Lesson Learned

Human Error Leads to Evacuation of Primary Control Room

Primary Interest Groups
Balancing Authorities (BAs)
Transmission Operators (TOPs)
Generation Operators (GOPs)

Problem Statement
A utility had to evacuate its primary control center due to smoke from a nearby fire that was caused by maintenance worker failing to follow proper hot work procedures.

Details
A fire occurred in the powerhouse adjacent to the control center. Even though the fire was limited to the plastic material located inside of a rectangular metal tank, extensive smoke from the fire required evacuation of personnel from the powerhouse. Local fire departments responded immediately and aided in extinguishing the fire.

Smoke from the fire was extensive and traveled up a utility tunnel and elevator shaft, reaching the energy control center. As a precaution, the primary control center was partially evacuated, so electric system operators utilized their backup control center. After the relief crew reached the backup control center, the system operators at the primary control center were able to leave their post and report to the backup control center.

An investigation determined that the fire was caused by maintenance workers that were assigned to remove a potable water tank that had been decommissioned for years. A spark from a torch ignited the plastic lining of the tank. When the workers assessed the tank prior to starting the removal, they viewed the side section of the tank which had no lining or combustible materials. The fire occurred in the center section of the tank which had the flammable lining.

The maintenance workers failed to follow proper hot work procedures, which included requirements to fully inspect the area for combustible materials. Furthermore, a fire watch was not established and a hot work permit was not issued.

Corrective Actions
All personnel have been retrained on the hot work permit system. The utility also plans to implement the measures necessary to prevent smoke from traveling into the control center, like appropriate fire stops and ventilation changes.
Lessons Learned

- Workers should properly assess all work conditions before beginning any maintenance activities and follow established hot work permit processes.
- Periodic training on hot work procedures should be given to all maintenance employees.
- Control center ventilation equipment and fire stops should be assessed on a regular basis to verify that proper precautions have been taken to ensure that smoke from internal or external fires cannot reach the control center.
- In instances when control centers are not completely separate, but are located adjacent to other active facilities, consideration should be given to the impact of these facilities on control centers.

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For more Information please contact:

NERC – Lessons Learned (via email)  Alan Wahlstrom (via email) or (501) 688-1624
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