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FEMA

Resilience
National Preparedness Directorate
National Training and Education Division

Training Partners Program

TPP Times

In This Issue

Welcome to the Fall 2022 issue of the TPP Times. In this issue, we focus on supply chains, and how FEMA and NTED training partners are working to ensure resilience.

First, we focus on FEMA's Supply Chain Analysis Network (SCAN). SCAN provides decision makers with essential information on supply chain dynamics for response to events of national and regional impact, as well as for planning scenarios.

Next, we take a closer look at two NTED training partners developing and delivering training on supply chain topics: the Mid-Atlantic Center for Emergency Management & Public Safety at Frederick Community College, and the University of Tennessee Center for Agriculture and Food Security and Preparedness.

We also look at how NIMS relates to and supports supply chain resilience during a response.

And finally, our Section 508 column discusses the use of alternate conforming versions.

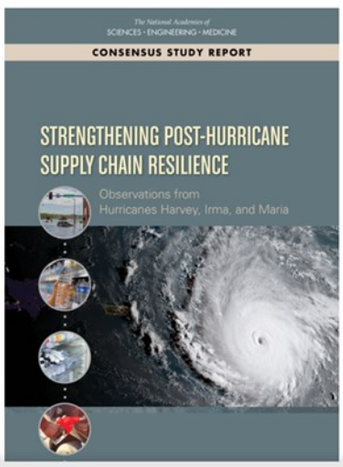
We welcome your input on the TPP Times, including comments, questions, or information you want to share with other training partners. Email us at TPPTimes@fema.dhs.gov.

FEMA's SCAN: Data-Driven Decision Support to Drive Supply Chain Resilience

SCAN
Supply Chain Analysis Network

FEMA has long recognized the criticality of supply chains in disaster response and recovery. In fact, the agency has recently invested in an in-depth study and analysis of the dynamics of private sector supply chains and ways to make them more resilient. The result is FEMA's Supply Chain Analysis Network (SCAN), a decision support tool that integrates quantitative data and subject matter expert analysis to provide projections and recommendations to support the critical decisions that FEMA leadership makes in planning, preparing for and responding to disasters.

The concept for SCAN was developed by FEMA logistics leadership after 2017's hurricane season. FEMA commissioned the National Academies of Science, Engineering, and Medicine to complete a thorough and unbiased analysis of the limitations of the private sector supply chain and provide recommendations for optimizing response plans and collaboration between the government and private sector. The resulting report, published in 2020, was titled *Strengthening Post-Hurricane Supply Chain Resilience: Observations from Harvey, Irma, and Maria*.



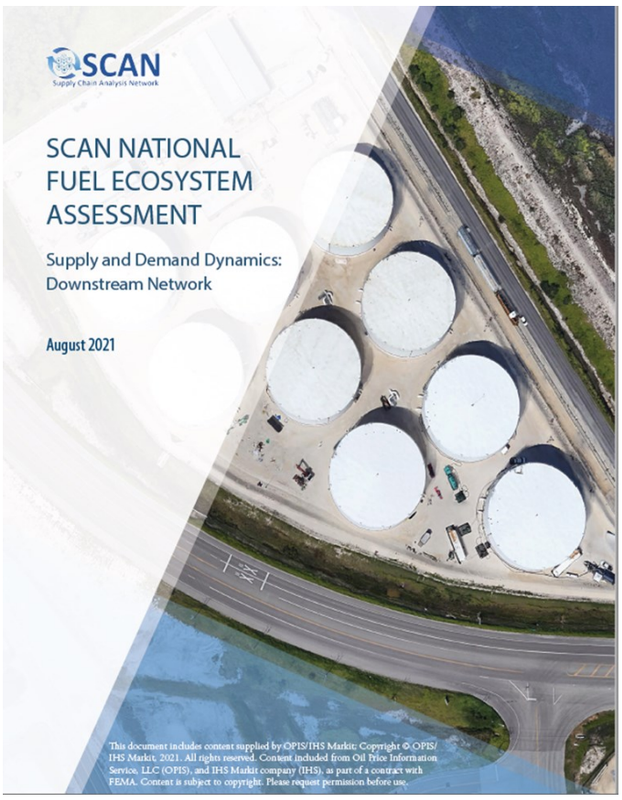
Strengthening Post-Hurricane Supply Chain Resilience: Observations from Harvey, Irma, and Maria helped to lay the foundation for SCAN.

The study noted that private sector supply chains and public sector relief channels function independently of one another and that each has limited visibility of the other. Additionally, the capacity of the private sector supply chain is orders of magnitude greater than the channels for public sector relief. Recommendations included: 1) shifting FEMA's incident response focus away from providing supplies to facilitating the rapid restoration of private sector supply chain capabilities; 2) developing FEMA's understanding of supply chain dynamics at a system level to provide a foundation for effective decision support, and; 3) developing and delivering training regarding supply chain dynamics and best practices for developing and sustaining public-private partnerships to improve supply chain resilience. Based on these recommendations, the Emergency Management Institute developed and delivers IS-0238: Critical Concepts in Supply Chain Flow and Resilience.

SCAN was first activated in July 2019 in response to hurricanes Erick and Flossie. SCAN has been activated in response to seven hurricanes, an earthquake, the COVID-19 pandemic, National Fuel Ecosystem Assessment, and Pre-Hurricane National Strategic Supply Chain Risk Assessment.

"The goal of SCAN is to inform the senior leaders and help them think through the decisions they have to make during a response, or even during planning before a response," said Eugene Shearer, Supply Chain Advisor and SCAN Program Manager.

SCAN is not just about response; the system is also an important tool in gray-sky and blue-sky planning scenarios. SCAN has helped FEMA understand private sector supply chains, allowing the government to lend support to stabilize and



SCAN has been used to produce several reports, including a 2021 analysis of the national fuel ecosystem.

restore function while adhering to the credo – "first do no harm."

SCAN activations assess variables across physical and socioeconomic environments. The data utilized during a given SCAN study or analysis is based on the requirements for the activation and comes from a variety of sources depending on the purpose of the activation. For example, in monitoring the extended extreme heat experienced in the center of the country this past summer, the analysis included data regarding the electric grid. SCAN also has a human component—data is verified and interpreted by a team of data analysts and supply chain subject-matter experts who evaluate, interact with and shape the available data.

SCAN has allowed FEMA to develop an understanding of how private sector supply chain dynamics function that in turn makes the system an invaluable tool for conducting a variety of studies and analyses, including:

1. Blue-sky studies of supply chain baselines that continue to define the characteristics and constraints of private sector supply chains. These insights can be used to inform regional catastrophic planning efforts. Recently, SCAN was used to support the Wasatch Earthquake Response Plan for Region 8 and the Cascadia Subduction Zone Response Plan for Region 10.
2. Blue-sky studies to address specific questions or purposes such as the National Fuel Ecosystem Assessment that was used to better understand how to intervene during a regional fuel supply disruption.
3. Gray-Sky Disaster activations at the local, regional and national levels in which the SCAN system helps identify if key demand and supply networks are failing; when, where, and how FEMA can engage to maximize effectiveness in reversing failure; and how FEMA might intervene over a five-day horizon to mitigate future risk.

SCAN has also been used to support and enhance supply chain training for local emergency managers. For example, the University of Tennessee collaborated with Kathy Fulton, one of the early SCAN collaborators and key experts on the SCAN team, to develop *PER 404: Logistics and Supply Chain Resilience in Disasters*. This 16-hour course utilizes a simulated disaster scenario to help course participants gain experience with post-disaster supply chain dynamics.

The ultimate objective for SCAN is to inform and support senior leader's decision-making in events of regional and national impact. Recently the SCAN team briefed Administrator Criswell and other FEMA senior leaders on the 2022 Pre-Hurricane Season National Strategic Supply Chain Analysis outlining prevailing supply chain challenges that might impact response operations in the coming hurricane season.

Administrator Criswell recognizes the value and depth of analysis and directed the SCAN team to provide this report annually. SCAN outputs also support FEMA's Office of Business Industry and Infrastructure Integration in their mission to assist and collaborate with the private sector in getting business back to business after a disaster.

SCAN has proven to be useful in a broad range of contexts in a short period of time. The team behind this powerful system has plans to continue to expand its usefulness and provide even greater benefits to the emergency management community and the American people. Future plans include moving SCAN products into the geospatial realm, including maps of impacts, populations most at risk, and key infrastructure such as fuel pipelines, terminals, and refineries.

The SCAN team will continue to add value by supporting regional planning, national level exercises and long-term planning. The objective is to provide input into key decisions allowing FEMA to help people before, during and after disasters and to optimize support to survivors.◆

Supply Chain Resources and Training

- FEMA Supply Chain Resilience Guide
- National Academies of Sciences, Engineering and Medicine: "Strengthening Post-Hurricane Supply Chain Resilience"
- AWR-389: Lifelines, Logistics, and Supply Chain Awareness Workshop
- AWR-392-W: Lifelines, Logistics, and Supply Chain Awareness Training
- PER-404: Logistics and Supply Chain Resilience in Disasters
- MGT 489: Managing Public, Private and NGO Partnerships to Prepare for and Solve Critical Logistics and Supply Chain Challenges During Large Scale Disasters (Pilot)
- FEMA EMI: IS-0238 Critical Concepts in Supply Chain Flow and Resilience
- Center for Homeland Defense and Security: Supply Chain Resilience (Self-study Course)
- Philip J Palin – Supply Chain Resilience Blog

Mid-Atlantic Center for Emergency Management & Public Safety at Frederick Community College Setting the Pace in Supply Chain Resilience Education and Training

Maryland students discuss the practical exercise at a May 2022 delivery of the AWR-389: Lifelines, Logistics, and Supply Chain Awareness Workshop. Photo by Colleen Schupp.

Since 2015, FEMA has increasingly recognized the importance of integrating supply chain resilience into emergency management. In fact, the FEMA Supply Chain Resilience Guide (FEMA, 2019) reports that "emergency managers should develop a strategic understanding of the current supply chains and engage with relevant stakeholders . . . to foster public-private sector collaboration, cooperation, and planning." Critical to this understanding is the provision of education and training programs to prepare stakeholders to meet these challenges.

FEMA's National Training and Education Division has funded several institutions via its Continuing Training Grants (CTG) program to develop and deliver needed supply chain-related education. The program supports targeted training solutions that facilitate and integrate whole community, risk-informed and capabilities-based approaches to emergency preparedness. The Mid-Atlantic Center for Emergency Management & Public Safety at Frederick Community College, in Maryland, is among the institutions funded by program for supply chain-related education.

The center's training program, called the Rapid Response Resourcing for Food, Water, and Shelter, assembles community leaders to review risk management of essential community lifelines. The program has uniquely positioned the center to develop and deliver innovative education and training that targets diverse communities and supports the integration of emerging topics in emergency management at all levels (both public and private).

In January 2022, the center launched two supply chain-focused courses: **AWR-392, Lifelines, Logistics, and Supply Chain Awareness Training Course** and **AWR-389, Lifelines, Logistics, and Supply Chain Awareness Workshop**. AWR-392, which is a foundational course, is a prerequisite for AWR-389.

The courses are online, self-paced and completed entirely at the participants' convenience. The content involves FEMA's lifelines construct, whole community, and supply chain principles. Both courses are offered free to the public, and completers earn 0.7 continuing education units.

The second course, AWR-389, is composed of two components. Delivered as a one-day workshop either onsite or virtually, the course consists of a lifelines construct, whole community, and supply chain principal review. This is followed by an interactive exercise, tailored specifically to focus on a lifeline disruption of the hosting organization's choosing.

Lewis Raeder, a Community Lifelines Program Specialist at the center, coordinates workshops for the Rapid Response Resourcing program. He said the workshops include a "focus on diverse members of the community who would be involved in some sort of disruption to any of the lifelines. We allow them to tell us what they would like us to focus on from a lifeline disruption perspective. For Maryland, they wanted the fuel supply system completely disrupted in Baltimore. So, the workshop had to resolve the problem from that perspective."

Since the center launched these courses, 226 people have registered for AWR-392 with 76 participants completing the online, self-paced version of the course. The center has also delivered one AWR-389 workshop in Maryland, which 10 participants have completed. There are additional workshops scheduled to be delivered in North Carolina, Georgia, Alabama, Utah, Indiana, California, Ohio, Florida and New Mexico. Information on these courses is available at http://www.frederick.edu/communitylifelines.

In addition to being contracted with FEMA via its CTG program, the center has also served as a contractor for the Maryland Department of Emergency Management, where it provides course design, needs assessment, graphics, and social media support; the Maryland State Department of Education, where it provides coursework for students to participate in Career and Technical Education programs, earn college credit, and obtain industry credentials; and the Maryland State Police, where it provides candidates in the academy program with an opportunity to obtain an Associate in Applied Science degree.◆

A Focus on Community and Public-Private Partnerships at the University of Tennessee

Supply chain issues only tend to get attention when something has gone wrong. The pandemic may have put supply chains on the front page, but FEMA has been thinking about ways to make them more resilient for several years.

During a disaster, supply chain disruptions can have

wide-ranging effects. Training and education are an important part of ensuring resilient supply chains. Decision makers in the public and private sectors need to understand how disasters impact supply chains and must be equipped with the tools to rapidly develop effective solutions during the most challenging times.

> **“The only way people are ever successful is when they approach it from a community perspective rather than a ‘me only’ perspective.**

To address these concerns, the University of Tennessee Center for Agriculture and Food Security and Preparedness has developed two courses with competitive grant funds from FEMA’s Homeland Security National Training Program Continuing Training Grants program. The first, **PER 404: Logistics and Supply Chain Resilience in Disasters**, had its first offerings earlier this year. The second course, **MGT 489: Managing Public, Private and NGO Partnerships to Prepare for and Solve Critical Logistics and Supply Chain Challenges During Large Scale Disasters**, is currently in pilot. Both courses are 16 hours and are offered virtually and in-person.

Aimed at public and private sector disaster logistics and supply chain stakeholders, PER 404 is designed to prepare participants to “establish a resilient disaster supply chain that is capable of rapidly sourcing, tracking, transporting, staging, and distributing critical emergency supplies to survivors during a disaster,” according to the University of Tennessee.

During a disaster, disruptions to commercial supply chains can have wide-ranging effects, from limiting access to basic necessities and public services, to creating shortages of everything from raw materials to computer chips. It is critical that emergency managers and other stakeholders understand key supply chain concepts and how they should inform their decision making.

“We know that emergency/replacement supply chains can't provide all that commercial supply chains provide on a daily basis,” said course instructor Kathy Fulton. “We then have to determine what is the best way to get appropriate resources to survivors. Is it via procuring and distributing those items via emergency channels or finding ways to support the restoration of the supply chains that were serving that resource pre-disaster? Almost always the answer is [to] support the restoration of pre-existing supply chains.”

Designed for the same target audience as PER 404, MGT 489 focuses more specifically on incorporating collaborative public-private solutions into preparedness planning. This includes a focus on ways to support resilience of the supply chain and the Food, Water, and Shelter community lifeline.

The courses also offer a valuable opportunity for stakeholders to network with each other and to start having conversations that will inform a real-world response. “A lot of [students] ask for a course roster once it’s finished,” said Sheri Pugh, Associate Director for Communications and Outreach at the University of Tennessee. “They want to continue communicating with people from the class.”

“That’s something that to me my whole life has been built around,” said Fulton, “building those networks and building those communities.”

Community is an important piece of the supply chain puzzle. PER 404 culminates with a simulated disaster activity that requires participants to get resources to where they are needed. “Some of it is selling,” said Fulton, “some of it is giving away, but the only way people are ever successful is when they approach it from a community perspective rather than a ‘me only’ perspective.”

Training and education play a key role in building resilient supply chains. “There’s a lot of resources that are packed into these courses,” said Pugh. “That’s our role, getting those [resources] out, and supporting the different stakeholders that are attending, encouraging future networking, giving them the tools.”

More information on both courses is available by contacting Amy Kirk at akirk19@utk.edu or by phone at 865-974-6530.◆

NFIP 101: Introduction to Floodplain Management

Want to learn floodplain management basics? Or maybe just brush up on a couple floodplain management topics?

FEMA’s Floodplain Management Division and the Association of State Floodplain Managers are thrilled to offer **NFIP 101: Introduction to Floodplain Management**

NFIP 101 is:

- Web-based;
- Free; and
- Available to the general public.

NFIP 101 is intended for those just beginning a career in floodplain management. It provides:

- Knowledge and skills to administer and enforce floodplain management regulation;
- Information and communication techniques to explain the impact of floodplain management decisions; and
- An overview of NFIP minimum floodplain/management regulations.

*The course can be accessed on the **Association of State Floodplain Managers website, floods.org.***

NIMS/ICS Training News & Notes

NIMS and Supply Chain Resilience in Major Disasters

The United States has experienced more frequent and severe natural disasters that have had devastating results, including the disruption to local, national and global supply chains. The disruption has spurred discussions about the importance of integrating supply chain resilience into emergency management planning and response efforts.

For example, efforts to control the COVID-19 pandemic—government-mandated lockdowns, social distancing measures and other requirements—disrupted supply chains. In addition, supply chain disruptions continue following major hurricanes, floods, winter storms and wildfires.

Supply chain resilience has challenged private, nonprofit and public stakeholders to adopt or identify a systems approach to better coordinate post-disaster response, recovery and rapid reconstitution.

Major disasters often expose deficiencies in emergency preparedness, hazard mitigation, and response and recovery operations. They also measure resilience and reveal the capabilities of impacted stakeholders and systems to respond effectively to supply chain disruptions.

The National Incident Management System (NIMS) coordinates disaster response and recovery efforts at all levels of government. NIMS has substantial utility in supply chain resilience when properly integrated in all phases of emergency management—preparedness, planning, mitigation, response and recovery.

The purpose of NIMS is to guide all levels of government, nongovernmental organizations, and the private sector to work together to prevent, protect against, mitigate, respond to and recover from incidents. It provides shared common vocabulary, systems and processes, including the Incident Command System and Emergency Operations Center structures, and Multiagency Coordination Groups that guide how stakeholders work together during incidents.

In addition to NIMS doctrine, the FEMA Supply Chain Resilience Guide can inform the integration of supply chain resilience into emergency management. It can help emergency managers at every level better understand and negotiate the challenges and opportunities associated with supply chain resilience. These documents are essential resources to have in any supply chain resilience toolkit, plan, training or course.

One component of NIMS that is specifically relevant to supply chain resilience is communication and information management. For example, an impacted community must assimilate knowledge and effectively communicate with relevant stakeholders during disasters. NIMS defines specific capabilities that are imperative during disasters, and particularly for supply chain resilience. These include but are not limited to:

- Identifying trusted sources of information;
- Establishing robust communication channels with key stakeholders;
- Creating repositories of knowledge to enable impacted communities to:
    - Create a shared understanding of the incident, community resource needs and where to access them; and
    - Create relationships with media outlets to keep the community informed and provide instructions to improve resilience.

These capabilities can help support supply chain resilience by empowering communities to work with public and private stakeholders to provide or help facilitate access to vital resources, commodities, and services for impacted residents. ◆

NIMS Alerts

NIMS Alerts provide important information on NIMS. Subscribe to FEMA's email alerts to receive the latest guidance, tools and resources. Recent releases from FEMA's National Integration Center include:

NIMS Alert 11-22: FEMA Releases Analysis of the Response to the 2020 Edenville and Sanford Dam Failures

NIMS Alert 15-22: FEMA Seeks Public Feedback on Explosives Detection Canine Resource Typing Documents

More information about NIMS can be found online, including up-to-date guidance, information on implementation and training, and tools and resources.

NTED Course Updates: New and Recertified

New

- AWR-409: Recognizing and Identifying Domestic and Homegrown Violent Extremism

Recertified

- AWR-315: Fundamentals of Criminal Intelligence
- AWR-370-W: Addressing Gaps in Housing Disaster Recovery: Conducting Impact Assessments
- AWR-371-W: Addressing Gaps in Housing Disaster Recovery: Pre-Disaster Planning
- AWR-372-W: Addressing Gaps in Housing Disaster Recovery: Post-Disaster Planning
- AWR-387-W: Executing Strategies to Rapidly Rehabilitate Damaged Housing
- PER-222: Public Safety CBRNE Response - Sampling Techniques and Guidelines
- PER-246: Preventive Radiological/Nuclear Detection (PRND) Backpack Operations for the Primary Screener
- PER-349: Preventive Radiological/Nuclear Detection (PRND) Backpack Operations Refresher
- PER-355: Radiation Instruments Employment
- PER-367: Tactical Hazardous Materials Operations for Surface Transportation (THMOST)
- PER-389-W: Incorporating Best Practices for Short-term and Long-Term Housing
- PER-395: Tactical Response to Suicide Bombing Incidents

Section 508 Quarterly

Understanding Conforming Alternate Versions

Section 508 standards allow for a "conforming alternate version" of content to be employed when the original content cannot be made accessible. According to the standards, the conforming alternate version must:

- Conform to the appropriate standards
- Provide the same information and the same functionality as the original (non-conformant) version
- Be up to date with the non-conformant version
- Be able to be accessed via an accessible method

A more detailed discussion of the requirements can be found on the World Wide Web Consortium website.

When deciding whether to use a conforming alternate version, the first question should be, "can the original content be made conformant?" For example, a page that contains pictures can be made conformant using existing techniques, like alt text, so that an alternate version would be unnecessary. A slide that uses a font color that doesn't meet the color contrast standards shouldn't use a conforming alternate; instead, the font color should be changed. While some content may be difficult or time consuming to create accessibly, a conforming alternate version isn't a substitute for meeting the standards if they can be met in the content's original form.

If the original cannot be made accessible, however, a conforming alternate is appropriate. Again, there are many reasons that content may not be able to be remediated. It may require the use of a technology that does not support accessibility, for example. In those cases, conforming alternates should be used to provide an equivalent version of the original content. As described above, the conforming alternate must itself conform to the standards.

It also needs to be up-to-date with the original, and provide the same content and same functionality, in an alternate way. When designing an alternate version, it's important to always consider whether it's achieving the same goals as the original. Will a user of the conforming alternate have a similar experience as a user of the original? If the original version is highly interactive, consider accessible ways to build interactivity into the alternate version.

The last thing to consider is how users access the alternate version. Again, more detail is available online, but the bottom line is that whatever method is used to access the conforming alternate must also be accessible. If it's a link to a new page, the link needs to conform to all the applicable standards. It's also good practice to have the link come before the non-conformant content, so that a user of assistive tech doesn't have to engage with content they can't access accessibly.

A conforming alternate version creates a way for users of assistive tech to access content that can't otherwise be made accessible. By working to make the alternate version as equivalent as possible, you can ensure that all users have an equal experience with your course. ◆

Want the latest on FEMA's Higher Education Program? Get monthly news and updates.

FEMA's Higher Education program works to engage emergency management academia, professional organizations, and practitioners to work together to foster a culture of continuous learning and innovation through education and research to meet the challenges that confront the Nation. The Higher Education Program publishes a monthly newsletter covering a wide variety of topics and updates. To sign up for the newsletter go to Signup for FEMA Email Updates (govdelivery.com). An archive of past issues is available online at the FEMA Emergency Management Education Newsletter Archive.

Questions, comments or story ideas for the *TPP Times*? Email: TPPTimes@fema.dhs.gov

Disclaimer: Please note that the federal government provides links and informational data on various emergency management and first responder community resources and events and does not endorse any non-federal events, entities, organizations, services or products. Please let us know about other events and services for individual and community preparedness that could be included in future newsletters by contacting TPPTimes@fema.dhs.gov.

www.firstrespondertraining.gov