



NERC Lessons Learned

Kevin Hatch
Manager, Reliability Engineering



NERC Lessons Learned

- Forecasted High Winds
- EMS Pausing During Database Deployment
- Tower Climber Incident

Problem Statement

- High-speed wind days can pose challenges to transmission, distribution, and wind-generation availability.
- Hundreds of MWs of wind generation came offline due to high speed cutoff
- Multiple EHV transmission facilities tripped OOS

Corrective Action

- The entity successfully used previous experience to improve their high speed wind forecast response. This information is being shared to help other entities in their preparations.
- **Lessons Learned**
- RCs could initiate calls with various facility owners and operators in order to proactively posture the transmission system.
- The postponement of non-critical transmission planned outages could be employed to improve the resiliency of the transmission system and reduce the risk of planned outages being extended if high wind-speeds were to disrupt the maintenance activities.
- Preemptively reducing variable generation forecasts could allow for market tools to schedule other resources in the place of variable generation (if applicable as per design of energy market dispatch software).

- **Lessons Learned cont**

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Secure loose, light weight material in or around substations and generation switchyards (this is often an issue where construction is on-going).

Problem Statement

- Several entities have experienced energy management system (EMS) outages during EMS database deployment. All of the cases had the same EMS vendor

Corrective Action

- In each of these cases, upon noticing the degradation of the situational awareness, the entity contacted the appropriate personnel (e.g., RC and operations support staff) to assist with monitoring and help repair the situation.

Lessons Learned

- Entities should develop in-house expertise and build detailed documents that institute an effective process for troubleshooting and rolling back to previous system conditions when a similar event happens. This will quickly address similar failures and enhance the system's resilience.
- Entities should build and implement a list of checks to review functionality after the database promotion to ensure all critical functionality is confirmed or issues identified quickly.
- Entities should work with EMS vendors to develop and implement alarming/indications during the database promotion to monitor the data rollout process

Problem Statement

- An unauthorized climber was reported to be on the top of a tower shared by three circuits (a 500 kV circuit, a 230 kV circuit, and a 115 kV circuit). As a result, the three circuits were required to be manually removed from service to protect the safety of the climber while taking into account system limitations that may be caused by their removal from service

Corrective Action

- Following the incident, the TOP conducted an evaluation of the tower to compare it against the relevant safety requirements. It was found that no visible danger/warning signs were installed; this was rectified immediately. .

Lessons Learned

- TOs/TOPs should consider having policies in place that provide direction on the installation of deterrents to prevent unauthorized climbing ensuring the safety of members of the public. 🕒
- TOs/TOPs should have policies in place that outline how to respond to public safety hazards to ensure safety for members of the public.
- TOs/TOPs should establish a minimum above grade height for tower climbing aids that discourages unauthorized climbing and consider additional deterrents within their policies

- <https://www.nerc.com/pa/rrm/ea/Pages/Lessons-Learned.aspx>

Presenter:
Kevin Hatch, Kevin.Hatch@pjm.com

SME:
Kevin Hatch, Kevin.Hatch@pjm.com

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Member Hotline

(610) 666 – 8980

(866) 400 – 8980

custsvc@pjm.com

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