

2020-06-10 12:00 AM

Covid-19 Cleaning Method (Electrostatic Spraying) Potentially Impacting Simulator Operation

Status: OE - No Equipment Involved - Event Tentative Incomplete Last Updated: 2020-07-21 8:08 AM

Significance: None Selected
Optional report

Abstract:

During an NRC operating exam, it was noted that the simulator Rod Step Audio was silent during a portion of a scenario, and an annunciator silence / acknowledge module stopped working during a scenario. This has also occurred on other occasions with similar simulator equipment, including sluggish control switch operation. These occurrences represent a significant rise above baseline for simulator issues of this nature, and they correlate closely with the use of an electrostatic spray cleaning method utilized in response to the COVID-19 pandemic. The Electrostatic disinfection, which produces an atomized, partially charged, dispersal of cleaning solvent was used in the simulator for disinfecting in addition to traditional wiping down of surfaces. Use of the electrostatic disinfected has been suspended in the simulator. Neither of these simulator equipment issues adversely impacted the operating examination.

Recommended for Review By:

Component Engineers
Operations Staff
Training Staff

Lessons Learned Summary:

Description:

Toward the beginning of the COVID-19 pandemic, deep cleaning methods were employed in the training facilities including an electrostatic spraying technique. One day a week, a technician in PPE would employ the sprayer to clean all rooms and surfaces by spraying an anti-viral chemical bound to charged particles with an electric spraying device. This included the simulator. All panels, surfaces, switches, lights, and computers were coated with the spray. The practice required an approximately 15-minute drying period, and simulator training could continue.

As this was employed, a number of component failures were noted. Rod Step Audio, annunciator silence / acknowledge modules, light test pushbuttons, and a sluggish control switch have been noted and repaired. The Rod Step Audio and an annunciator silence / acknowledge module failed during an NRC operating exam, but there was no impact to student performance. It is thought that the charged particles with the cleaning solution are finding their way into the switches and components and coating the contacts inside. As dust is inevitably present in spite of the cleaning, a build up of the dust due to the electrostatic charge is coating

the contacts and components in an unusual way and causing component failure and mis-operation.

Cause Summary:

These components have failed occasionally in the past; however, the number of failures that have occurred during this period represents a significant rate increase above baseline for these issues. While it cannot be conclusively proven that the electrostatic spray technique is responsible for this problem, the time correlation between the increase in failures and the beginning of the use of electrostatic spraying strongly suggests that its use has adversely impacted simulator component operation.

Corrective Action Summary:

The station no longer utilizes electrostatic spraying for cleaning in the simulator instead depending on wiping off control switches and surfaces with wipes during resets.

Event Type:

Optional Report - Optional Report of Beneficial Practice

Unit Consequence:

None

Industrial Safety Consequence:

None

Radiological Consequence:

None

Level of Investigation: No Cause Investigation Conducted

Unit Description:

Cause and Corrective Actions:

Cause

Cause not Determined

Undetermined

Cost / Benefit Justified Investigation Inconclusive

Lessons Learned:

Corrective Actions

Tested and Restored to Service

Lessons Learned:

Actions to Prevent Recurrence

Administrative Controls Applied or Evaluated

Lessons Learned:

Other Trend Codes:

Process/Program Codes (General Area – Does Not Imply Cause):

Implementation of Training and Training Evaluation (Obj. 2)

Repeat Of:

Complicated By:

Source Documents:

User Defined Tags:

Technical Contact:

Start Date/Time: End Date/Time:

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Attachments:

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