

EMS Outages and Compliance Concerns

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Standards to Consider following an EMS Outage Part I

The Operating Committee Reference Document “[Risk and Mitigations for Losing EMS Functions](#)” highlights the work the Event Analysis Program (EAP) does with analyzing EMS outage events, tracking and trending data, creating [Lessons Learned documents](#), and hosting the [Monitoring and Situational Awareness Conference](#). However, a very common question following an EMS outage is, “[Is the EMS outage a violation or not?](#)” There is not a NERC Reliability Standard directly related to the functionality of an EMS, so this is not a simple answer. This article walks you through a compliance assessment (CA) and the NERC Standards to consider following an EMS outage.

The CMEP Implementation Plan¹ recommends conducting a voluntary CA following all events, including EMS outage events. The CA process is a complementary review of an event or disturbance that focuses on the reliability impact of the event, followed by an evaluation of compliance with related Reliability Standards. The CA’s are particularly useful if Compliance Monitoring were to ask for a review of an event during an audit or spot-check. The CA would help the entity remember the event details, what standards were considered in the review and the entity’s rationale on deciding whether or not to self-report any issues.

The first standard to consider following an EMS outage is [EOP-004-3 \(Event Reporting Standard\)](#). Requirement 2 mandates that entities report events per their Operating Plan within 24 hours. This Operating Plan must include the event types listed in Attachment A of the standard which includes reporting the “Complete loss of monitoring capability affecting a BES control center for 30 continuous minutes or more such that analysis capability (i.e. State Estimator or Contingency Analysis) is rendered inoperable.” This may be confusing because the loss of State Estimator or Contingency Analysis is not a “complete loss of monitoring” as the entity typically still has SCADA. It is RF’s position that State Estimator and Contingency Analysis outages (while not a complete loss

of monitoring) should be reported in accordance with EOP-004-3. The CA should ensure that all proper notifications and reporting are performed in accordance with EOP-004-3

Another standard to consider is [TOP-001-3 \(Transmission Operations Standard\)](#). Requirement 9 discusses the responsibility to notify the Reliability Coordinator (RC) for both planned and unplanned outages of telemetering and control equipment, monitoring and assessment capabilities, and associated communication channels between the affected entities. Following an EMS outage, discuss with operations personnel if the proper notifications were made to the RC. This is important because the RC provides overlapping coverage regarding the situational awareness of your footprint when you are unable to monitor your system, or if there is a loss of State Estimation or Contingency Analysis. If controls are not already in place to ensure that this notification takes place, consider additional alarming to help remind the operators or shift supervisor to make this notification. Additionally, if you are using the monitoring and assessment capabilities of the RC to serve as a backup, ensure that the RC’s EMS is fully functional for your area. Corrupted or missing data from your system may negatively impact the RC’s systems.

When a CA is completed for an EMS event and an entity determines that all compliance responsibilities have been met, there may be an opportunity to reflect on other items outside of compliance. Review how well your personnel, procedures, policies, controls, etc. performed during the event and determine if modifications need to be made.

¹See Appendix B - Compliance Assessment Report of the 2017 ERO Enterprise Compliance Monitoring and Enforcement Implementation Plan.

NERC Standards to Consider with an EMS Outage Part 1

The highlighted Standards are covered in this issue, the remaining ones will be covered in Part II in our next issue.

NERC Standard	Req	Topic
TOP-001-3	13	Performance of Real-Time Assessments every 30 minutes
TOP-001-3	9	Notify Reliability Coordinator and known impacted interconnected entities of all planned outages, and unplanned outages of 30 minutes or more, for telemetering and control equipment, monitoring and assessment capabilities, and associated communication channels between the affected entities.
TOP-001-3	10,14	Determination of System
IRO-010-2	3	Providing data to Reliability Coordinator
EOP-4-3	2	Operations Assessment
EOP-008-1	1,4,6	Backup functionality