

NEW YORK CITY TRANSIT RAIL CONTROL CENTER POWER OUTAGE ISSUE ON AUGUST 29, 2021

Key Findings

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Prepared for:



Prepared by:



Key Findings

- 1 The initial power disruption (ConEd feeder dip in voltage) at 8:25 p.m. could not have resulted in the Rail Control Center (RCC) losing power.
- 2 The switch to the emergency generator was not activated because the initial RCC power dip at 8:25 p.m. lasted only several milliseconds. The RCC UPS (uninterruptible power supply) system provided the needed power to the RCC during the power dip. Both systems worked exactly as intended.
- 3 Based on the electrical equipment log readings and the manufacturer's official assessment, it was determined that the most likely cause of RCC shutdown was the "Emergency Power Off" button being manually activated. WSP USA cannot further clarify if the "Emergency Power Off" button was pressed intentionally or accidentally because no video surveillance system—or any other evidence that could either confirm or disprove whether a manual activation took place—is available.

Secondary Findings

- 1 The "Emergency Power Off" button did not have a protective cover at the time of the shutdown or the following WSP investigation.
- 2 The electrical equipment Communication and Control systems did not indicate the equipment state at the time of the shutdown or the following WSP investigation.
- 3 The time settings of the electrical equipment logs were not accurate. Each unit had several minutes or even dozens of minutes of discrepancy compared to the real time.
- 4 There was a discrepancy between the as-built RCC electrical system drawing and the real conditions, which can be confusing to adequately evaluate a situation in case of emergency or even during normal operations.
- 5 It took too long for maintenance personnel to bring back to service the critical loads at the RCC, which is not acceptable. There was a long sequence of coordination between multiple groups (IDS, EMD, Stationary Engineering) to figure out the problem.

Mitigation Steps

- 1 Set up the electrical equipment Control and Communication systems properly to stay active so that personnel can monitor RCC electrical system operations.
- 2 System's reliability may be improved by additional parallel redundant cable connections and ties into the electrical network. It will eliminate single point of failure components.
- 3 Provide consistency between the content on the electrical drawings and the real state of equipment.
- 4 Establish clear Standard Operating Procedures and Protocols with the sequence of steps describing the personnel activities during such events. Personnel should be aware of such procedures and be appropriately trained to follow the needed steps in case of an emergency like this.