



Transforming the Resilience of Critical Infrastructure Systems and Communities

Resilience Week Objective: A Symposium dedicated to advancing the interdisciplinary dialog on policy and technologies that accelerate critical infrastructure and community resilience to unexpected and malicious threats.

Session 06: The Three Rs of Post-Event Resilience: Robustness, Recovery, Restoration

Session Chair

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Session Abstract

Past sessions have focused on the invisible connections between infrastructure networks and the interdependencies that cause unforeseen challenges to recovery efforts. We propose a session focusing on the connection between the infrastructure networks and the humans playing a critical role in that recovery. Initially we could focus on the connection between individual infrastructure networks and the people coordinating and carrying out recovery efforts. However, there is also a more complex interaction happening where multiple infrastructure networks are being brought online at the same time by utilities and crews that aren't necessarily in coordination with one another. If we think of recovery after hurricanes, electrical grids, telecommunications networks, gas lines and public water/sewer utilities are often all undergoing repairs and needing to be brought back online. Could there be ways to better estimate downtimes and coordinate the prioritization and the order in which services are restored? Is electricity always the first priority? For small outages, such as thunder storms, could there be ways to better estimate the downtime for dependent infrastructure network? If crews were made aware of specific dependencies, would that awareness prevent cascading failures during repair efforts?

Topics

- Organizational Robustness to Events, the Human Factor
- The Control Room: Critical Decision-Making in Disasters
- Forecasting Post-Event Recovery Time Lines
- Human-Reliability Contribution to Robustness and Recovery
- Taxonomies of Recovery (IEV191, IEC 61508, ISO/TR 12489)
- Estimating Duration of Absorb and Recover Phases