



September 16, 2019

Susan J. Riley  
Interim President and CEO  
PJM Interconnection, L.L.C.  
2750 Monroe Boulevard  
Audubon, PA 19403

PJM Board of Managers  
c/o Ake Almgren, Ph.D., Chairman  
2750 Monroe Boulevard  
Audubon, PA 19403

Dear Ms. Riley, Dr. Almgren and the Board:

American Municipal Power, Inc. ("AMP") is writing to make the PJM Board of Managers aware of the profound concerns that AMP has with regard to the PJM Transmission Owners' plan to file a new Attachment M-4 to the PJM Tariff. That plan is described in the Transmission Owners' August 12, 2019 notice of their intent to file Attachment M-4. A number of AMP's concerns about the proposal are set forth in the comments we recently provided to the Transmission Owners (a copy of which is attached for your information).

A "CIP-014 Mitigation Project"—that is, a project that would lead to a critical facility being removed from the CIP-014-2 list of facilities requiring physical security—itself would have regional and possibly inter-regional impacts. CIP-014 Mitigation Projects ("CMPs") therefore directly implicate PJM's planning function as the Regional Transmission Operator. For that reason, we have posed to PJM and its Transmission Planning Group a series of questions that address, among other things, the role we believe PJM must play in the process described in Attachment M-4 proposal. We attach these questions for the Board's consideration, as well.

AMP is hopeful that answers to these comments and questions will provide a deeper understanding of the Attachment M-4 proposal. AMP nevertheless wants the Board of

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Managers to be aware that we will vigorously oppose the Attachment M-4 proposal as it stands.

Among the most troubling aspects of the proposal is the treatment of CMPs as “Supplemental” transmission projects. It bears noting that substations included on the CIP-014 list are those that could cause critical stability, uncontrolled separation, and/or cascading outages if forced out of service, which is why the NERC standard requires them to be protected by physical security measures. Given the importance of these substations to regional and possibly inter-regional operations, there can be little question that the planning of those substations would be conducted through the PJM-administered Regional Transmission Planning Process (“RTEP”). It therefore is not credible for the Transmission Owners to contend, as they do in their M-4 notice, that facilities which would mitigate the critical nature of substations on the CIP-014 list may be planned *outside the RTEP* as “Supplemental” projects. The Transmission Owners acknowledge that the very object of Attachment M-4 is to shield CMPs from the transparency that is central to the planning of important regional facilities. Classifying CMPs as “Supplemental” may serve the Transmission Owners’ purpose of defeating transparency but it defies the reality that CMPs, like the substations whose critical nature they would mitigate, have regional and possibly inter-regional impacts that necessarily subject CMPs to the established RTEP processes.

It also bears noting that implementation of the proposed Attachment M-4 would require modifications not only to the PJM Tariff but also to the PJM Operating Agreement. PJM requires a supermajority of stakeholders’ support to make a Section 205 modification to the Operating Agreement.

Notwithstanding this fundamental issue, neither PJM nor the Transmission Owners have taken steps to address the conflict between Attachment M-4 implementation and the existing terms of the Operating Agreement. Indeed, it is only due to an initiative recently started by the DC Office of the People’s Counsel that this fundamental issue has gotten on PJM’s agenda at all. In the absence of that initiative, the conflict between M-4 and the Operating Agreement would still be a hidden issue.

AMP appreciates the efforts Sue Riley is making to bring about much-needed changes in PJM’s organizational culture, especially as it has affected the transmission planning process. The Attachment M-4 proposal highlights one area in which PJM cultural change is essential. Rather than being a passive observer of a Transmission Owner proposal that would dramatically (and, in our view, adversely) alter the regional planning process, PJM and its staff should play an active leadership role in formulating an open and transparent process for addressing the conditions that purportedly underlie the proposal. The flaws that undermine the M-4 proposal stand as proof of what happens when PJM lets one set of self-interested stakeholders control the process. To avoid such outcomes, AMP stands ready to assist however we can in Ms. Riley’s cultural reform efforts.

AMP would be pleased to discuss this matter with the Board of Managers in greater detail, at the Board's convenience. Our hope is that, with appropriate encouragement from the Board, PJM Planning Staff will take a more direct and proactive role in connection with the Attachment M-4 proposal and that, as a result, the areas of potential controversy arising from that proposal may be reduced or eliminated.

Sincerely,



Marc S. Gerken, P.E.  
President/CEO

4837-1129-7188, v. 5

**Questions Submitted to the PJM Transmission Owners by  
American Municipal Power, Inc. Regarding  
the PJM Transmission Owners' Attachment M-4 Proposal**

**(September 16, 2019)**

1. The Transmission Owners' August 12, 2019 notice of the intent to file Attachment M-4 states that the impetus for the M-4 proposal is that "the physical security enhancements that CIP-014-2 requires do not fully mitigate the risks associated with the loss of these critical substations," and that "without additional mitigation measures, the electric system is still vulnerable ...."
  - (a) Whose responsibility is it to decide whether the standards NERC developed and FERC approved fully mitigate the risks associated with the loss of these critical substations?
    - (i) What role do FERC and NERC play in deciding whether the standards NERC developed and FERC approved fully mitigate the risks associated with the loss of these critical substations?
  - (b) Like the other NERC Reliability Standards, CIP-014-2 was adopted through a FERC process in which a NERC-proposed standard is subjected to the same notice and comment process as a FERC regulation. If the PJM Transmission Owners believe that CIP-014-2 provides inadequate protection for the grid, isn't their recourse to petition NERC through a Standard Authorization Request or to ask FERC to initiate a proceeding to review the sufficiency of CIP-014-2? Why did the PJM Transmission Owners decide not to follow those procedures?
  
2. NERC Standard CIP-014-2 became effective October 1, 2015 and was approved by FERC on July 14, 2015. Therefore, all physical security plans for critical assets should have been developed by October 1, 2016. Consequently, the process of implementing all such physical security plans should have been completed by now.
  - (a) In light of the foregoing, why are facilities eligible for the proposed Attachment M-4 process if they have been identified as requiring a physical security plan "as of September 30, 2018"? Shouldn't the required physical security plans for these facilities already have been completed before that date?
  - (b) Why is the number of substations identified as of September 30, 2018 as requiring a documented physical security plan under CIP-014-2 expressed as "not to exceed 20"? Why isn't the exact number of facilities that, as of September 30, 2018, were determined to require a physical security plan a known number at this point in time?
  - (c) Other than constructing new transmission facilities, what other measures might be taken to remove a substation from the list of CIP-014-2 facilities identified as of September 30, 2018? Are there

situations in which a change in operating procedures might result in a previously identified critical facility being removed from the CIP-014-2 list?

- (d) Are changes in system configuration one option for removing a substation from the list of CIP-014-2 facilities identified as of September 30, 2018? Have the PJM Transmission Owners estimated the cost that might be incurred to change system configuration for this purpose? What is the total estimated cost?
  - (e) What measures have already been taken to remove one or more substations from the list of CIP-014-2 facilities identified as of September 30, 2018? In what PJM Zones were these measures taken?
  - (f) If FERC approves a PJM request to adopt Attachment M-4 as part of the PJM Tariff on a prospective basis, would the costs of the measures taken prior to such approval (as described in your response to question 1(e)) be recoverable through PJM network service charges?
  - (g) If FERC approves a PJM request to adopt Attachment M-4 as part of the PJM Tariff on a prospective basis, would the costs of the measures taken prior to such approval (as described in your response to question 2(e)) be considered in any economic analysis of the most cost-effective approach to removing facilities from the CIP-014-2 list?
3. NERC Standard CIP-014-2 applies to facilities operated at between 200-499 kV with connections to three or more other transmission facilities. The purpose of the standard was to require development of criteria to identify facilities that, if rendered inoperable or damaged, could result in grid instability, uncontrolled separation, or cascading within an interconnection. It should be self-evident that facilities with these characteristics are not “local” facilities but rather are facilities that provide regional and possibly inter-regional benefits.
- (a) Given the foregoing, what is the rationale for allocating to a single transmission zone the cost of CMPs that mitigate the critical status of substations on the CIP-014-2 list?
  - (b) Do the PJM Transmission Owners believe that the cost recovery approach described in the Transmission Owners’ August 12, 2019 notice allocates the costs of CMPs in a manner that is roughly commensurate with the benefits of those projects? What is the basis for that view? Have the Transmission Owners determined whether PJM agrees with that view?
4. The PJM Transmission Owners’ August 12, 2019 notice states that CMPs are limited to “the list of substations identified as of September 30, 2018 as requiring a physical security plan under CIP-014-2.”
- (a) Through what process were these substations identified as requiring a physical security plan?

- (b) Which body made the final determination that a substation should be on the CIP-014-2 list? What role did NERC or RF/SERC and PJM have in that determination, if any?
  - (c) What is the exact number of substations on the list? Has it been the same number since initially determined, or have substations been added to or removed from the list since then?
  - (d) How are the substations currently included on the CIP-014-2 list geographically distributed in PJM? Are there any PJM transmission zones that have multiple (two or more) such substations within them?
5. The stated purpose of CMPs is to remove from the list of critical facilities those substations that were included on the list due to the application of a NERC mandatory reliability standard (CIP-014-2). Since the satisfaction of a NERC reliability standard is a criterion for including a transmission project within the PJM RTEP process, what is the reason that a CMP instead will be classified as a Supplemental Project for which the planning is conducted *outside* the RTEP process?
6. As noted above, facilities on the CIP-014-2 list are not “local” transmission facilities but rather are facilities that provide regional and possibly inter-regional benefits. Nevertheless, the Attachment M-4 proposal contemplates that PJM—which has responsibility for regional transmission system planning—will have but narrow review duties that would be triggered only *after* a CMP has been selected. (See item 4 under the heading “CMP Planning Process” on page 2 of the Transmission Owners’ August 12, 2019 Notice.)
- (a) Given the very limited scope and after-the-fact nature of PJM’s involvement in the CMP process, which entity or entities do the Transmission Owners believe have primary planning responsibility for CMPs? Has PJM expressly delegated primary responsibility for CMP planning to the individual PJM Transmission Owners?
  - (b) What do the Transmission Owners believe to be PJM’s authority to cede CMP planning responsibility to others?
7. Given that CIP-014-2 (like all NERC standards) is subject to continuing review and possible revision, and also considering that changes in system topology could cause currently non-critical facilities to become critical facilities in the future, it is reasonable to assume that additional facilities at some point may become subject to CIP-014-2 and be added to the CIP-014-2 list.
- (a) In light of the foregoing, what is contemplated by the Transmission Owners with respect to mitigating the critical status of facilities that are added to the CIP-014-2 list *after* the proposed Attachment M-4 expires (*i.e.*, no later than five years after it is made effective by FERC)?
  - (b) Do the Transmission Owners know whether PJM is planning to develop through a stakeholder process its own set of criteria and mitigation

processes for CIP-014-2 facilities that would take effect after Attachment M-4 expires?

8. What entity will determine whether a CMP would cause a critical substation to be removed from the list of substations requiring physical security under NERC Standard CIP-014-2?
  - (a) Would NERC or RF/SERC have a role in this determination?
  - (b) What if PJM and a Transmission Owner disagree about whether construction of a selected CMP would have the effect of removing a substation from the CIP-014-2 list?
    - (i) How would that disagreement be resolved?
    - (ii) Would the Transmission Owner be permitted to proceed with planning and construction of the CMP while the disagreement is being processed through the dispute resolution process?
9. Between the time a CMP is identified as the selected mitigation project for a critical substation and the time that CMP is placed in service, the nature and location of the CMP would be strictly confidential. During that same interval, however, it will be necessary for PJM to include the CMP in its forward-looking market operations and transmission planning models, which currently are available to stakeholders. What is the Transmission Owners' understanding as to how PJM will reconcile the continued public availability of its models with the purported need to maintain the confidentiality of information about CMPs prior to their in-service dates?
10. Implementation of the proposed Attachment M-4 process will require amendments to the PJM Operating Agreement as well as the PJM Tariff.
  - (a) What stakeholder process do the PJM Transmission Owners believe should be conducted to develop the OA amendments necessary to implement the Attachment M-4 process? When do the Transmission Owners believe that stakeholder process should begin?
  - (b) If the PJM OA is not amended as described above, what waivers of the Operating Agreement do the PJM Transmission Owners believe would be needed in order to implement the Attachment M-4 process?
  - (c) What process do the PJM Transmission Owners believe should be conducted to develop the PJM Tariff revisions that would be necessary to implement the Attachment M-4 process? When do the PJM Transmission Owners believe that process should begin?
11. The Transmission Owners' August 12, 2019 notice states that PJM will conduct "additional periodic examinations to verify the continuing validity of its verification and review findings, as needed."
  - (a) What does "as needed" mean here? Who decides whether an examination of the continuing validity of PJM's verification and review findings is "needed"?

- (b) Do the Transmission Owners contemplate that PJM's reviews of the continuing validity of its verification and review findings would be conducted in accordance with a pre-established regular schedule (e.g., annually)?
  - (c) Assume that, after a Transmission Owner has expended funds on a CMP, PJM determines through one of its periodic examinations that the selected CMP will not lead to the critical substation being removed from the CIP-014-2 list, with the consequence that physical security measures for that substation must continue. Do the PJM Transmission Owners contemplate that, in these circumstances, a Transmission Owner should be permitted to include in its zonal revenue requirement the costs of both the CMP *and* the continuing physical security?
12. Do the PJM Transmission Owners believe that transmission customers should be able to challenge the inclusion of the costs of a particular CMP in a Transmission Owner's revenue requirement on the basis that it was not in the best interests of that Transmission Owner's customers to construct a CMP in order to have a critical substation removed from the CIP-014-2 list? If so, do the Transmission Owners believe that the formula rate protocols currently in place in the PJM Tariff contain provisions that would authorize such a challenge?
13. Refer to the "Modifications" provision on page 3 of the August 12, 2019 draft of Attachment M-4.
- (a) Do the PJM Transmission Owners believe they have the sole and exclusive authority to modify Attachment M-4 through a Section 205 filing?
  - (b) Do the Transmission Owners recognize PJM's concurrent authority, as the public utility charged with administering the PJM Tariff, to make Section 205 filings to modify Attachment M-4?
  - (c) If the PJM Transmission Owners recognize PJM's concurrent authority to make Section 205 filings to modify Attachment M-4, is it the Transmission Owners' view that any such filing by PJM is subject to the condition that PJM may submit the modification only if the proposed modification has been authorized by the PJM Transmission Owners Agreement-Administrative Committee pursuant to Section 8.5 of the Consolidated Transmission Owners Agreement?
  - (d) Do the PJM Transmission Owners recognize the authority of PJM stakeholders to make filings under Federal Power Act § 205 to modify provisions of the PJM Operating Agreement pertaining to the subject matter of Attachment M-4 (assuming the necessary level of stakeholder approval has been obtained)?
14. Please describe the Transmission Owners' understanding of PJM's role as transmission operator in meeting CIP-014.
15. Current CIP-014 Requirement 1 states:

“Each Transmission Owner shall perform an initial risk assessment and subsequent risk assessments of its Transmission stations and Transmission substations (existing and planned to be in service within 24 months) that meet the criteria specified in Applicability Section 4.1.1. The initial and subsequent risk assessments shall consist of a transmission analysis or transmission analyses designed to identify the Transmission station(s) and Transmission substation(s) that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection. *[VRF: High; Time-Horizon: Long-term Planning]*”

- (a) Is PJM or each Transmission Owner performing this risk assessment?
  - (b) If PJM is not performing this assessment, why not?
  - (c) If PJM is not performing the assessment, please identify the models and approach used for:
    - (i) Instability
    - (ii) Uncontrolled Separation
    - (iii) Cascading
  - (d) Have the models identified any situations of instability, uncontrolled separation or cascading?
  - (e) When was the first assessment conducted? What is the schedule for additional assessments?
  - (f) In accordance with the November 2014 Order, how is an instability, uncontrolled separation or cascading being determined as having a “critical impact on the operation of the interconnection”?
16. Current CIP-014 Requirement 2 states:
- “Each Transmission Owner shall have an unaffiliated third party verify the risk assessment performed under Requirement R1. The verification may occur concurrent with or after the risk assessment performed under Requirement R1. *[VRF: Medium; Time-Horizon: Long-term Planning]*”. This is to meet FERC’s intent that verification is by an entity other than the owner or operator.
- (a) Who is the third party?
  - (b) Were all instabilities with a critical impact on the operation of the interconnection identified per Requirement R1 verified?
    - (i) If not, please explain.
    - (ii) If so, please describe the verification process.
17. Current CIP-014 Requirement 3 states:
- “For a primary control center(s) identified by the Transmission Owner according to Requirement R1, Part 1.2 that a) operationally controls an identified Transmission station or Transmission substation verified according

to Requirement R2, and b) is not under the operational control of the Transmission Owner: the Transmission Owner shall, within seven calendar days following completion of Requirement R2, notify the Transmission Operator that has operational control of the primary control center of such identification and the date of completion of Requirement R2. *[VRF: Lower; TimeHorizon: Long-term Planning]*

- (a) Are there any CIP-014 facilities not under PJM's operational control?
- (b) If not, please identify the dates provided by the PJM Transmission Owners when they completed Requirement R2 on each primary control center (without identifying the PJM TO or the primary control center).
- (c) Please confirm that each Transmission Owner has dated written or electronic notifications or communications that each of the Transmission Owners notified PJM that it completed Requirement R2 according to Requirement R3.

18. Current CIP-014 Requirement 4 states:

“Each Transmission Owner that identified a Transmission station, Transmission substation, or a primary control center in Requirement R1 and verified according to Requirement R2, and each Transmission Operator notified by a Transmission Owner according to Requirement R3, shall conduct an evaluation of the potential threats and vulnerabilities of a physical attack to each of their respective Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 and verified according to Requirement R2. The evaluation shall consider the following: *[VRF: Medium; Time-Horizon: Operations Planning, Long-term Planning]*

4.1. Unique characteristics of the identified and verified Transmission station(s), Transmission substation(s), and primary control center(s);

4.2. Prior history of attack on similar facilities taking into account the frequency, geographic proximity, and severity of past physical security related events; and

4.3. Intelligence or threat warnings received from sources such as law enforcement, the Electric Reliability Organization (ERO), the Electricity Sector Information Sharing and Analysis Center (ES-ISAC), U.S. federal and/or Canadian governmental agencies, or their successors.

- (a) Please confirm that PJM conducted an evaluation of the potential threats and vulnerabilities of a physical attack to each of the respective Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 and verified according to Requirement R2.
- (b) Please provide the dates that each evaluation was completed for each CIP-014 facility identified in Requirement R1 and verified according to

Requirement R2 (without identifying the PJM TO or the CIP-014 facility).

- (c) Please confirm that each Transmission Owner has dated written or electronic reports of each evaluation that was completed for each CIP-014 facility identified in Requirement R1 and verified according to Requirement R2.

19. Current CIP-014 Requirement 5 states:

“Each Transmission Owner that identified a Transmission station, Transmission substation, or primary control center in Requirement R1 and verified according to Requirement R2, and each Transmission Operator notified by a Transmission Owner according to Requirement R3, shall develop and implement a documented physical security plan(s) that covers their respective Transmission station(s), Transmission substation(s), and primary control center(s). The physical security plan(s) shall be developed within 120 calendar days following the completion of Requirement R2 and executed according to the timeline specified in the physical security plan(s). The physical security plan(s) shall include the following attributes: *[VRF: High; TimeHorizon: Long-term Planning]*”

- (a) How many physical security plans have been developed to date?
- (b) How many were developed by individual TOs?
- (c) How many were developed by PJM?
- (d) How many have been implemented?
- (e) What was the total cost for implementation?

20. Current CIP-014 Requirement 6 states:

“Each Transmission Owner that identified a Transmission station, Transmission substation, or primary control center in Requirement R1 and verified according to Requirement R2, and each Transmission Operator notified by a Transmission Owner according to Requirement R3, shall have an unaffiliated third party review the evaluation performed under Requirement R4 and the security plan(s) developed under Requirement R5. The review may occur concurrently with or after completion of the evaluation performed under Requirement R4 and the security plan development under Requirement R5. *[VRF: Medium; Time-Horizon: Long-term Planning]*”

- (a) Who is the third party?
- (b) Please confirm that all security plans were reviewed?
- (c) As a result of the review, were any changes made to any of the security plans?



September 16, 2019

Mr. Kenneth S. Seiler  
Vice President-Planning  
PJM Interconnection, L.L.C.  
PO Box 1525  
Southeastern, PA 19399-1525

Dear Ken:

American Municipal Power, Inc. ("AMP") has reviewed the Transmission Owners' August 12, 2019 notice of intent to file Attachment M-4, and opposes the Attachment M-4 proposal as it currently stands.

While the Transmission Owners certainly have the procedural authority via Article 7 of the Consolidated Transmission Owners Agreement to notify the PJM stakeholders prior to their filing for "...establishment and recovery of the Transmission Owners' transmission revenue requirements or the PJM Regional Rate Design..." (Section 7.3.1), the proposal for CIP-014 Mitigation Projects goes further than rate design.

Our understanding of the purpose of CIP-014 is to "To identify and protect Transmission stations and Transmission substations, and their associated primary control centers, that if rendered inoperable or damaged as a result of a physical attack could result in instability, uncontrolled separation, or cascading within an Interconnection." (January 2015 CIP-014). Further, this standard applies to transmission facilities operated at 500 kV or higher and facilities between 200-499 kV.

Facilities with these characteristics are not "local" facilities but rather are facilities that provide regional and possibly inter-regional benefits. PJM should have a significant leadership role in participating in the NERC standards development process as well as developing planning criteria for regional facilities that may be more stringent than NERC requirements. This does not seem to be the case pursuant to the Transmission Owners' August 12, 2019 notice.

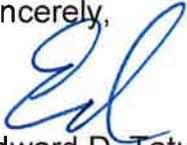
As such, we have developed questions for PJM regarding how CIP-014 is currently being implemented and PJM's role in the proposed M-4 process. We have also developed questions for the Transmission Owners (attached).

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We believe the rest of the stakeholder community will benefit from a deeper understanding of PJM's role in the current and proposed process. To that end, we have also advised the PJM Board of our concerns, to ensure this issue receives the transparency and scrutiny required.

Ken, we appreciate your hard work and look forward to your response.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Ed', is positioned above the printed name.

Edward D. Tatum, Jr.  
Vice President, Transmission

**Questions Submitted to PJM Interconnection, L.L.C. by  
American Municipal Power, Inc. Regarding  
the PJM Transmission Owners' Attachment M-4 Proposal**

**(September 13, 2019)**

**I. Current CIP-014-1 Compliance:**

1. Overall

Please describe PJM's role as transmission operator in meeting this standard.

2. Current CIP-014 Requirement 1

Requirement 1 states:

"Each Transmission Owner shall perform an initial risk assessment and subsequent risk assessments of its Transmission stations and Transmission substations (existing and planned to be in service within 24 months) that meet the criteria specified in Applicability Section 4.1.1. The initial and subsequent risk assessments shall consist of a transmission analysis or transmission analyses designed to identify the Transmission station(s) and Transmission substation(s) that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection. [*VRF: High; Time-Horizon: Long-term Planning*]"

- a) Is PJM or each Transmission Owner performing this risk assessment?
- b) If PJM is not performing this assessment, why not?
- c) If PJM is performing the assessment, please identify the models and approach used for:
  - i. Instability
  - ii. Uncontrolled Separation
  - iii. Cascading
- d) Have the models identified any situations of instability, uncontrolled separation or cascading?
- e) When was the first assessment conducted? What is the schedule for additional assessments?
- f) In accordance with the November 2014 Order, how is PJM determining an instability, uncontrolled separation or cascading is having a "critical impact on the operation of the interconnection"?

3. Current CIP-014 Requirement 2

Requirement 2 states:

“Each Transmission Owner shall have an unaffiliated third party verify the risk assessment performed under Requirement R1. The verification may occur concurrent with or after the risk assessment performed under Requirement R1. *[VRF: Medium; Time-Horizon: Long-term Planning]*”. This is to meet FERC’s intent that verification is by an entity other than the owner or operator.

- a) Who is the third party?
- b) Were all instabilities with a critical impact on the operation of the interconnection identified per Requirement 1 verified?
  - i. If not, please explain why not.
  - ii. If so, please describe the verification process.

4. Current CIP-014 Requirement 3

Requirement 3 states:

“For a primary control center(s) identified by the Transmission Owner according to Requirement R1, Part 1.2 that a) operationally controls an identified Transmission station or Transmission substation verified according to Requirement R2, and b) is not under the operational control of the Transmission Owner: the Transmission Owner shall, within seven calendar days following completion of Requirement R2, notify the Transmission Operator that has operational control of the primary control center of such identification and the date of completion of Requirement R2. *[VRF: Lower; TimeHorizon: Long-term Planning]*”

- a) Are there any CIP-014 facilities not under PJM’s operational control?
- b) If not, please identify the dates provided by the PJM TOs when they completed Requirement R2 on each primary control center (without identifying the PJM TO or the primary control center).
- c) Please confirm that PJM has dated written or electronic notifications or communications that each of the PJM TOs notified PJM that it completed Requirement R2 according to Requirement R3.

5. Current CIP-014 Requirement 4

Requirement 4 states:

“Each Transmission Owner that identified a Transmission station, Transmission substation, or a primary control center in Requirement R1 and verified according to Requirement R2, and

each Transmission Operator notified by a Transmission Owner according to Requirement R3, shall conduct an evaluation of the potential threats and vulnerabilities of a physical attack to each of their respective Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 and verified according to Requirement R2. The evaluation shall consider the following: *[VRF: Medium; Time-Horizon: Operations Planning, Long-term Planning]*

4.1. Unique characteristics of the identified and verified Transmission station(s), Transmission substation(s), and primary control center(s);

4.2. Prior history of attack on similar facilities taking into account the frequency, geographic proximity, and severity of past physical security related events; and

4.3. Intelligence or threat warnings received from sources such as law enforcement, the Electric Reliability Organization (ERO), the Electricity Sector Information Sharing and Analysis Center (ES-ISAC), U.S. federal and/or Canadian governmental agencies, or their successors.”

a) Please confirm that PJM conducted an evaluation of the potential threats and vulnerabilities of a physical attack to each of the respective Transmission station(s), Transmission substation(s), and primary control center(s) identified in Requirement R1 and verified according to Requirement R2.

b) Please provide the dates that each evaluation was completed for each CIP-014 facility identified in Requirement R1 and verified according to Requirement R2 (without identifying the PJM TO or the CIP-014 facility).

c) Please confirm that PJM has dated written or electronic reports of each evaluation that was completed for each CIP-014 facility identified in Requirement R1 and verified according to Requirement R2.

6. Current CIP-014 Requirement 5

Requirement 5 states:

“Each Transmission Owner that identified a Transmission station, Transmission substation, or primary control center in Requirement R1 and verified according to Requirement R2, and each Transmission Operator notified by a Transmission Owner according to Requirement R3, shall develop and implement a documented physical security plan(s) that covers their respective Transmission station(s), Transmission substation(s), and primary control

center(s). The physical security plan(s) shall be developed within 120 calendar days following the completion of Requirement R2 and executed according to the timeline specified in the physical security plan(s). The physical security plan(s) shall include the following attributes: *[VRF: High; TimeHorizon: Long-term Planning]*”

- a) How many physical security plans have been developed to date?
- b) How many were developed by individual TOs?
- c) How many were developed by PJM?
- d) How many have been implemented?
- e) What was the total cost for implementation?

7. Current CIP-014 Requirement 6

Requirement 6 states:

“Each Transmission Owner that identified a Transmission station, Transmission substation, or primary control center in Requirement R1 and verified according to Requirement R2, and each Transmission Operator notified by a Transmission Owner according to Requirement R3, shall have an unaffiliated third party review the evaluation performed under Requirement R4 and the security plan(s) developed under Requirement R5. The review may occur concurrently with or after completion of the evaluation performed under Requirement R4 and the security plan development under Requirement R5. *[VRF: Medium; Time-Horizon: Long-term Planning]*”

- a) Who is the third party?
- b) Please confirm that all security plans were reviewed.
- c) As a result of the review, were any changes made to any of the security plans?

**II. Proposed Attachment M-4**

1. Is the list of substations determined per CIP-014-2 that same list of substations that are included in the CMP/M-4 list? If there are differences, please explain what they are and why the differences occur.
2. Is Attachment M-4 a different evaluation of the PJM system than CIP-014-2? If so, please describe the differences and explain the rationale for using a different evaluation.
3. Does PJM believe that the M-4 filing will be considered a section 205 filing as it applies to the PJM OA?
  - a) If so, what is the basis for that view?

- b) Have or will PJM stakeholders be approving M-4 before it is filed at FERC since it requires changes to the PJM OA to be implemented?
- 4. Does the list of CIP-014 facilities include those facilities identified via Requirement R1 or does the list include facilities where planning analyses determined the facilities have a “critical impact on the operation of the interconnection”?
- 5. CIP Item 3 of the CMP Planning Process has the TO determining the need for the CMP, developing alternatives and a proposed solution.
  - a) Describe where this step fits into the CIP-014 process requirements described above.
  - b) Who is conducting the planning analyses described in Requirement R1?
  - c) Is PJM the third-party verifier?
- 6. Item 4 describes PJM’s role in reviewing.
  - a) Describe the analysis PJM will undertake to verify the proposed improvement will remove the facility from the CIP-014 list.
  - b) Describe the analysis PJM will undertake to determine if the loss of the facility will have a “critical impact on the operation of the interconnection”.
  - c) Please identify how this analysis would differ from the analysis currently conducted by PJM.
- 7. Item 6 contemplates PJM’s interim/periodic review.
  - a) Please describe what review would take place.
  - b) Please describe what will happen if this review determines a proposed solution is no longer required to avoid CIP-014.
- 8. Please describe how PJM will include these projects in the PJM planning model without making this information available as per the Operating Agreement and CEII protection procedures.
  - a) Will market participants no longer be able to rely on the PJM planning model for market and planning decisions?
- 9. The CIP-014 standard is applicable to facilities between 200 – 499 kV with connections to three or more other transmission facilities. The purpose was to develop a physical security reliability standard(s) to identify and protect facilities that if rendered inoperable or damaged could result in instability, uncontrolled separation, or cascading within an interconnection. Yet, Attachment M-4 contemplates only a limited review by PJM.
  - a) Please explain why PJM is not the primary entity implementing M-4 since NERC criteria are considered RTEP criteria by PJM?