FEMP
Federal Energy Management Program

Assessing Energy and Water Resilience for the Federal Bureau of Investigation

The Federal Bureau of Investigation (FBI) Quantico complex completed a resilience assessment using the Federal Energy Management Program's (FEMP) Technical Resilience Navigator (TRN) Lite in Summer 2023. This factsheet provides an overview of the process and a summary of lessons learned that may be helpful to other federal facilities interested in using the TRN or TRN Lite for a resilience assessment at their site.

FBI Quantico Overview

The Federal Bureau of Investigation (FBI) Quantico complex is where all employees onboard and receive ongoing world-class training. Opened in 1972, this campus originally only housed the FBI Academy. Today the campus has expanded to also include the FBI Laboratory Division, Operational Technology Division (OTD), and the Hostage Rescue Team (HRT). Some of the activities that take place on the FBI Quantico complex include:

- Operating the FBI Academy, where all new special agents and intelligence analysts train together to serve together;
- Running the FBI Laboratory, providing forensic analysis support services including forensic analysis, technical hazards response, scientific analysis, operational technology, and more; and
- Offering support services to the entire complex, including facility management, food service, custodial, grounds, automotive repair and telecommunications services.

The FBI Laboratory building. *Photo credit https://fbijobs.gov/locations/quantico*

The 547-acre campus shares ground with the U.S. Marine Corps and features dozens of buildings, a central utility plant, and energy and water infrastructure.

Timeline

The FBI Quantico team that is responsible for the facility management and operations for the FBI Quantico complex had previously worked with FEMP to start a full TRN assessment in FY20, however, due to the COVID-19 pandemic and staff changes, progress on the assessment was slow over the next two years. In Spring 2023, the FEMP team re-engaged with the FBI's Sustainability Taskforce for Energy and Environmental Resilience (STEER) Existing Buildings Subcommittee to discuss the upcoming TRN Lite tool and the Quantico team was interested in the potential to leverage existing data to get results quickly.

The team agreed to pilot the new TRN Lite tool in Summer 2023, using data that had already been collected for full TRN assessment in the Site-Level Planning and Baseline Development modules. In July 2023, researchers from the Pacific Northwest National Laboratory (PNNL) took that data already housed on the TRN website and mapped it into the new TRN Lite framework. The team then identified data gaps related to redundant system information and disruptions; researchers provided nation-wide default data for some inputs and leveraged the TRN Lite Hazard look-up tool to identify potential dual-impact hazards.

The team met for a half-day meeting in August 2023 to review the tool, additional PNNL data inputs, and generated TRN Lite outputs, which include the identification of risk drivers and potential resilience solutions. The team realized, based on the results, that some of the initial data inputs didn't make sense for the site context and went back into the tool and updated data inputs live.

"We found the partnership with FEMP to be very useful and valuable," Darcy Sharp, an FBI energy program manager.

"Infrastructure resiliency and Energy security are strategic priorities for the FBI, and going through the TRN process helped us as facility management professionals organize internal data on existing resilience protections and helped highlight key gaps. Having the visuals for

the key risk drivers and a list of potential resilience solutions was really helpful as we began to plan for future facility capital improvements." Ed Mead, the FBI UESC program manager.

The TRN Lite tool looked at the FBI Quantico complex relative risks from different sources; internal to the FBI, external to the Marine Corps Base Quantico and Nature related disasters to identify 8 critical resilience gaps that potentially put the FBI at risk of causing mission failure in some of it more critical operations that take place on the FBI Quantico complex. From these identified gaps there were 14 resilience solutions generated to address the potential technological, operational, and institutional resilience gaps. Solutions ranged from adding redundant electrical generation and distribution systems to enhancing the energy efficiency of specific utility infrastructure. Additionally, the TRN Lite tool was instrumental in identified Dual-Impact hazards and threats with potential impacts on multiple FBI systems. This was a different point of view than what the FBI was accustomed to do in the past by just looking at potential threats from a monoptic perspective.

TRN Lessons Learned

Security of inputted TRN Data

Data security is always an important consideration when using any online tool. The project team recommends double checking where data is stored for a tool, understanding what cybersecurity measures are employed, and checking with internal policies to be clear on what data can be stored on another server and what data must stay internal.

"Users of the TRN and TRN Lite can also address data security concerns by leveraging our download capability and setting up a local version on an agency-owned server," said Ethan Epstein, FEMP's resilience program manager. "Alternatively, we've had success with sites using building codes or other codes for facilities and critical loads to provide another level of privacy."

Establishment of a TRN integrated Project Team (IPT)

The FBI Quantico complex team faced staffing changes from the initiation of the full TRN assessment to the completion of the TRN Lite pilot. One benefit of the TRN process was that key information is organized in a way that should help reduce the loss of institutional knowledge when there is staff change-over. Ensuring that facility staff and energy managers have up-to-date informal on which redundant systems support which facilities (or critical loads within facilities) can help ensure that resilience is baked in to all projects, not just during resilience assessments. It was extremely helpful that the FBI TRN team was organized as an IPT, with subject matter experts from all facets of the organization so it took some the reliance off the actual person and put it on the functional area that the person on the team was representing so as staff transitioned out the key information was not lost.

It should be noted that the FBI Quantico team provided valuable feedback on the TRN Lite to the FEMP team, which has resulted in new features planned for release in 2025.

Next Steps

The FBI Quantico team continues to refine their TRN Lite assessment on their own after the initial August 2023 presentation. The team is using the inputs to help guide their facility management and planned infrastructure investments.

One particular initiative that the FBI Quantico team has just initiated is a complex wide Utility Energy Service Contract (UESC) preliminary assessment that used the TRN lite tool as a data point to help identify critical Energy Resiliency and Energy Security gaps that could be addressed through potential UESC energy conservation measure (ECM) projects in the very near future.

The Department of Energy's Federal Energy Management Program would like to thank the FBI and the FBI Quantico team for their participation in the development of this Technical Resilience Navigator case study. In particular, we would like to acknowledge Ed Mead, Brook Siegel, Marshall Lewis, Ernest Crowder, and Darcy Sharp for their support and excellent leadership in conducting the study.

Are you a federal facility interested in resilience technical assistance? Reach out via FEMP's technical assistance portal to find out more at: https://www7.eere.energy.gov/femp/assistance/

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