reinforced with operators the need for effective communications when requesting other parties to perform actions. AEP has also provided refresher training on effective communications to operators. – Completed 10/1/2010

Mitigation Plan Timeline and Milestones

D.2 Provide the date by which full implementation of the Mitigation Plan will be, or has been, completed with respect to the Alleged or Confirmed violations identified above. State whether the Mitigation Plan has been fully implemented, and/or whether the actions necessary to assure the entity has returned to full compliance have been completed.

10/1/2010

D.3 Enter Key Milestone Activities (with due dates) that can be used to track and indicate progress towards timely and successful completion of this Mitigation Plan.

Key Milestone Activity	Proposed/Actual Completion Date* (shall not be more than 3 months apart)
Reinforce with operators the need for effective communications	10/1/2010

(*) Note: Additional violations could be determined for not completing work associated with accepted milestones.



Section E: Interim and Future Reliability Risk

Abatement of Interim BPS Reliability Risk

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

The potential impact to the BES was limited and localized to the Kenzie Creek area. AEP's mitigation plan has steps that address the near-term risks. AEP has provided refresher courses and conducted trainings to operators to address effective communication.

Prevention of Future BPS Reliability Risk

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

AEP believes that this potential violation is mainly caused by operators' communication that is less than optimal which led to implementation delays in executing the appropriate course of action. With additional operator training focusing on communications, the risk of similar violations in the future should be greatly reduced.



Section F: Authorization

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

- a) Submits this Mitigation Plan for acceptance by Reliability*First* and approval by NERC, and
- b) If applicable, certifies that this Mitigation Plan was completed on or before the date provided as the 'Date of Completion of the Mitigation Plan' on this form, and
- c) Acknowledges:
 1. I am **Senior VP-Transmission** of **AEP**.
 2. I am qualified to sign this Mitigation Plan on behalf of **AEP**.
 3. I have read and am familiar with the contents of this Mitigation Plan.
 4. **AEP** agrees to comply with, this Mitigation Plan, including the timetable completion date, as accepted by Reliability*First* and approved by NERC.

Authorized Individual Signature _____

Name (Print): **Michael Heyeck**

Title: **Senior VP-Transmission**

Date:

Section G: Regional Entity Contact

Please direct completed forms or any questions regarding completion of this form to the Reliability*First* Compliance e-mail address mitigationplan@rfirst.org.

Please indicate the company name and reference the NERC Violation ID # (if known) in the subject line of the e-mail. Additionally, any Reliability*First* Compliance Staff member is available for questions regarding the use of this form. Please see the contact list posted on the Reliability*First* Compliance web page.

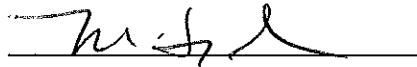
RELIABILITY FIRST

Section F: Authorization

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

- a) Submits this Mitigation Plan for acceptance by ReliabilityFirst and approval by NERC, and
- b) If applicable, certifies that this Mitigation Plan was completed on or before the date provided as the 'Date of Completion of the Mitigation Plan' on this form, and
- c) Acknowledges:
 1. I am Senior VP-Transmission of AEP.
 2. I am qualified to sign this Mitigation Plan on behalf of AEP.
 3. I have read and am familiar with the contents of this Mitigation Plan.
 4. AEP agrees to comply with, this Mitigation Plan, including the timetable completion date, as accepted by ReliabilityFirst and approved by NERC.

Authorized Individual Signature



Name (Print):

Michael Heyeck

Title:

Senior VP-Transmission

Date:

11/19/2010

Section G: Regional Entity Contact

Please direct completed forms or any questions regarding completion of this form to the ReliabilityFirst Compliance e-mail address mitigationplan@rfirst.org.

Please indicate the company name and reference the NERC Violation ID # (if known) in the subject line of the e-mail. Additionally, any ReliabilityFirst Compliance Staff member is available for questions regarding the use of this form. Please see the contact list posted on the ReliabilityFirst Compliance web page.



Attachment A – Compliance Notices & Mitigation Plan Requirements

- I. 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.
 - (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) Key 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.
- II. This submittal form must be used to provide a required Mitigation Plan for review and acceptance by ReliabilityFirst and approval by NERC.
- III. This Mitigation Plan is submitted to ReliabilityFirst and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
- IV. This Mitigation Plan Submittal Form may be used to address one or more related Alleged or Confirmed violations of one Reliability Standard. A separate

¹ "Compliance Monitoring and Enforcement Program" of the ReliabilityFirst Corporation;" a copy of the current version approved by the Federal Energy Regulatory Commission is posted on the ReliabilityFirst website.



mitigation plan is required to address Alleged or Confirmed violations with respect to each additional Reliability Standard, as applicable.

- V. If the Mitigation Plan is accepted by Reliability*First* and approved by 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.
- VI. Reliability*First* or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
- VII. Remedial action directives also may be issued as necessary to ensure reliability of the BPS.



DOCUMENT CONTROL

Title: Mitigation Plan Submittal Form
Issue: Version 2.0
Date: 11 July 2008
Distribution: Public
Filename: ReliabilityFirst Mitigation Plan Submittal Form - Ver 2.DOC
Control: Reissue as complete document only

DOCUMENT APPROVAL

Prepared By	Approved By	Approval Signature	Date
Robert K. Wargo Senior Consultant Compliance	Raymond J. Palmieri Vice President and Director Compliance	<i>Raymond J. Palmieri</i>	1/2/08

DOCUMENT CHANGE/REVISION HISTORY

Version	Prepared By	Summary of Changes	Date
1.0	Robert K. Wargo	Original Issue – Replaces “Proposed Mitigation Plan” Form	1/2/08
2.0	Tony Purgar	Revised email address from compliance@rfirst.org to mitigationplan@rfirst.org	7/11/08

Attachment m

**AEP's Certification of Mitigation Plan
Completion for COM-002-2 R2 submitted
December 2, 2010**

Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for ReliabilityFirst Corporation to verify completion of the Mitigation Plan. ReliabilityFirst Corporation 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: American Electric Power Service Corp, 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

NERC Registry ID:NCR00682

Date of Submittal of Certification:12/2/2010

NERC Violation ID No(s):RFC20100608

Reliability Standard and the Requirement(s) of which a violation was mitigated:COM-002-2_R2

Date Mitigation Plan was scheduled to be completed per accepted Mitigation Plan:10/1/2010 (Mitigation Plan has not been accepted by RFC)

Date Mitigation Plan was actually completed:10/1/2010

Additional Comments (or List of Documents Attached):See Evidence Summary list which provides descriptions of evidence submitted to demonstrate completion of mitigation plan (page 13 of the pdf file).

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

Name:Michael Heyeck

Title:Senior VP, Transmission

Email:mheyec@aep.com

Phone:614/552-1700



Authorized Signature _____

Date _____


Please direct completed forms or any questions regarding completion of this form to the ReliabilityFirst Compliance e-mail address mitigationplan@rfirst.org.

Please indicate the company name and reference the NERC Violation ID # (if known) in the subject line of the e-mail. Additionally, any ReliabilityFirst Compliance Staff member is available for questions regarding the use of this form. Please see the contact list posted on the ReliabilityFirst Compliance web page.

DOCUMENT CONTROL

Title: Certification of Mitigation Plan Completion
Issue: Version 1
Date: 5 January 2008
Distribution: Public
Filename: Certification of a Completed Mitigation Plan_Ver1.doc
Control: Reissue as complete document only

DOCUMENT APPROVAL

Prepared By	Approved By	Approval Signature	Date
Robert K. Wargo Manager of Compliance Enforcement	Raymond J. Palmieri Vice President and Director Compliance		1/5/2009

DOCUMENT CHANGE/REVISION HISTORY

Version	Prepared By	Summary of Changes	Date
1.0	Robert K. Wargo	Original Issue	1/5/2009

Attachment n

**Reliability *First's* Verification of Mitigation
Plan Completion COM-002-2 R2 dated
December 18, 2010**



<i>In re:</i> AMERICAN ELECTRIC POWER	)	Docket No. RFC201000608
SERVICE CORPORATION)	
)	
NERC Registry ID No. NCR00682	)	NERC Reliability Standard:
	)	COM-002-2, Requirement 2

**VERIFICATION OF MITIGATION PLAN COMPLETION
FOR
MIT-10-3188**

I. RELEVANT BACKGROUND

On September 9, 2010, American Electric Power Service Corporation (“AEP”) submitted a self report to ReliabilityFirst Corporation (“ReliabilityFirst”) identifying a possible violation of COM-002-2, R2. In order to alleviate the overload on the Kenzie Creek – Valley transmission path, AEP as the Transmission Operator discussed many options with its Transmission Dispatch Center (“TDC”). However, the communications lacked clarity and directness. Specifically, AEP as the Transmission Operator failed to issue directives to its TDC in a clear, concise, and definitive manner.

On November 19, 2010, AEP submitted a proposed mitigation plan to ReliabilityFirst stating AEP had completed all mitigating actions on October 1, 2010. On December 16, 2010, ReliabilityFirst accepted this mitigation plan, designated MIT-10-3188, and on December 30, 2010, the North American Electric Reliability Corporation (“NERC”) approved it.

II. MITIGATION PLAN COMPLETION REVIEW PROCESS

On December 2, 2010, AEP certified that it completed the mitigation plan for COM-002-2, R2. ReliabilityFirst requested and received evidence of completion for the actions AEP took as specified in the mitigation plan. ReliabilityFirst performed an in-depth review of the information provided to verify that AEP successfully completed all actions specified in the mitigation plan.

A. Evidence Reviewed per Standard and Requirement.

<u>Evidence Reviewed</u>		<u>Applicable Standard and Requirement</u>
1.	Kenzie Creek Mitigation Plan Completion 20101202.pdf	COM-002-2, R2

B. Verification of Mitigation Plan Completion.

COM-002-2, R2 states:

R2. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall issue directives in a clear, concise, and definitive manner; shall ensure the recipient of the directive repeats the information back correctly; and shall acknowledge the response as correct or repeat the original statement to resolve any misunderstandings.

Milestone 1: Reinforce with operators the need for effective communications.

Pages 18 and 19 of the evidence file show the attendance records for operators who attended AEP's refresher training seminar on proper communication procedures. During the seminar the operators reviewed COM-002-2, R2 and AEP's internal communication plan, located on pages 33-37 of the evidence file.

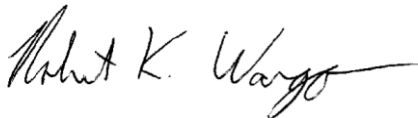
This evidence demonstrates successful completion of Milestone 1.

III. CONCLUSION

ReliabilityFirst reviewed the evidence AEP submitted in support of its Certification of Mitigation Plan Completion. ReliabilityFirst determined this evidence demonstrates AEP successfully completed the mitigating activities in mitigation plan MIT-10-3188 associated with COM-002-2, R2.

ReliabilityFirst verifies that AEP completed the mitigation plan associated with the possible violation of the Reliability Standard in accordance with its terms and conditions.

Approved:



Robert K. Wargo
Director of Analytics & Enforcement
ReliabilityFirst Corporation

Date: December 18, 2012

Attachment o

**AEP's Mitigation Plan designated as
RFCMIT008269-1 for EOP-001-0 R3, EOP-
003-1 R1 and R8, IRO-001-1.1 R8, PER-002-
0 R1 and TOP-001-1 R1, R2 and R5
submitted November 30, 2012**

Mitigation Plan

Registered Entity: American Electric Power Service Corporation [see Notes]

Mit Plan Code	NERC Violation ID	Requirement	Violation Validated On	Mit Plan Version
RFCMIT008269-1	RFC2012010145	EOP-001-0 R3	null	2
RFCMIT008269-1	RFC2012010146	EOP-003-1 R1	null	2
RFCMIT008269-1	RFC2012010147	EOP-003-1 R8	null	2
RFCMIT008269-1	RFC2012010149	IRO-001-1.1 R8	null	2
RFCMIT008269-1	RFC2012010150	PER-002-0 R1	null	2
RFCMIT008269-1	RFC2012010151	TOP-001-1 R1	null	2
RFCMIT008269-1	RFC2012010152	TOP-001-1 R2	null	2
RFCMIT008269-1	RFC2012010153	TOP-001-1 R3	null	2
RFCMIT008269-1	RFC2012010154	TOP-001-1 R5	null	2

Mitigation Plan Submitted On: November 30, 2012

Mitigation Plan Accepted On: December 06, 2012

Mitigation Plan Proposed Completion Date: December 21, 2012

Actual Completion Date of Mitigation Plan:

Mitigation Plan Certified Complete by AEP 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: American Electric Power Service Corporation [see Notes for legal name]
NERC Compliance Registry ID: NCR00682
Address: 1 Riverside Plaza
Columbus OH 43215

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: Thad Ness
Title: Reliability Standards Compliance Manager
Email: tkness@aep.com
Phone: 614-716-2053

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		
RFC2012010145	06/23/2010	EOP-001-0 R3
Each Transmission Operator and Balancing Authority shall:		
RFC2012010146	06/23/2010	EOP-003-1 R1
After taking all other remedial steps, a Transmission Operator or Balancing Authority operating with insufficient generation or transmission capacity shall shed customer load rather than risk an uncontrolled failure of components or cascading outages of the Interconnection.		
RFC2012010147	06/23/2010	EOP-003-1 R8
Each Transmission Operator or Balancing Authority shall have plans for operator-controlled manual load shedding to respond to real-time emergencies. The Transmission Operator or Balancing Authority shall be capable of implementing the load shedding in a timeframe adequate for responding to the emergency.		
RFC2012010149	06/23/2010	IRO-001-1.1 R8
Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities shall comply with Reliability Coordinator directives unless such actions would violate safety, equipment, or regulatory or statutory requirements. Under these circumstances, the Transmission Operator, Balancing Authority, Generator Operator, Transmission Service Provider, Load-Serving Entity, or Purchasing-Selling Entity shall immediately inform the Reliability Coordinator of the inability to perform the directive so that the Reliability Coordinator may implement alternate remedial actions.		
RFC2012010150	06/23/2010	PER-002-0 R1
Each Transmission Operator and Balancing Authority shall be staffed with adequately trained operating personnel.		
RFC2012010151	06/23/2010	TOP-001-1 R1
Each Transmission Operator shall have the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its area and shall exercise specific authority to alleviate operating emergencies.		
RFC2012010152	06/23/2010	TOP-001-1 R2
Each Transmission Operator shall take immediate actions to alleviate operating emergencies including curtailing transmission service or energy schedules, operating equipment (e.g., generators, phase shifters, breakers), shedding firm load, etc.		
RFC2012010153	06/23/2010	TOP-001-1 R3
Each Transmission Operator, Balancing Authority, and Generator Operator shall comply with reliability directives issued by the Reliability Coordinator, and each Balancing Authority and Generator Operator shall comply with reliability directives issued by the Transmission Operator, unless such actions would violate safety, equipment, regulatory or statutory requirements. Under these circumstances the Transmission Operator, Balancing Authority or Generator Operator shall immediately inform the Reliability Coordinator or Transmission Operator of the inability to perform the directive so that the Reliability Coordinator or Transmission Operator can implement alternate remedial actions.		

Violation ID	Date of Violation	Requirement
Requirement Description		
RFC2012010154	06/23/2010	TOP-001-1 R5
Each Transmission Operator shall inform its Reliability Coordinator and any other potentially affected Transmission Operators of real time or anticipated emergency conditions, and take actions to avoid, when possible, or mitigate the emergency.		

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

EOP-001-0 R3.3, EOP-003-1 R1, EOP-003-1

RFC's CI Team concluded AEP failed to implement load shedding procedures to correct the overload in a timely manner. AEP has reviewed the Kenzie Creek event and its causes. A lack of effective communication was a major cause in the implementation delay of AEP's Emergency Operating Plan. AEP acknowledged and addressed this communication issue. As a result, AEP self-reported and completed a mitigation plan on COM-002, R2, in addition to the mitigation plan milestones outlined in this mitigation plan.

IRO-001-1.1 R8, TOP-001-1 R3

RFC's CI Team concluded AEP did not immediately comply with PJM Reliability Coordinator load dump directives nor clearly inform PJM of the inability to perform a specific directive. AEP has reviewed the Kenzie Creek event and its causes. A lack of effective communication was a major cause in the implementation delay of AEP's Emergency Operating Plan. AEP acknowledged and addressed this communication issue. As a result, AEP self-reported and completed a mitigation plan on COM-002, R2, in addition to the mitigation plan milestones outlined in this mitigation plan.

PER-002-0 R1

RFC's CI Team concluded AEP operating personnel appeared to lack the necessary knowledge and skills for correcting the actual overload on the Kenzie Creek-Valley 138kV line. AEP has reviewed the Kenzie Creek event and its causes. A lack of effective communication was a major cause in the implementation delay of AEP's Emergency Operating Plan. AEP acknowledged and addressed this communication issue. As a result, AEP self-reported and completed a mitigation plan on COM-002, R2. Additionally, this mitigation plan includes additional training for AEP operating personnel.

TOP-001-1 R1

RFC's CI Team concluded AEP's Operators failed to exercise their specific authority to alleviate the operating emergency. AEP has reviewed the Kenzie Creek event and its causes. A lack of effective communication was a major cause in the implementation delay of AEP's Emergency Operating Plan. AEP acknowledged and addressed this communication issue. As a result, AEP self-reported and completed a mitigation plan on COM-002, R2. Additionally, this mitigation plan includes additional training for AEP operating personnel.

TOP-001-1 R2

RFC's CI Team concluded AEP did not take immediate actions to alleviate the Kenzie Creek area operating emergency. AEP has reviewed the Kenzie Creek event and its causes. A lack of effective communication was a major cause in the implementation delay of AEP's Emergency Operating Plan. AEP acknowledged and addressed this communication issue. As a result, AEP self-reported and completed a mitigation plan on COM-002, R2, in addition to the mitigation plan milestones outlined in this mitigation plan.

TOP-001-1 R5

RFC's CI Team concluded AEP did not inform PJM of the Kenzie Creek-Valley 138 kV load dump actual exceedance nor mitigate the emergency. AEP has reviewed the Kenzie Creek event and its causes. A lack of effective communication was a major cause in the implementation delay of AEP's Emergency Operating Plan. AEP acknowledged and addressed this communication issue. As a result, AEP self-

reported and completed a mitigation plan on COM-002, R2, in addition to the mitigation plan milestones outlined in this mitigation plan.

- C.3 Provide any relevant information regarding the identification of the violation(s) associated with this Mitigation Plan:
See "Brief summary..." above.

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:

AEP's mitigation plan focuses on three areas: improved documentation, improved tools and operator training. These three areas are itemized in section D.3 (below). The mitigation plan includes updating the Emergency Operating Plan (EOP) and Communication plan. AEP's load shedding tool has been enhanced to better serve the operators' needs when dealing with events such as the Kenzie Creek event. Operator training includes communications, authority to act, load shedding tool and issuing and receiving of directives.

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: December 21, 2012

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
Delivery of communication training and Apparent Cause Analysis review to the East System Control Center Operators I, II, III	Delivery of communication training and Apparent Cause Analysis review to the East System Control Center Operators I, II and III	08/27/2011	09/23/2010
Participation of the East System Control Center Operators I, II and III in the 2011 PJM System Operator Seminar...	Participation of the East System Control Center Operators I, II and III in the 2011 PJM System Operator Seminar (covered the Kenzie Creek event, communications, and load shedding)	11/27/2011	05/23/2011
Enhancement of Load Shedding tool functionality	Enhancement of Load Shedding tool functionality	02/27/2012	
Revision of AEP's communication plan	Revision of AEP's communication plan	05/04/2012	
Delivery of training on the Authority to Act policy...	Delivery of training on the Authority to Act policy to East System Control Center Operators I, II and III and East Transmission Dispatchers I And II	07/16/2012	
Development of Facility Load Shedding program training	Development of Facility Load Shedding program training	09/19/2012	
Mgmt discussion/review of the Auth. to Act Policy, AEP revised communication plan and Facility Load Shedding program capabilities	Management discussion and review of the Authority to Act Policy, AEP's revised communication plan and Facility Load Shedding program capabilities	11/15/2012	
Delivery of Facility Load Shedding	Delivery of Facility Load Shedding	12/03/2012	

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date
program training...	program training to East System Control Center Operators I, II and III and East Transmission Dispatchers I And II		
Revision of the Emergency Operating Plan	Revision of the Emergency Operating Plan	12/17/2012	
Delivery of training on Directives to East System Control Center Operators I, II and III & East Transmission Dispatchers I & II	Delivery of training on Directives to East System Control Center Operators I, II and III and East Transmission Dispatchers I And II	12/21/2012	

D.4 Additional Relevant Information (Optional)

Within a week of the event, AEP assembled a team to work with PJM on an Apparent Cause Analysis (ACA) investigation. The ACA report was completed in September 2010 and submitted to RFC. By the end of October 2010, AEP reviewed the ACA report findings with its operators, stressing the event's causal factors and lessons learned. AEP East Operators attended the 2011 PJM System Operator Seminar which provided training in communications, a review of the Kenzie Creek event and power system simulations. Additionally, AEP self-reported on COM-002-2, R2 and has completed the associated mitigation plan in late 2010.

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:

During the implementation of the mitigation plan, the increased risk to the Bulk Power System is low. AEP took immediate steps to improve performance during events such as the Kenzie Creek event. The Kenzie Creek event was analyzed and reviewed with AEP's operators. Communication best practices were reviewed. AEP operators have a heightened awareness of the time requirements in events with the possibility of load shedding. Since the Kenzie Creek event, AEP has enhanced its load shedding tools. Because of the actions taken, the increased risk to the reliability of the BES is low.

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:

AEP has analyzed the Kenzie Creek event. Using this analysis, AEP's mitigation plan includes document improvements, tool improvements and additional operator training. AEP's efforts address improved performance in events such as the Kenzie Creek event. With clearly defined responsibilities, communication best practices, improved load shedding tools and operator situational awareness, the mitigation plan reduces the probability of further risk to the BPS.

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 Senior VP - Transmission of American Electric Power Service Corporation [see Notes for legal name]
2. I am qualified to sign this Mitigation Plan on behalf of American Electric Power Service Corporation [see Notes for legal name]
3. I have read and understand American Electric Power Service Corporation [see Notes for legal name]'s 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. American Electric Power Service Corporation [see Notes for legal name] Agrees to be bound by, and 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: Michael Heyeck

Title: Senior VP - Transmission

Authorized On: October 03, 2012

Attachment p

**AEP's Certification of Mitigation Plan
Completion for EOP-001-0 R3, EOP-003-1 R1
and R8, IRO-001-1.1 R8, PER-002-0 R1 and
TOP-001-1 R1, R2 and R5 submitted
December 21, 2012**

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: American Electric Power Service Corporation [see Notes for legal name]

NERC Registry ID: NCR00682

NERC Violation ID(s): RFC2012010145,RFC2012010146,RFC2012010147,RFC2012010149,RFC2012010150,RFC2012010151,RFC2012010152,RFC2012010153,RFC2012010154

Mitigated Standard Requirement(s): EOP-001-0 R3,EOP-003-1 R1,EOP-003-1 R8,IRO-001-1.1 R8,PER-002-0 R1,TOP-001-1 R1,TOP-001-1 R2,TOP-001-1 R3,TOP-001-1 R5,

Scheduled Completion as per Accepted Mitigation Plan: December 21, 2012

Date Mitigation Plan completed: December 03, 2012

RFC Notified of Completion on Date: December 21, 2012

Entity Comment:

Additional Comments		
From	Comment	User Name
Entity	This Mitigation Plan is for the following violations: RFC2012010145, RFC2012010146, RFC2012010147, RFC2012010149, RFC2012010150, RFC2012010151, RFC2012010152, RFC2012010153, RFC2012010154	Zach McCullough

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	Kenzie mitigation steps.xls		61,952
Entity	Kenzie Creek Event - Certification Signature and Evidence.pdf		5,848,820
Entity	Video of FLS Training.mp4		32,927,990

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: Scott Smith

Title: SVP - Transmission Strategy & Business Development

Email: sns smith@aep.com

Phone: 1 (614) 552-2600

Authorized Signature _____ Date _____

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

Attachment q

**Reliability *First's* Verification of Mitigation
Plan Completion for EOP-001-0 R3, EOP-003-
1 R1 and R8, IRO-001-1.1 R8, PER-002-0 R1
and TOP-001-1 R1, R2 and R5 dated
February 13, 2013**



<i>In re:</i> AMERICAN ELECTRIC POWER	)	Docket Nos. RFC2012010145;
SERVICE CORPORATION	)	RFC2012010146;
	)	RFC2012010147;
	)	RFC2012010149;
	)	RFC2012010150;
	)	RFC2012010151;
	)	RFC2012010152;
	)	RFC2012010153; and
	)	RFC2012010154
)	
NERC Registry ID No. NCR00682	)	NERC Reliability Standards:
	)	EOP-001-0, Requirement 3;
	)	EOP-003-1, Requirement 1;
	)	EOP-003-1, Requirement 8;
	)	IRO-001-1.1, Requirement 8;
	)	PER-002-0, Requirement 1;
	)	TOP-001-1, Requirement 1;
	)	TOP-001-1, Requirement 2;
	)	TOP-001-1, Requirement 3; and
	)	TOP-001-1, Requirement 5

**VERIFICATION OF MITIGATION PLAN COMPLETION
FOR
RFCMIT008269-1**

I. RELEVANT BACKGROUND

On June 23, 2010, at approximately 1720 Eastern Standard Time, PJM Interconnection, LLC (“PJM”) experienced multiple outages on the American Electric Power Service Corporation (“AEP”) 138 kV system in the Benton Harbor area of southwest Michigan (the “Kenzie Creek Event”). On March 29, 2011, ReliabilityFirst Corporation initiated a Compliance Investigation (“CI”) regarding the Kenzie Creek Event.

During the CI, ReliabilityFirst identified a possible violation of EOP-001-0, R3 by discovering that as the Transmission Operator (“TOP”), AEP, did not implement its plan to mitigate the operating emergency on the Kenzie Creek – Valley 138 kV line. Specifically, AEP failed to implement load shedding procedures to correct the overload in a timely manner as required by AEP’s Emergency operating plan.

During the CI, ReliabilityFirst also identified possible violations of EOP-003-1, R1 and EOP-003-1, R8. ReliabilityFirst discovered that while operating with insufficient transmission capacity resulting from the loss of multiple 138 kV lines in the Kenzie Creek area, AEP, as the TOP, should have shed customer load rather than risk an uncontrolled failure of the Kenzie Creek – Valley 138 kV line. In addition, AEP did not have a plan for operator-controlled manual load shedding with the capability to be implemented in a timeframe adequate for responding to the real-time emergency in the Kenzie Creek area, as required by EOP-003-1, R8.

During the CI, ReliabilityFirst also identified a possible violation of IRO-001-1.1, R8 by discovering that AEP did not immediately comply with the Reliability Coordinator (“RC”) load dump directives nor clearly inform the RC of the inability to perform a specific directive.

During the CI, ReliabilityFirst also identified a possible violation of PER-002-0, R1 by discovering that AEP system operating personnel appeared to lack the necessary knowledge and skills for correcting the actual overload on the Kenzie Creek - Valley 138 kV line.

During the CI, ReliabilityFirst also identified possible violations of TOP-001-1, R1, R2, R3, and R5 by discovering that as the TOP, AEP 1) failed to exercise its specific authority to alleviate the operating emergency, as required by TOP-001-1, R1; 2) did not take immediate action to alleviate the Kenzie Creek area operating emergency, as required by TOP-001-1, R2; 3) did not comply with RC load dump directives nor clearly inform the RC of the inability to perform a specific directive so that the RC could implement alternate remedial actions, as required by TOP-001-1, R3; and 4) did not inform PJM of the Kenzie Creek - Valley 138 kV actual load dump overload nor mitigate the emergency with the defined time periods, as required by TOP-001-1, R5.

On October 12, 2012, AEP submitted a proposed mitigation plan to ReliabilityFirst. On November 30, 2012, AEP submitted an amended mitigation plan stating AEP would complete all

mitigating actions on December 21, 2012. On December 6, 2012, ReliabilityFirst accepted this mitigation plan, designated RFCMIT008269-1, and on December 18, 2012, the North American Electric Reliability Corporation (“NERC”) approved it.

II. MITIGATION PLAN COMPLETION REVIEW PROCESS

On December 21, 2012, AEP certified that it completed the mitigation plan for the above-captioned Reliability Standards as of December 3, 2012. ReliabilityFirst requested and received evidence of completion for the actions AEP took as specified in the mitigation plan.

ReliabilityFirst performed an in-depth review of the information provided to verify that AEP successfully completed all actions specified in the mitigation plan.

A. Evidence Reviewed per Standard and Requirement.

<u>Evidence Reviewed</u>	<u>Applicable Standard and Requirement</u>
1. Kenzie Creek – Certification Signature and Evidence.pdf	EOP-001-0, R3; EOP-003-1, R1;
2. Kenzie mitigation steps.xls	EOP-003-1, R8; IRO-001-1.1, R8;
3. Video of FLS Training.mp4	PER-002-0, R1; TOP-001-1, R1; TOP-001-1, R2; TOP-001-1, R3; and TOP-001-1, R5

B. Verification of Mitigation Plan Completion.

In pertinent part, EOP-001-0, R3 states:

R3. Each Transmission Operator and Balancing Authority shall:

* * * * *

R3.3. Develop, maintain, and implement a set of plans for load shedding.

In pertinent part, EOP-003-1 states:

R1. After taking all other remedial steps, a Transmission Operator or Balancing Authority operating with insufficient generation or transmission

capacity shall shed customer load rather than risk an uncontrolled failure of components or cascading outages of the Interconnection.

* * * * *

- R8.** Each Transmission Operator or Balancing Authority shall have plans for operator controlled manual load shedding to respond to real-time emergencies. The Transmission Operator or Balancing Authority shall be capable of implementing the load shedding in a timeframe adequate for responding to the emergency.

IRO-001-1.1, R8 states:

- R8.** Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities shall comply with Reliability Coordinator directives unless such actions would violate safety, equipment, or regulatory or statutory requirements. Under these circumstances, the Transmission Operator, Balancing Authority, Generator Operator, Transmission Service Provider, Load-Serving Entity, or Purchasing-Selling Entity shall immediately inform the Reliability Coordinator of the inability to perform the directive so that the Reliability Coordinator may implement alternate remedial actions.

PER-002-0, R1 states:

- R1.** Each Transmission Operator and Balancing Authority shall be staffed with adequately trained operating personnel.

In pertinent part, TOP-001-1 states:

- R1.** Each Transmission Operator shall have the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its area and shall exercise specific authority to alleviate operating emergencies.
- R2.** Each Transmission Operator shall take immediate actions to alleviate operating emergencies including curtailing transmission service or energy schedules, operating equipment (e.g., generators, phase shifters, breakers), shedding firm load, etc.
- R3.** Each Transmission Operator, Balancing Authority, and Generator Operator shall comply with reliability directives issued by the Reliability Coordinator, and each Balancing Authority and Generator Operator shall

comply with reliability directives issued by the Transmission Operator, unless such actions would violate safety, equipment, regulatory or statutory requirements. Under these circumstances the Transmission Operator, Balancing Authority or Generator Operator shall immediately inform the Reliability Coordinator or Transmission Operator of the inability to perform the directive so that the Reliability Coordinator or Transmission Operator can implement alternate remedial actions.

* * * * *

- R5.** Each Transmission Operator shall inform its Reliability Coordinator and any other potentially affected Transmission Operators of real time or anticipated emergency conditions, and take actions to avoid, when possible, or mitigate the emergency.

Milestone 1: Delivery of communication training and Apparent Cause Analysis review to the East System Control Center Operators I, II and III

Pages 15 through 17 of File No. 1 are a summary of the topics discussed at the communication training and Apparent Cause Analysis review held on September 9, 2010. AEP also provided an attendance sign-in record for the meeting.

This evidence demonstrates successful completion of Milestone 1.

Milestone 2: Participation of the East System Control Center Operators I, II and III in the 2011 PJM System Operator Seminar (covered the Kenzie Creek event, communications, and load shedding)

Pages 19 through 65 of File No. 1 are the slides used in PJM's 2011 System Operator Seminar. The training focused primarily on effective communication principles such as three-part communication and avoiding mitigated speech. The training also included communication case studies based on, among others, the Kenzie Creek event. Page 66 of File No. 1 is the attendance record from this training.

This evidence demonstrates successful completion of Milestone 2.

Milestone 3: Enhancement of Load Shedding tool functionality

Page 68 of File No. 1 is the change request form for the Load Shedding tool. AEP modified the code to change it from a tool that only defines load shedding scenarios to a tool that can actually initiate the tripping of relays. Pages 69 through 82 of File No. 1 contain documentation on how to use the new version of the tool.

This evidence demonstrates successful completion of Milestone 3.

Milestone 4: Revision of AEP's communication plan

Pages 85 through 89 of File No. 1 contain Revision 5 of AEP's communication plan, dated May 4, 2012. This revision corrected the language in the communication plan regarding NERC Standard COM-002 to reflect Generator Operator instead of Transmission Operator and added a section on directives.

This evidence demonstrates successful completion of Milestone 4.

Milestone 5: Delivery of training on the Authority to Act policy to East System Control Center Operators I, II and III and East Transmission Dispatchers I And II

Pages 91 through 93 of File No. 1 are the attendance records from the Authority to Act training.

This evidence demonstrates successful completion of Milestone 5.

Milestone 6: Development of Facility Load Shedding program training

File No. 3 is a training video that shows viewers how to use the new Facility Load Shedding tool.

This evidence demonstrates successful completion of Milestone 6.

Milestone 7: Management discussion and review of the Authority to Act Policy, AEP's revised communication plan and Facility Load Shedding program capabilities

Pages 96 through 100 of File No. 1 contain the agenda and attendance records for the management meeting to discuss the Authority to Act Policy, AEP's revised communication plan, and AEP's Facility Load Shedding program capabilities.

This evidence demonstrates successful completion of Milestone 7.

Milestone 8: Delivery of Facility Load Shedding program training

Page 102 of File No. 1 is the training record for the Facility Load Shedding program.

This evidence demonstrates successful completion of Milestone 8.

Milestone 9: Revision of the Emergency Operating Plan

Pages 104 through 108 of File No. 1 show that AEP updated its Emergency Operating Plan to Version 15 and posted it to the company's SharePoint server. The new version contains changes in Section III – Load, Section VI – Load shedding, Section VIII – ALR test dates, and adjusts the restoration frequency range.

This evidence demonstrates successful completion of Milestone 9.

Milestone 10: Delivery of training on Directives to East System Control Center Operators I, II and III & East Transmission Dispatchers I & II

Pages 110 through 113 of File No. 1 are the training records for AEP's 2012 Effective Communication program.

This evidence demonstrates successful completion of Milestone 10.

III. CONCLUSION

ReliabilityFirst reviewed the evidence AEP submitted in support of its Certification of Mitigation Plan Completion. ReliabilityFirst determined this evidence demonstrates AEP successfully completed the mitigating activities in mitigation plan RFCMIT008269-1 associated with the above-captioned Reliability Standards.

ReliabilityFirst verifies that AEP completed the mitigation plan associated with the possible violations of the Reliability Standards in accordance with its terms and conditions.

Approved:



Michael D. Austin
Managing Enforcement Attorney
ReliabilityFirst Corporation

Date: February 13, 2013

Attachment r

**AEP's Mitigation Plan designated as
RFCMIT008053 for FAC-009-1 R1 submitted
September 28, 2012**

Mitigation Plan

Registered Entity: American Electric Power Service Corporation [see Notes]

Mit Plan Code	NERC Violation ID	Requirement	Violation Validated On	Mit Plan Version
RFCMIT008053-1	RFC2012010148	FAC-009-1 R1	null	2

Mitigation Plan Submitted On: September 28, 2012

Mitigation Plan Accepted On:

Mitigation Plan Proposed Completion Date: September 30, 2012

Actual Completion Date of Mitigation Plan:

Mitigation Plan Certified Complete by AEP On: October 02, 2012

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: American Electric Power Service Corporation [see Notes for legal name]
NERC Compliance Registry ID: NCR00682
Address: 1 Riverside Plaza
Columbus OH 43215

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: Thad Ness
Title: Reliability Standard Compliance Manager
Email: tkness@aep.com
Phone: 614-716-2053

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		
RFC2012010148	06/23/2010	FAC-009-1 R1
The Transmission Owner and Generator Owner shall each establish Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings Methodology.		

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

The Kenzie Creek “ Valley 138 kV circuit has a permanent rating of 296 MVA. As the result of a re-rating study, the circuit was de-rated to 143 MVA on 5/3/2010; this temporary rating was reflected in AEP’s State Estimator and communicated to the RTO/RC. AEP’s official ratings database only contains permanent ratings used for planning studies; therefore it was not updated with the temporary rating.

On the evening of 6/23/2010 AEP received a request to verify the ratings for the Kenzie Creek “ Valley 138 kV line. AEP reviewed the official ratings database, which did not reflect the temporary de-rated condition of the line, and determined that the permanent rating of 296 MVA should be in effect. This however, was incorrect due to the temporary rating which was being tracked through email at that time. This email was not consulted during the review. AEP updated the State Estimator with the permanent rating and the RTO/RC was notified of the change. The next morning, AEP discovered the error, corrected the State Estimator to reflect the temporary rating and notified the RTO/RC that the rating should be 143 MVA.

This error resulted in inconsistency between AEP’s rating methodology and the assigned rating.

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

The next morning, AEP discovered the error, corrected the ratings and notified the RTO/RC that the rating should be 143 MVA.

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:

AEP identifies the following two items in its mitigation plan:

1. Develop formal training for handling temporary rating changes where an operational rating may vary from ratings shown in the official ratings database used in planning studies.
2. Provide training for relevant personnel.

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, 2012

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
1	Develop formal training for the temporary ratings process	08/24/2012	08/23/2012
2	Provide training for relevant personnel.	09/30/2012	09/21/2012

D.4 Additional Relevant Information (Optional)

Upon review of this incident, AEP developed a process for handling temporary rating changes where an operational rating may differ from the rating shown in the official ratings database used in planning studies. This process consists of the use of a spreadsheet to document the deviations in ratings. The process has been implemented and is documented in an AEP Transmissions Operations Processes Memo.

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 impact to the reliability of the BPS is low during this mitigation plan. AEP developed and implemented a process in 2010 for handling temporary rating changes where an operational rating may differ from the rating shown in the official ratings database used for planning studies.

AEP will review this process by developing a formal training program and have relevant personnel complete the training.

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 training will reinforce a consistent approach for documenting an operational rating that may be different from the rating in the official ratings database used for planning studies. Use of this process will ensure consistency in documenting a temporary rating and having the information readily available for relevant personnel.

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 Senior VP - Transmission of American Electric Power Service Corporation [see Notes for legal name]
2. I am qualified to sign this Mitigation Plan on behalf of American Electric Power Service Corporation [see Notes for legal name]
3. I have read and understand American Electric Power Service Corporation [see Notes for legal name]'s 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. American Electric Power Service Corporation [see Notes for legal name] Agrees to be bound by, and 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: Michael Heyeck

Title: Senior VP - Transmission

Authorized On: August 21, 2012

Attachment s

**AEP's Certification of Mitigation Plan
Completion for FAC-009-1 R1 submitted
October 2, 2012**

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: American Electric Power Service Corporation [see Notes for legal name]

NERC Registry ID: NCR00682

NERC Violation ID(s): RFC2012010148

Mitigated Standard Requirement(s): FAC-009-1 R1,

Scheduled Completion as per Accepted Mitigation Plan: September 30, 2012

Date Mitigation Plan completed: September 21, 2012

RFC Notified of Completion on Date: October 02, 2012

Entity Comment:

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	RFC FAC-009-1 Mitigation Plan Evidence_20120926.pdf		877,012

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: Michael Heyeck

Title: SVP Transmission

Email: mheyeck@aep.com

Phone:

Authorized Signature _____ Date _____

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

Attachment t

**Reliability *First's* Verification of Mitigation
Plan Completion FAC-009-1 R1 dated
February 15, 2013**



<i>In re:</i> AMERICAN ELECTRIC POWER)	Docket No. RFC2012010148
SERVICE CORPORATION)	
NERC Registry ID No. NCR00682)	NERC Reliability Standard:
)	FAC-009-1, Requirement 1

**VERIFICATION OF MITIGATION PLAN COMPLETION
FOR
RFCMIT008053-1**

I. RELEVANT BACKGROUND

On June 23, 2010, at approximately 1720 Eastern Standard Time, PJM Interconnection, LLC (“PJM”) experienced multiple outages on the American Electric Power Service Corporation (“AEP”) 138 kV system in the Benton Harbor area of southwest Michigan (the “Kenzie Creek Event”). On March 29, 2011, ReliabilityFirst Corporation initiated a Compliance Investigation (“CI”) regarding the Kenzie Creek Event.

During the CI, ReliabilityFirst discovered a possible violation of FAC-009-1, R1 by discovering that AEP, as the Transmission Owner, provided a rating for one 138 kV transmission line that was inconsistent with the temporarily de-rated condition of the line.

Pursuant to AEP’s Facility Ratings Methodology, AEP only assigns Emergency Ratings which is a function of the maximum operating temperature above the normal Facility Rating once it conducts a clearance study.¹ In May, 2010, AEP conducted a clearance study for the Kenzie Creek – Colby – Valley 138 kV line and identified a clearance violation. As a result, AEP derated these lines from 296 MVA Normal, 398 MVA Emergency, and 458 MVA Load Dump to 143 MVA Normal/Emergency and 164 MVA Load Dump.

¹ In its Recommendation to Industry: Consideration of Actual Field Conditions in Determination of Facility Ratings, issued October 7, 2010, NERC identified a reliability concern due to Facilities in the field not matching a Registered Entity’s design specifications. Registered Entities were required to conduct assessments of their systems and remediate all issues identified during the assessment.

During the Kenzie Creek Event, AEP operated the Kenzie Creek – Colby – Valley transmission lines at the correct decreased Facility Rating of 143 MVA Normal/Emergency and 164 Load Dump. At approximately the time the Kenzie Creek Event concluded, however, AEP received a request to verify the ratings on the subject line. AEP mistakenly provided PJM with the rating contained in the permanent ratings database, which does not include temporary ratings. This increased the Rating back to 296 MVA Normal, 398 MVA Emergency, and 458 MVA Load Dump for the Kenzie Creek – Colby – Valley transmission lines.

On September 28, 2012, AEP submitted a proposed mitigation plan to ReliabilityFirst. On October 8, 2012, ReliabilityFirst accepted this mitigation plan, designated RFCMIT008053-1, and on October 31, 2012, the North American Electric Reliability Corporation (“NERC”) approved it.

II. MITIGATION PLAN COMPLETION REVIEW PROCESS

On October 2, 2012, AEP certified that it completed the mitigation plan for FAC-009-1, R1 as of September 21, 2012. ReliabilityFirst requested and received evidence of completion for the actions AEP took as specified in the mitigation plan. ReliabilityFirst performed an in-depth review of the information provided to verify that AEP successfully completed all actions specified in the mitigation plan.

A. Evidence Reviewed per Standard and Requirement.

	<u>Evidence Reviewed</u>	<u>Applicable Standard and Requirement</u>
1.	RFC FAC-009-1 Mitigation Plan Evidence 20120926.pdf	FAC-009-1, R1

B. Verification of Mitigation Plan Completion.

FAC-009-1, R1 states:

- R1.** The Transmission Owner and Generator Owner shall each establish Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings Methodology.

Milestone 1: Develop formal training for the temporary ratings process

Pages 11 through 17 of the evidence file are the slides from AEP’s training presentation on the new temporary rating process. Engineers are instructed to fill out a “ratings exception spreadsheet” whenever ratings have to be changed from the official numbers in the Facility Ratings Manual. The engineers are also responsible for updating the spreadsheet when the rating is restored to normal.

This evidence demonstrates successful completion of Milestone 1.

Milestone 2: Provide training for relevant personnel

Pages 18 through 24 of the evidence file are attendance records for the training of relevant personnel.

This evidence demonstrates successful completion of Milestone 2.

III. CONCLUSION

Reliability*First* reviewed the evidence AEP submitted in support of its Certification of Mitigation Plan Completion. Reliability*First* determined this evidence demonstrates AEP successfully completed the mitigating activities in mitigation plan RFCMIT008053-1 associated with FAC-009-1, R1.

Reliability*First* verifies that AEP completed the mitigation plan associated with the possible violation of the Reliability Standard in accordance with its terms and conditions.

Approved:



Michael D. Austin
Managing Enforcement Attorney
Reliability*First* Corporation

Date: February 15, 2013

Attachment u
Notice of Filing

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

American Electric Power Service Corporation Docket No. NP13-____-000
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

NOTICE OF FILING

May 30, 2013

Take notice that on November 30, 2012, the North American Electric Reliability Corporation (NERC) filed a Notice of Penalty regarding 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 in the Reliability *First* 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