



FEMA Incident Stabilization Guide

November 2019 (Operational Draft)



FEMA

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DRAFT

This document is for developmental purposes only and may contain gaps in information and require additional editing for grammar, unified voice, and the correction of content format and flow. It is provided to assist in the identification of additional content and for the correction of content errors that may exist in the document. This document should not be considered a final draft.

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CHAPTER 1: INTRODUCTION

Background

The events of 2017 challenged the Federal Emergency Management Agency’s (FEMA) ability to effectively balance concurrent large-scale disaster operations. Hurricanes Harvey, Irma, and Maria, as well as wildfires in California, required FEMA to allocate scarce resources across four FEMA regions, from the west coast of the United States to the Caribbean Sea. The 2017 Hurricane Season FEMA After-Action Report identified the need to create a new operational prioritization and response construct which would effectively characterize incidents and identify the root causes of priority issue areas. This new construct aims to create outcome-driven, effective solutions and help distinguish the highest priorities and most complex issues from other incident information. In 2018, FEMA operations along the Atlantic coast, the Florida Panhandle, Alaska, and the Western Pacific, including a historic wildfire season in California and additional operations in Hawaii, validated the pressing need for a way to prioritize response operations. FEMA established the community lifelines during 2018 to address this need and has continued to improve and refine its implementation based on lessons learned.

Purpose

The *National Response Framework* (NRF), 4th Edition, introduces community lifelines (lifelines) in national-level doctrine. The *FEMA Incident Stabilization Guide* (ISG) describes how FEMA implements lifelines and guides how FEMA applies these concepts to disaster operations.

The primary objective of lifelines is to ensure the delivery of critical services that alleviate immediate threats to life and property when communities are impacted by disasters. The construct organizes and aligns these critical services into one of seven lifelines, as seen in Figure 1, which help frame the way disaster impacts are identified, assessed, and addressed.

Community Lifelines

A lifeline enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security.



Figure 1: Community Lifelines

The lifelines provide an outcome-based, survivor-centric frame of reference that assists responders with the following:

- Rapidly determining the scale and complexity of a disaster;
- Identifying the severity, root causes, and interdependencies of impacts to critical lifesaving and life-sustaining services within impacted areas;
- Developing operational priorities and objectives that focus response efforts on the delivery of these services by the most effective means available;
- Communicating disaster-related information across all levels of public, private, and non-profit sectors using a commonly understood, plain language lexicon; and
- Guiding response operations to support and facilitate their integration across mission areas.

Scope and Applicability

The ISG provides guidance to all FEMA employees who plan for and who conduct disaster operations in accordance with the NRF, 4th Edition. Further, the ISG serves as a resource for state, local, tribal, and territorial (SLTT), Federal, and non-governmental partners on how FEMA approaches and conducts response operations. The ISG provides a doctrinal framework for future development of additional guidance, policy, and standard operating procedures regarding the application of lifelines not only in the response mission area but also the recovery mission area and overall preparedness system.

Lifelines, Core Capabilities, and Emergency Support Functions

Stabilizing lifeline services is the highest priority when responding to disasters because their disruption may result in immediate threats to life and property. Lifelines provide a common lens which all responders can use to assess whether critical lifesaving and life-sustaining services are disrupted and, if so, which core capabilities are required to provide those services.

The *National Preparedness Goal* (NPG) identifies 32 core capabilities spanning five mission areas: prevention, protection, mitigation, response, and recovery. Effective delivery of the core capabilities is necessary to achieve the goal of “a secure and resilient nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk.”^a These capabilities are assessed at each level of a community, from a local jurisdiction to the whole Nation, and are delivered when communities are impacted by threats and hazards.

The Federal Government and many state governments organize their response resources and capabilities under the Emergency Support Function (ESF) construct. Each ESF is

^a FEMA, National Preparedness Goal. <https://www.fema.gov/national-preparedness-goal>
FEMA Incident Stabilization Guide (Operational Draft)

composed of a department or agency that has been designated as the ESF coordinator, along with a number of primary and support agencies. ESFs have proven to be an effective way to organize and manage resources from across the Federal Government to deliver core capabilities. The federal ESFs are the primary, but not the exclusive, federal coordinating structures for building, sustaining, and delivering the response core capabilities.

The interrelationship of ESFs, core capabilities, and lifelines can be thought of in terms of means, ways, and ends, and is described as follows:

- **Means:** ESFs and other organizing bodies—the means—are the way departments and agencies, community organizations, and industries organize to enhance coordination and integration to deliver the response core capabilities;
- **Ways:** Response core capabilities describe the grouping of response actions—the ways—that can be taken to stabilize and re-establish the lifelines. FEMA executes lines of effort (LOE) to operationalize the core capabilities—the ways—for response and recovery planning and operations; and
- **Ends:** Lifelines describe the critical services within a community that must be stabilized or re-established—the ends—to alleviate threats to life and property.

Supersession

The ISG does not supersede statutes, regulations, or Department of Homeland Security (DHS) directives or manuals.

Authorities and Foundational Documents

Several foundational documents provide statutory, regulatory, and policy guidance for FEMA on the application of lifelines in response and recovery operations. Key foundational documents include the following:

- Public Law 93-288, as amended, 42 U.S.C., *Robert T. Stafford Disaster Relief and Emergency Assistance Act* (Stafford Act), 2018.
- Title 44 of the Code of Federal Regulations (CFR), “Emergency Management and Assistance.”
- *National Incident Management System (NIMS)*, 3rd Edition, October 2017.
- *National Response Framework (NRF)*, 4th Edition, October 2019.
- *National Disaster Recovery Framework (NDRF)*, 2nd Edition, June 2016.
- FEMA, *Incident Management and Support Keystone (IMSK)*, January 2011.
- FEMA, *Incident Action Planning (IAP) Guide, Rev. 1*, July 2015.
- *FEMA Operational Planning Manual (FOPM)*, June 2014.
- FEMA, *National Incident Support Manual (NISM)*, Operational Draft, May 2019.
- FEMA, *Regional Incident Support Manual (RISM)*, January 2013.

- FEMA, *Integrated Strategic Plan (ISP) Guide*, (Pre-decisional Operational Draft), September 2019.
- FEMA, *Community Lifelines Implementation Toolkit*, Version 2.0, November 2019.

Appendix C: Authorities and Foundational Documents contains additional information about these documents.

Document Management and Maintenance

The FEMA Office of Response and Recovery, Doctrine and Policy Office, is responsible for the management and maintenance of this document. The ISG will be reviewed, reissued, revised, or rescinded within six (6) years of the issue date. Comments and feedback from FEMA personnel and stakeholders regarding this document should be directed to the Doctrine and Policy Office at FEMA headquarters (HQ) at FEMA-ORR-Doctrine@fema.dhs.gov.

CHAPTER 2: COMMUNITY LIFELINES OVERVIEW

Community lifelines enable the continuous operation of critical government and business functions and are essential to human health and safety or economic security. These services are organized and aligned to one of seven lifelines: (1) safety and security; (2) food, water, shelter; (3) health and medical; (4) energy; (5) communications; (6) transportation; and (7) hazardous materials.

Community Lifelines

During steady-state operations, lifeline services are provided by public, private, and non-profit entities that are organic within a community. They include a range of critical day-to-day services that communities rely on to protect life and property. While most disruptions to these services are directly resolved by the organic lifeline service providers (e.g., power and utility companies), the priority of response operations following an incident is to stabilize the lifeline services by the most effective means (e.g., contingency solutions and emergency repairs) available when they are destroyed or significantly disrupted by disasters.

Components and Subcomponents

Each lifeline is composed of multiple components that represent the general scope of services for a lifeline.

Components are further divided into relevant subcomponents that provide a granular level of enabling functions for the delivery of services to a community and help define the services that make up that lifeline. Components are fixed, pre-determined capabilities, while subcomponents may expand or contract to meet incident requirements, as necessary.

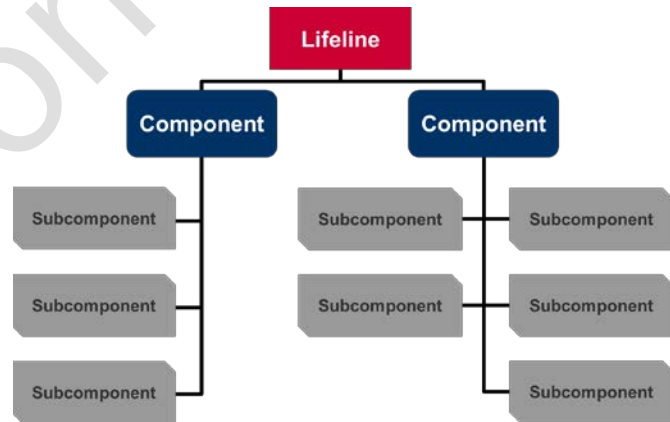









Figure 2: Lifeline Component Hierarchy

Figure 2 provides an example of the lifeline component hierarchy. Table 1 provides a description of each lifeline and identifies its components, in standard reporting order. Refer to Appendix E: Community Lifeline Components and Subcomponents for a full list of each lifeline’s components and subcomponents.

Table 1: Community Lifeline Descriptions

Lifeline	Components	Description
	<ol style="list-style-type: none"> 1. Law Enforcement/Security 2. Fire Service 3. Search and Rescue 4. Government Service 5. Community Safety 	<p>Law enforcement and government services, as well as the associated assets that maintain communal security, provide search and rescue and firefighting capabilities, and support public safety. Includes impending risks to impacted communities, public infrastructure, and national security concerns.</p>
	<ol style="list-style-type: none"> 1. Food 2. Water 3. Shelter 4. Agriculture 	<p>Support systems that enable the sustainment of human life, such as food retail and distribution networks, water treatment, transmission and distribution systems, housing, and agriculture resources.</p>
	<ol style="list-style-type: none"> 1. Medical Care 2. Public Health 3. Patient Movement 4. Medical Supply Chain 5. Fatality Management 	<p>Infrastructure and service providers for medical care, public health, patient movement, fatality management, behavioral health, veterinary support, and the medical industry.</p>
	<ol style="list-style-type: none"> 1. Power Grid 2. Fuel 	<p>Electricity service providers and generation, transmission, and distribution infrastructure, as well as gas and liquid fuel processing, and delivery systems.</p>
	<ol style="list-style-type: none"> 1. Infrastructure 2. Responder Communications 3. Alerts, Warnings, and Messages 4. Finance 5. 911 and Dispatch 	<p>Infrastructure owners and operators of broadband internet, cellular and landline telephone networks, cable services, satellite communications services, and broadcast networks (radio/television). These systems encompass diverse modes of delivery, often intertwined but largely operating independently. Services include alerts, warnings, and messages, 911 and dispatch, and access to financial services.</p>
	<ol style="list-style-type: none"> 1. Highway/Roadway/Motor Vehicle 2. Mass Transit 3. Railway 4. Aviation 5. Maritime 	<p>Multiple modes of transportation that often serve complementary functions and create redundancy, adding to the resilience in overall transportation networks. This includes roadway, mass transit, railway, aviation, maritime, and intermodal systems.</p>

Lifeline	Components	Description
	<ol style="list-style-type: none"> 1. Facilities 2. HAZMAT, Pollutants, Contaminants 	<p>Systems that mitigate threats to public health or the environment. This includes facilities that generate or store hazardous substances, as well as all specialized conveyance assets and capabilities to identify, contain, and remove pollution, contaminants, oil, or other hazardous materials and substances.</p>

Lifeline Stabilization Targets

The lifeline structure enables responders and emergency managers to quickly assess whether critical services are disrupted and to determine which capabilities are required to deliver and re-establish those disrupted critical services. Simply stated, the lifelines and their components provide a streamlined systematic way to assess a community's critical vulnerabilities in the immediate aftermath of a disaster. This better enables decision makers to do the following:

- Determine severity of impact on critical infrastructure;
- Identify limiting factors and gaps to addressing those impacts; and
- Quickly prioritize solutions to alleviate threats to life and property.

Prioritized Stabilization of Community Lifelines During Response

Disruption to lifeline services may cause significant threats to life and property. During initial response, priority efforts focus on stabilizing community lifelines. In most instances, disruptions to lifeline services are short-lived and the community's organic mechanisms for providing lifeline services are re-established rapidly. However, emergency managers must prioritize the re-establishment of critical lifeline services, even in the absence of a fully functioning infrastructure. In many instances, stabilization is achieved through contingency response solutions (e.g., power generators, emergency communications, sheltering, and emergency food and hydration efforts).

Though stabilization is the priority focus during initial response efforts, stabilization is not necessarily the desired end-state for federal incident response operations.

Awareness of Whole Community Needs

Emergency management staff in all jurisdictions have a fundamental responsibility to consider the needs of all members of the whole community, including children; individuals with disabilities and others with access and functional needs; those from religious, racial, and ethnically diverse backgrounds; and people with limited English proficiency. It is important to consider members of a community who may be disproportionately impacted by disruptions in lifeline services. For example, those who rely on power for life-sustaining medical equipment may have a greater immediate need than others to achieve basic lifeline stability.

Rather, it is a step toward accomplishing longer-term recovery goals. For example, if a large population is displaced because of a disaster, stabilization would occur when sufficient sheltering capacity is sustained to meet the immediate needs of the displaced population. Sheltering operations continue until shelter consolidation and transition is complete and all survivors have moved into longer-term housing solutions, allowing all shelters to close. Efforts to restore critical infrastructure and services within a community may be concurrently underway, but the contingency response solutions must remain in place until the community's organic mechanisms for providing lifeline services are re-established. When lifeline services are re-established, the contingency response solutions can demobilize.

Lifeline Condition

Lifeline conditions are assessed from the perspective of the impacted community and individual disaster survivor in terms of how services are received and the vulnerability of maintaining and sustaining their delivery. Lifelines also serve as a tool for planning response operations as they integrate into recovery operations. While initially Response will lead efforts during the disruption and stabilization phases of an incident, Recovery begins planning and initial work during that same time period. As the incident moves closer to stabilization, response LOEs that identify activities and sequence the objectives necessary to reach a desired outcome will begin to reach their end-states and more recovery LOEs will begin. However, although stabilized, lifeline services remain vulnerable until permanent solutions are in place, requiring continuous monitoring for changes in condition.

Figure 3 explains the phases and anticipated progression of lifeline conditions throughout stabilization and into recovery, when incident impacts cause significant disruptions. FEMA will continue to refine the recovery phase of an incident and the means through which lifelines are reported during the recovery phase.

Lines of Effort

LOEs are the specific mission-sets required to stabilize the lifelines, whereas core capabilities are the general competencies required during response used for preparedness assessment. Planning for the delivery of each LOE allows the development of strategy across all required ESFs to mobilize, employ, and demobilize resources applicable to that mission, including the identification of key intermediate objectives or milestones in the execution of that mission. LOEs are the operationalization of core capabilities—the ways—for response and recovery planning and operations. Lifelines identify sources of instability, whereas LOEs address solutions to resolve lifeline instability. For more information on LOEs, see Appendix D: Lifelines Information Management.

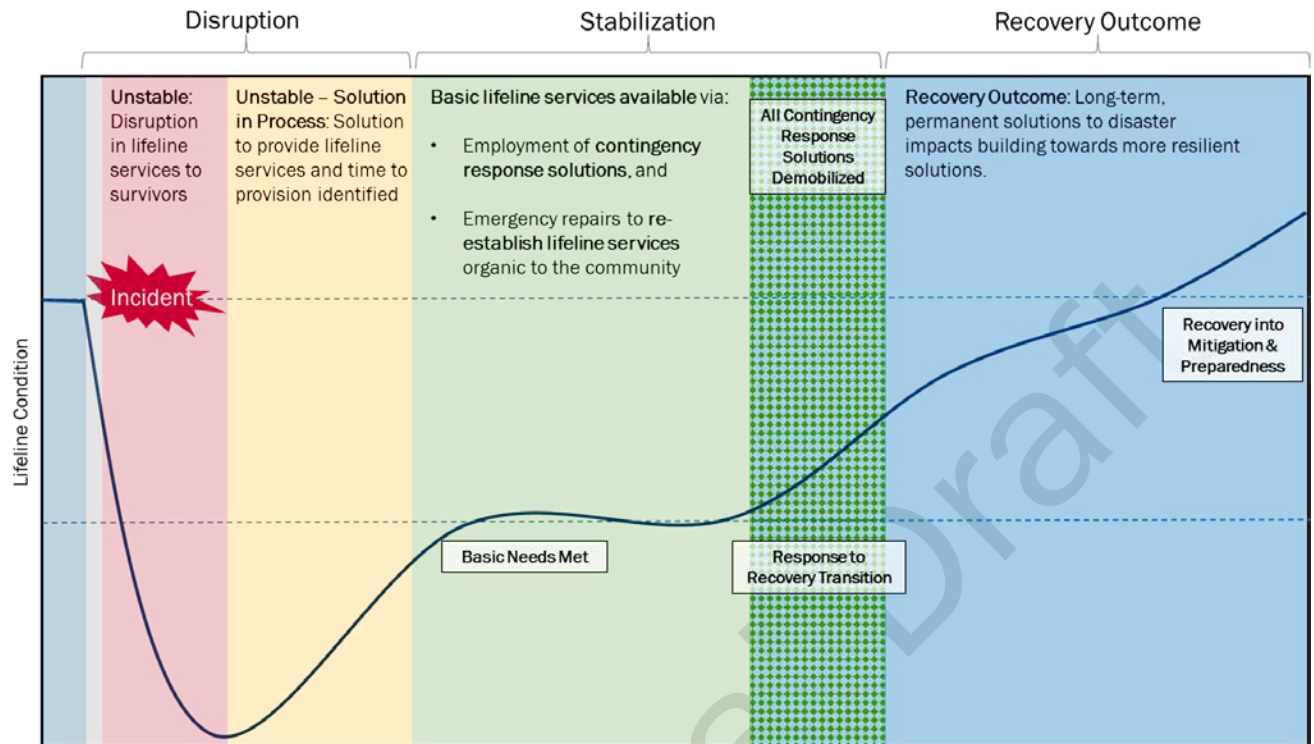


Figure 3: Example Progression of Lifeline Condition

Figure 3 also provides an example of lifeline conditions across concurrent response and recovery efforts. As recovery LOEs progress, response LOEs will eventually no longer be required. Therefore, response does not immediately demobilize when a lifeline stabilizes. An overlap with recovery is vitally important. During this time, recovery staff are available to assist with transition planning and to start implementing recovery priorities needed to support emergency repairs and achieve desired recovery outcomes.

After lifeline services are re-established, recovery staff can work toward recovery outcomes. Figure 4 provides an example process to assess the condition of lifelines, establish priorities, organize response efforts, address shortfalls and limiting factors to stabilize community lifelines, and integrate response operations with outcome driven recovery.

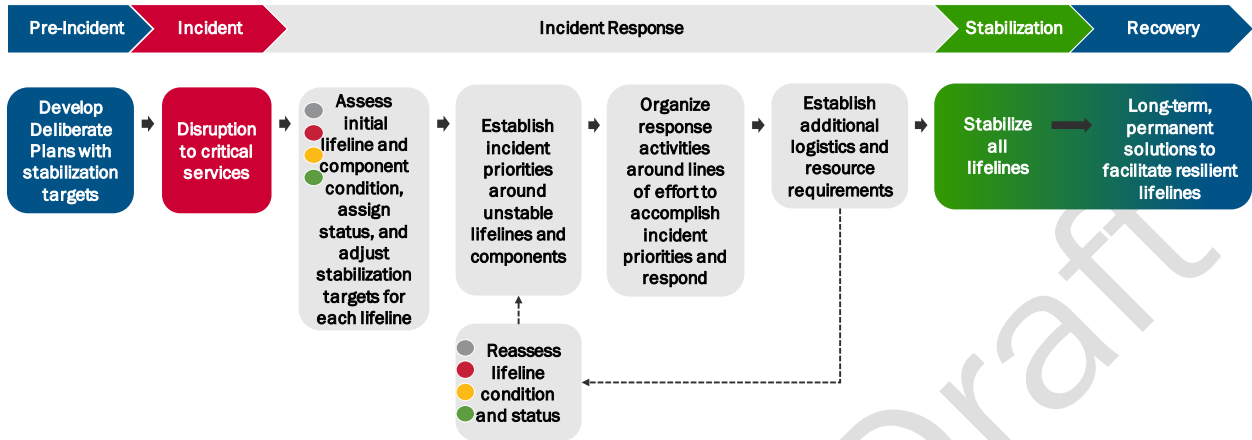


Figure 4: Example Lifeline Condition Assessment Process

Figure 5 provides an example of how resourcing progresses in support of the medical care components of the health and medical lifeline from unstable to stable across the incident.

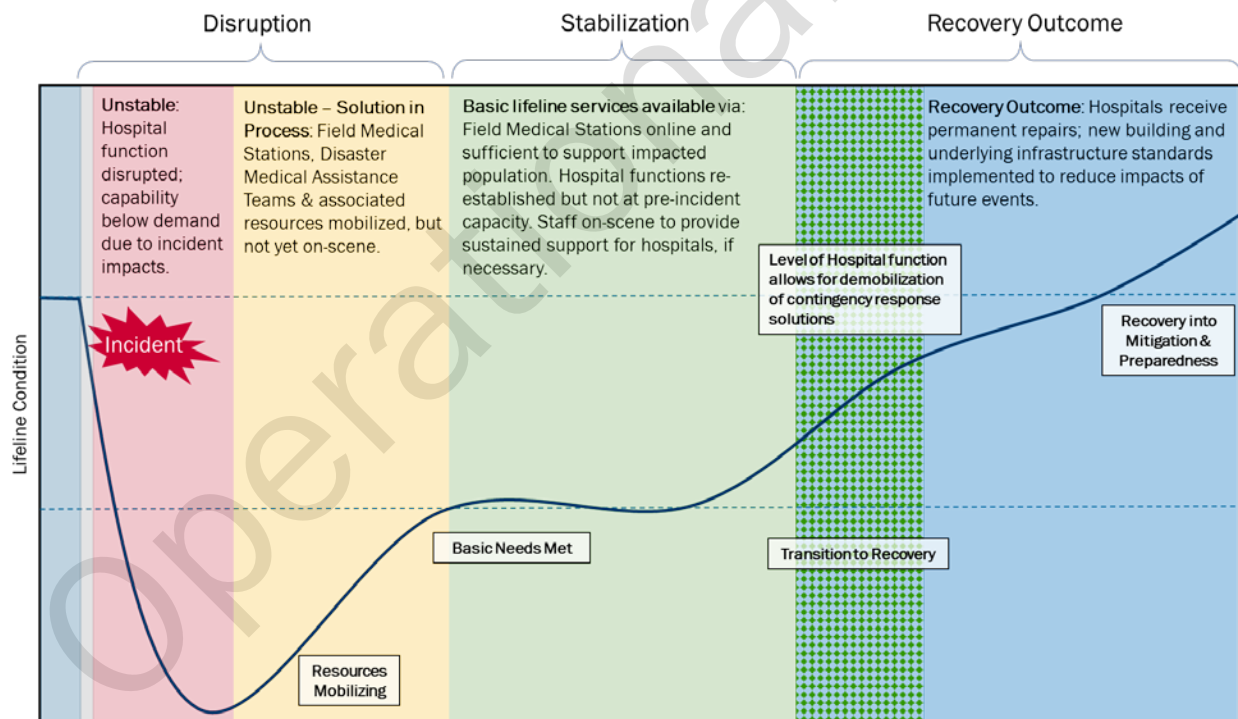


Figure 5: Example Medical Care Resource Progression for Health and Medical Lifeline Stabilization

The integration with recovery is explained further by the outcome driven recovery model that emphasizes long-term resilient solutions to disaster impacts and is further explained in Chapter 4: Transitioning Lifelines with Recovery Outcomes.

CHAPTER 3: OBJECTIVES-BASED RESPONSE OPERATIONS


Recognizing an opportunity to increase effectiveness in disaster operations and better position FEMA to respond to catastrophic scenarios, FEMA developed community lifelines adhering to the key principles of the NRF and the tenets of the FEMA IMSK. While FEMA has made great strides in integrating these key principles and tenets over the last decade, it aims to continue improving the delivery of incident management (IM) and incident support (IS) throughout the Nation by better integrating survivor-centric, outcome-based objectives across its missions.







Defining Objectives

Objectives clarify what must be accomplished by emphasizing desired end-states rather than the method or intervening steps (e.g., ensure a population has access to clean water rather than ship 600,000 liters of water). FEMA developed lifelines because response priorities must focus objectives and actions on the critical services that communities rely on to alleviate immediate threats to life and property. Integrating lifelines into disaster operations helps to ensure that priorities and objectives drive actions toward achieving desired outcomes and end-states to ultimately better serve disaster survivors and impacted communities. Progress towards achieving outcomes is measured by stabilization targets for each lifeline and its accompanying components.

Stabilization targets for each lifeline are developed collaboratively with key stakeholders, including local, state, regional, and national stakeholders. Stabilization targets should reflect goals defined in deliberate planning and should be validated and refined throughout the incident. Table 2 lists example stabilization targets for each lifeline that can be adapted to address specific incident impacts.

Table 2: Example Lifeline Stabilization Targets

Lifeline	Components	Example Stabilization Targets
	<ol style="list-style-type: none"> 1. Law Enforcement/Security 2. Fire Service 3. Search and Rescue 4. Government Service 5. Community Safety 	<p>Threats to life safety are no longer a concern for all response personnel and impacted communities. Government essential functions, including executive leadership, are operational. Sufficient search and rescue assets are on-scene to assist all survivors. Sufficient fire resources are available to support fire suppression efforts.</p>

Lifeline	Components	Example Stabilization Targets
 <p>Food, Water, Shelter</p>	<ol style="list-style-type: none"> 1. Food 2. Water 3. Shelter 4. Agriculture 	<p>All survivors, their pets, and service animals have access to food, water, and sanitation. Sheltering (including reception, capacity, and wrap-around services) is supporting the displaced population. Sufficient resources are in place to sustain agricultural requirements.</p>
 <p>Health and Medical</p>	<ol style="list-style-type: none"> 1. Medical Care 2. Public Health 3. Patient Movement 4. Medical Supply Chain 5. Fatality Management 	<p>All survivors, their pets, and service animals have access to required medical and veterinary care. Emergency medical systems are capable of managing patient movement requirement. Public health services are accessible to all survivors. Sufficient temporary fatality management support is in place to meet processing demand. Medical supply chain capable of adequately resupplying medical care providers.</p>
 <p>Energy (Power & Fuel)</p>	<ol style="list-style-type: none"> 1. Power Grid 2. Fuel 	<p>Generators are providing temporary emergency power at critical facilities necessary to stabilize other lifelines. Fuel distribution is available for responders. Sufficient fuel distribution is available for survivors, including to support individuals dependent on power for life-sustaining medical care.</p>
 <p>Communications</p>	<ol style="list-style-type: none"> 1. Infrastructure 2. Responder Communications 3. Alerts, Warnings, and Messages 4. Finance 5. 911 and Dispatch 	<p>Survivors have access to commercial communications infrastructure to contact or be contacted by emergency services. Land mobile radio communications network is operational. Public safety answering points are available to the public. Survivors have access to financial services.</p>
 <p>Transportation</p>	<ol style="list-style-type: none"> 1. Highway/Roadway/Motor Vehicle 2. Mass Transit 3. Railway 4. Aviation 5. Maritime 	<p>Multimodal routes (air, rail, road, port) are clear of debris and accessible by normal or alternate means.</p>
 <p>Hazardous Materials</p>	<ol style="list-style-type: none"> 1. Facilities 2. HAZMAT, Pollutants, Contaminants 	<p>All contaminated areas are identified and secure.</p>

Assessing Community Lifelines

It is critical to understand the incident situation relative to desired outcomes. Understanding projected or actual impacts to lifeline services at the beginning of an operation is the first step toward developing effective solutions and scoping operational requirements. By establishing a comprehensive understanding of the severity of impacts to lifeline services,

the most effective solutions for alleviating threats to life and property can be identified and implemented as early into a disaster response as possible.

Lifeline Assessment and Analysis

Lifeline condition must be assessed at the component level to understand what services are impacted by a disaster. When assessing whether lifeline services are impacted, it is equally important to determine how the services are delivered or will need to be delivered when disrupted. This helps establish understanding about the vulnerability and requirements for continuously providing the services to disaster survivors. Lifeline conditions are assessed using six categories designed to capture the most pertinent information for understanding incident impacts and operational requirements, as described in Table 3.

Table 3: Lifeline Assessment Categories

Categories	Description
Component	Identify the component.
Status (What?)	Summarize the root cause(s) of disruption to lifeline services, including the status of the infrastructure which provides lifeline services to the community. <ul style="list-style-type: none"> What is the status of the organic lifeline infrastructure in the area? Have circumstances changed since the component was last assessed?
Impacts (So What?)	Explain the disaster impacts to specific communities, disaster survivors, and response operations. Detail how the survivor experience or response operation will improve if this component is stabilized. Specify the impacted areas and population totals. <ul style="list-style-type: none"> How is the disruption to the delivery of services negatively affecting disaster survivors and disaster operations? What is the extent of the disruption? What and where are the impacted areas, and how many disaster survivors are affected?
Actions (Now What?)	Describe the actions that are being taken to stabilize and re-establish the disrupted services. Summarize the most critical actions being taken across the whole community. <ul style="list-style-type: none"> Has a solution to the disruption been identified? If so, has that solution been converted into a plan of action? Has that plan of action been resourced and implemented? Are further actions required?
Limiting Factors (What's the Gap?)	Express issues that are preventing services from being stabilized or re-established. Such issues can stem from another lifeline/component, resource shortfall, management, policy, etc. <ul style="list-style-type: none"> Are there limiting factors preventing stabilization or re-establishment of lifeline services? If so, what are they? What solutions are needed?
Estimated Time to Status Change and Re-establishment Requirements (When?)	<ul style="list-style-type: none"> Provide current component condition or an estimated timeframe for when a change in status is expected. When is it anticipated that the survivors will receive the services either by organic means or by contingency response solutions?

Determining Lifeline and Component Status

Once situational awareness is attained, response leadership (e.g., the Unified Coordination Group [UCG]) determines the status of the lifelines and components within the impacted area. Lifeline status assignments depend on the assessed capability of the underlying components and is informed by situational awareness reports, impact assessments, and conversing with partners across the public, private, and non-profit sectors.

The status reflects whether lifeline services have been affected as follows:

1. Disrupted with no solution identified,
2. Disrupted but a known time to resolution is identified, or
3. Stabilized either by contingency response solutions and/or re-establishment of lifeline services organic to the community.

Lifeline statuses represent a snapshot in time for an operational period and should be determined collaboratively and continually assessed as incident circumstances evolve over the course of a disaster.

Currently, FEMA's lifelines reporting products use four color assessment statuses (grey, red, yellow, and green) for operational reporting on impacted lifelines.

- **Grey** indicates no clear understanding of the extent of the disruption and impacts.
- **Red** indicates lifeline services disrupted and no requirements or solution identified.
- **Yellow** indicates a solution identified and plan of action in progress.
- **Green** indicates stabilization of the lifeline (e.g., critical lifeline services are available to survivors and responders).
- **Blue** does not indicate an operational status or condition; it is used only for administrative purposes, such as presentations and briefings.

As such, an assessment of stabilization and re-establishment should appear in operational reporting as green because the lifeline services are provided, whether through a contingency response solution or through the organic service providers in a community. Figure 6 describes how lifeline condition considerations inform assignment of condition for a lifeline and its component(s).

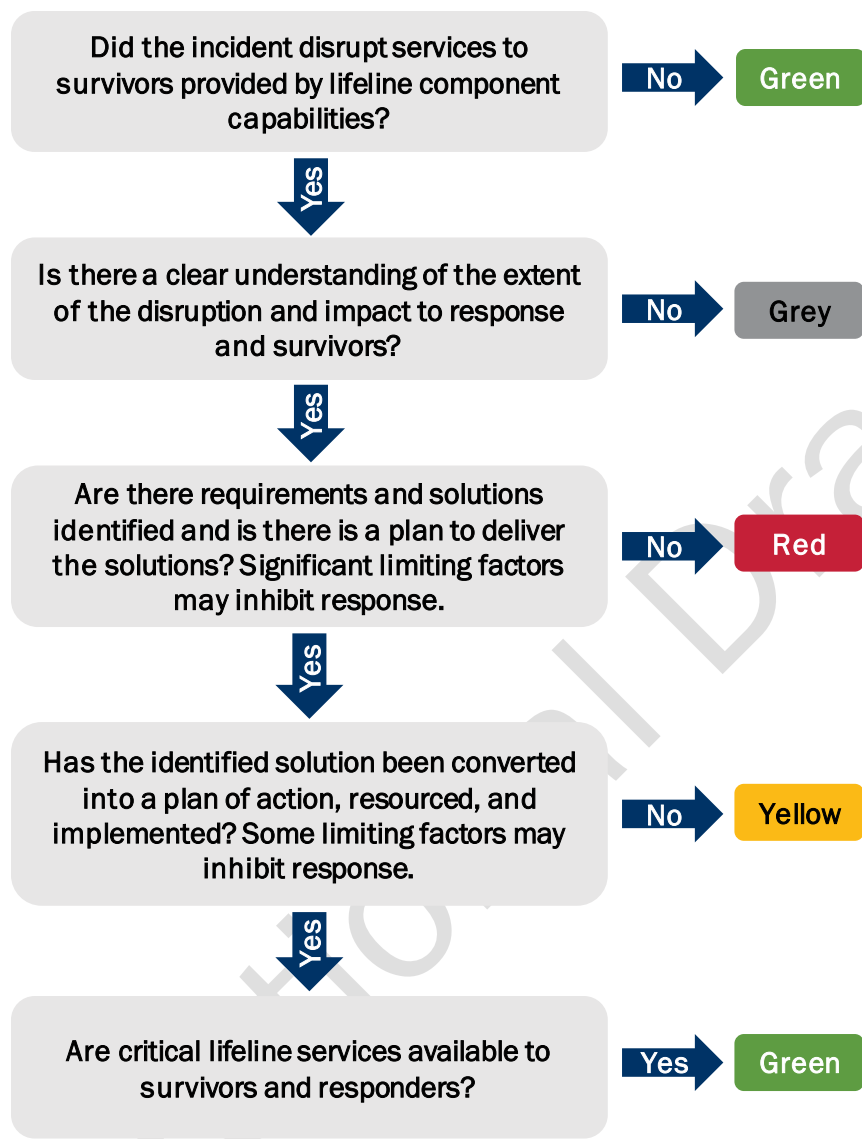


Figure 6: Assigning Lifeline and Component(s) Condition

Table 4 provides an example assessment of the health and medical lifeline, medical care component.

Table 4: Example Health and Medical Lifeline, Medical Care Component Assessment

Categories	Description
Component	Medical care (subcomponent: dialysis centers).
Status	Four of ten dialysis centers are non-operational in Washington County; however, the remaining six centers are near the non-operational centers and have capacity to receive the displaced patient population who require treatment. The open centers are receiving these patients.
Impacts	Two hundred dialysis patients were initially impacted, but the total patient population now has access to treatment. No current or anticipated impacts to survivor health.

Categories	Description
Actions	Six open dialysis centers accepted the displaced patient population from the non-operational centers. Transportation support is being provided, as necessary. Site inspections at the non-operational treatment centers begin during the next operational period. No further requirements at this time.
Limiting Factors	Site inspections at non-operational facilities were delayed because of a lack of site inspectors. Patients may need to continue to receive treatment at the alternative centers for an extended period of time. No further limiting factors.
Estimated Time to Condition Change and Re-establishment Requirements	Component services have been stabilized (e.g., non-impacted treatment centers accepting the impacted patients). Estimated time of arrival (ETA) for repairs to non-operational facilities is unknown but is projected to take from 2 weeks to 6 months, pending site inspections to confirm the extent of damage.

The lifelines promote unity of effort between all operational levels and sectors during disaster operations by establishing standard language and specific criteria for assessing and reporting on impacts to the critical services that communities rely on to enable health, safety, or economic security. This improves shared situational awareness of current conditions, shortfalls, and outstanding requirements between all partners and stakeholders, which ultimately helps impacted communities respond to and recover from disasters more effectively.

Stabilization Problem Solving and Planning

Understanding potential, assumed, or actual incident impacts as they relate to lifeline stability at the start of an operation is the first step in developing solutions and scoping required federal assistance. Failure to identify impacts accurately can result in an approach to lifeline stabilization that only addresses the symptoms of incident impacts, not the root causes. Once incident personnel gain understanding of the impacts, they must develop ways to resolve them. Appendix D: Lifelines Information Management and Planning expands on the process of stabilization and problem solving during an incident.

Operational Design and Strategy for FEMA Operations

The conceptual process of operational design and strategy development and the resulting crisis action planning product (the “incident approach”) is a broad outline that provides guidance on the federal interagency actions that must take place to stabilize and re-establish lifeline services. For more

Incident Approach

Development of the incident approach is recommended for all FEMA incidents where there are potential or actual requirements for direct federal assistance to save lives and stabilize community lifelines. The incident approach is the strategic level plan for response operations, and planning should begin once direct federal assistance requirements are anticipated, expected, or identified.

information on the incident approach, see Appendix D: Lifelines Information Management and Planning.

To make FEMA operations planning as useful as possible, decision makers must understand the following:

- The effectiveness of the overall federal response, and
- How current and planned federal interagency actions will impact the trajectory of the operation toward stabilization of lifelines.

The strategy development of a FEMA operation provides the details needed for response personnel to address the identified incident impacts to achieve lifeline stabilization. The strategy development process asks four fundamental questions:

1. How do we move from the current state (or the assumed state of post-incident impact) to lifeline stabilization and recovery outcomes?
2. What problems must be overcome to move from the current state to lifeline stabilization and recovery outcomes?
3. What federal assistance has the state, tribe, or territory asked for and what assistance could they ask for in the future?
4. What are the resource shortfalls or non-resource limiting factors that could prevent the achievement of lifeline stabilization and recovery outcomes?

Figure 7 shows the conceptual strategy development process.



Figure 7: Strategy Development Process

Some of the conceptual considerations for strategy development are defining stabilization targets and recovery outcomes, LOEs, phasing, anticipation of worst-case incident impacts, and operational reach of logistical support for FEMA operations. Appendix D: Lifelines Information Management and Planning expands on these concepts in greater detail.

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CHAPTER 4: TRANSITIONING LIFELINES WITH RECOVERY OUTCOMES

When stabilization of the lifelines is achieved, the focus of the mission shifts beyond the lifeline components and expands to include elements critical to recovery. The outcome driven recovery model drives an approach that emphasizes permanent and resilient recovery solutions for the community. Focusing on recovery outcomes provides opportunities for incorporating and integrating programs and agencies to achieve broader recovery goals.

Introduction to Outcome Driven Recovery

Outcome driven recovery is a problem-solving approach that promotes unity of effort among stakeholders to identify recovery needs, vision, and goals and to resource holistic recovery solutions. The outcome driven recovery model does not replace the NDRF, but emphasizes the need for timely integration, appropriate coordination, and transparency in recovery operations. The outcome driven recovery model guides recovery efforts across the entire continuum of recovery to develop and accomplish interim and sustainable long-term solutions.

Implementation of the foundational elements of outcome driven recovery ensures that a community can set its own goals, access and coordinate resources to meet those goals, manage its own processes, and practice proper financial management to effectively secure and implement projects and funding sources.

The outcome driven recovery approach aims to accomplish the following:

- Build collaborative partnerships with SLTT, private sector, private non-profits, philanthropic organizations, and other non-governmental organizations (NGO) to innovate recovery solutions and maximize knowledge and experience;
- Provide adequate federal support and resources to assist the state, tribal, territorial, and local partners with effective whole community planning and redevelopment efforts;
- Provide technical assistance to all levels of government for identifying and prioritizing critical infrastructure systems and assets;
- Create an inclusive interagency, interjurisdictional recovery planning process, including the unified federal review process;
- Include private sector social service providers, infrastructure owners and operators, and other service providers in planning;
- Identify legal, policy, and programmatic requirements that may potentially limit efficient recovery, and eliminate those limitations to the extent possible;

- Leverage all possible funding sources for recovery and mitigation;
- Encourage the concepts of infrastructure resiliency;
- Provide mitigation opportunities; and
- Create processes, policies, and timelines that support enduring economic activity.

Identifying Outcomes

The federal interagency has identified a broad set of recovery outcomes aligned to recovery support function (RSF) core capabilities. Table 5 describes the RSF recovery outcomes approved by the Recovery Support Function Leadership Group (RSFLG) undersecretaries.

Table 5: Recovery Outcomes by RSF Core Capabilities

Recovery Support Function Core Capability	Recovery Outcome
Community Planning and Capacity Building	Resilient recovery of SLTT communities.
Economic	Sustainable, diversified, and resilient economy.
Health and Social Services	Sustainable and resilient health, education, and social services systems.
Housing	Adequate, resilient, and affordable housing.
Infrastructure Systems	Restored, modernized, hardened, and resilient systems.
Natural and Cultural Resources	Restored, preserved, risk-resistant, and resilient systems.

The outcomes identified by the RSFLG are aligned to the RSFs but can be applied more broadly to recovery efforts at all levels. Following a disaster, these broad outcomes form the foundation for developing recovery LOEs to achieve disaster-specific goals and recovery outcomes. Approved recovery outcomes provide the basis for identifying priority lines of effort for response and recovery in each broad outcome area.

For each of these goals, LOEs are identified and used as the basis for developing specific projects that all partners can prioritize. It will require a collective effort to achieve these outcomes and cannot be achieved by one entity or program alone.

Lifeline Transition to Outcome Driven Recovery

The stabilization and re-establishment of critical lifelines provides the foundation that will be built upon by the outcomes identified for recovery.

Transition from Response to Recovery

Recovery operations and support are active throughout all phases of the disaster life cycle. In the days and weeks following an incident, the focus of disaster operations is on the immediate support of critical services and stabilization of disaster-impacted areas. The efforts of recovery partners may be limited in early phases of disaster operations, during which the focus is on lifeline stabilization. Once lifelines have been stabilized, the focus of the mission and support shifts to outcome driven recovery.

After lifeline stabilization, critical services may still be at risk of destabilizing, especially in the early days, weeks, and months after a disaster. Without these essential functions, progress in recovery may be limited. It is also important to note that not all lifelines will reach stabilization at the same time and not all components will be needed in recovery. The expansion of support from recovery partners may start sooner in some lifeline components than in others. The integration between lifelines and recovery outcomes will be dependent on the specific lifeline and disaster conditions. The essential elements of information that inform all levels about the condition of each component and subcomponent in the lifeline feed the understanding of recovery as well. They provide perspective for recovery operations and an important reminder for response to bring in and communicate with recovery partners as soon as possible.

An Example of Using Lifelines for Recovery Planning

If the communications lifeline is impacted and local reporting indicates that cell towers are compromised in a community, then recovery staff will use outage maps to structure an operational footprint for accepting registrations for assistance. This information will drive priority setting for in-person assistance.

Organizing for Recovery

An outcome driven recovery organizational structure ensures that the federal support system and all recovery partners are aligned and coordinated to meet the needs and goals of SLTT governments in support of their overall recovery strategy and priorities. A specific organizational structure is not necessary, but the ability to meet the coordination requirements to achieve outcomes will be critical. This may even require a deviation from the standard Incident Command System (ICS) structure used in response.

The outcome driven recovery approach requires the collective group of federal, SLTT, private sector, NGOs, and the whole community to think about the holistic needs of recovery operations to collaborate on solutions. There must be a collective effort to analyze and answer the overall issues and needs and plan among state and local governments to address them in a cross-program, integrated fashion. Local emergency managers may continue monitoring and reporting on lifelines after stabilization and through recovery to raise concerns to city, county, or state leadership if issues in one or more of the lifelines

persist or re-emerge. The new approach focuses on the collective priorities and adapting resources to meet requirements, rather than seeking funding without clear, long-term goals in mind.

The local government is the primary actor that must make sense of these issues and needs and set direction—goals and objectives—to accomplish locally relevant, integrated outcomes.

SLTT Considerations

Recovery requires looking beyond the individual areas that comprise the whole community. Recovery also includes the broader connective network that runs throughout society and includes it in recovery operations across all mission areas. This community network is necessary to bring all aspects of the recovery together into a functional whole, making it greater than the sum of its parts.

Jurisdictions face several common inhibitors to the recovery process, including the following:

- Leadership and authority;
- Staffing for recovery;
- Communications and engagement;
- Operational coordination;
- Effective recovery planning;
- Financial and portfolio management; and
- Long-term impact and needs assessment.

Addressing these challenges and turning them into enablers for the whole community and opportunities for improvement is critical to the success of all recovery outcomes.

CHAPTER 5: LIFELINES AND RESILIENCE

Lifelines serve to articulate and prioritize activities required to increase the resilience of essential community services across all mission areas. FEMA programs that aim to build and sustain core capabilities, mitigate future threats, and protect critical infrastructure incorporate activities that strengthen lifeline connections to reduce requirements for lifesaving and life-sustaining operations in the future.

Preparedness

Preparedness involves actions to build and sustain core capabilities, which provide the means to accomplish a mission, function, or objective based on the performance of related tasks under specified conditions to target levels of performance. The most essential core capabilities are identified in the NPG. Communities build, sustain, and deliver the core capabilities to achieve the desired outcomes identified in the national goal. Each community contributes to achieving the national goal by addressing the risks that are most relevant and urgent for them, which strengthens the collective security and resilience of the Nation. Disaster resilience is about the capacity of the Nation to anticipate, plan for, and mitigate the disaster impacts—and seize the opportunities—associated with changes in risk.

The National Preparedness System (NPS) is the instrument the Nation employs to build, sustain, and deliver the core capabilities needed to achieve the goal of a secure and resilient nation (Figure 8). The guidance, programs, processes, and systems that support the NPS enable a collaborative, whole community approach that engages individuals, families, communities, private and non-profit sectors, faith-based organizations, and all levels of government. Communities implement a continuous cycle of activity to identify and assess risk, estimate capability requirements, build and sustain capabilities, plan to deliver capabilities, validate capabilities, and review and update capabilities, resources, and plans.

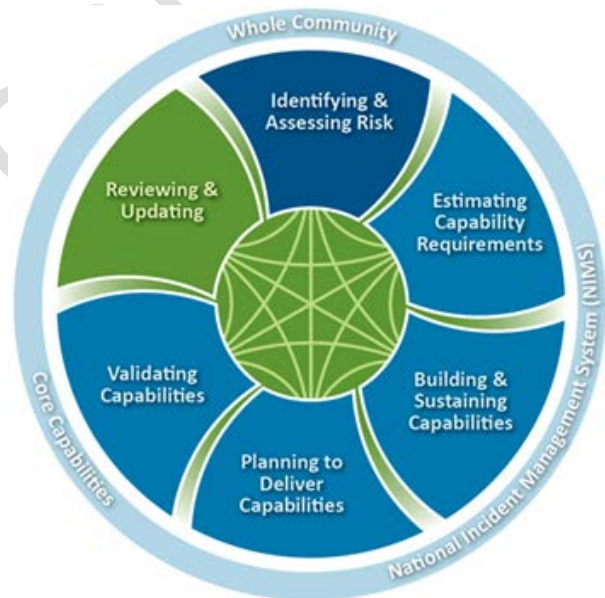


Figure 8: National Preparedness System

FEMA works with SLTT partners and other stakeholders to implement lifelines throughout the NPS. Stabilizing and re-establishing lifelines require solutions that go beyond scaling up

existing plans and capabilities. SLTT partners work collaboratively with public and private sector owners and operators of critical infrastructure and services to define what stabilization looks like for each of the lifelines for their communities. These outcome statements inform efforts with regional partners across the whole community to improve their collective preparedness and operational readiness posture. In the long run, this helps everyone better understand requirements, allocate preparedness grants and other resources, and evaluate performance in training and exercises to meet the operational objectives established by SLTT officials during disasters.

Each component of the NPS offers opportunities to promote resilience of lifelines. The activities highlighted next illustrate the range of activities that support implementation of the lifelines throughout the NPS.

Identifying and Assessing Risk

FEMA assists SLTT partners to identify and assess the greatest hazards and threats that face those communities and the potential implications of each one. The Threat and Hazard Identification and Risk Assessment (THIRA) helps communities understand their risks and determines the level of capability they need to address those risks. The outputs from this process lay the foundation for determining a community's capability gaps as part of the Stakeholder Preparedness Review (SPR).

Incorporating lifelines in the risk assessment process enables whole community partners to assess the potential impacts to the most critical services in a community and identify risk, vulnerability, and resource requirements using the same lexicon they will use to communicate priorities during response. For additional information on THIRA and SPR, refer to the [Comprehensive Preparedness Guide \(CPG\) 201](#).

Estimating Capability Requirements

The SPR provides a self-assessment of a jurisdiction's current capability levels against the targets identified in the THIRA. The SPR helps jurisdictions identify capability gaps and re-establishment requirements. SLTTs, urban area security initiative (UASI) partners, and the Federal Government use information in the SPR to inform programmatic decisions to allocate resources to build and sustain capabilities, plan to deliver capabilities, and validate capabilities.

FEMA provides several products to support planners and decision makers in understanding capabilities and potential risks associated with each lifeline. These products leverage the THIRA and SPR results to support lifeline-based planning and decision making:

- **THIRA/SPR Standardized Target-Lifeline/Recovery Outcomes:** A crosswalk of the lifelines and recovery outcomes which uses standardized language to help partners translate work organized by core capability into lifelines.

- **THIRA and SPR Tear Sheets:** One-page summary sheets which outline THIRA and SPR results, aligned to the lifelines, and provide planners with easy access to jurisdiction-identified risks and estimated capabilities to inform deliberate planning at the national and regional levels.
- **Preparedness Capability Analysis:** A modular product outlining major strengths and potential challenges in lifelines implementation, including analysis of risk assumptions from the THIRA/SPR results, after-action reports, and the logistics capability analysis tool. This analysis conveys a more complete understanding of potential risks to SLTT capabilities and highlights key factors and considerations for decision makers, which they can use to help communities manage incidents.

Building and Sustaining Capabilities

Building and sustaining capabilities involves a combination of planning, organization, equipment, training, and exercises. Working together, planners, government officials, and elected leaders develop strategies to allocate resources and leverage assistance from all sources to sustain current levels of capability and address gaps. Federal assistance includes preparedness grants and technical assistance to address capability requirements identified in THIRA and SPRs. SLTT leadership prioritizes which capabilities to address in a given funding cycle, making informed decisions to effectively buy down risk to support more efficient lifelines stabilization in the event of an incident.

The “FY 2019 Notice of Funding Opportunities” for preparedness grant programs provides priorities and recommendations based on the lifelines concept, which are available online at www.fema.gov/grants and www.grants.gov.

FEMA is mapping training courses to lifelines in the “National Preparedness Course Catalog,” available online at <https://www.firstrespondertraining.gov/frts/npcc>.

Planning To Deliver Capabilities

Planning to deliver capabilities during an incident is a shared responsibility that involves the whole community. The NPS includes a set of coordinated national frameworks that focus on how the whole community prepares to deliver capabilities in each of the five mission areas (prevention, protection, response, recovery, and mitigation). Each framework describes the coordinating structures and alignment of key roles and responsibilities for the whole community and help to ensure interoperability across all mission areas. Incorporating the lifelines construct in planning for other mission areas beyond response will help improve the resilience of critical services and reduce the impacts of future incidents.

FEMA has incorporated lifelines into the NRF. For additional information, refer to the National Planning Frameworks web page at <https://www.fema.gov/national-planning-frameworks>.

Validating Capabilities

Exercises and disaster operations help identify strengths and areas for improvement that can inform the rest of the NPS, including identification of core capabilities that may need to be strengthened to make community lifelines more resilient. The “2019-2020 Principals Strategic Priorities,” issued by the White House National Security Council (NSC), include lifelines as one of nine priorities for the [National Exercise Program \(NEP\)](#). In addition, FEMA’s continuous improvement program supports program areas in assessing and improving their ability to conduct operations. This includes understanding those activities that contribute to lifeline stabilization, the documentation of best practices and lessons learned, and regular engagement with program areas on process improvement and change management.

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APPENDIX A: LIST OF ACRONYMS

AFO	Area Field Office
AHP	All-Hazards Plan
CAP	Crisis Action Planning
CFR	Code of Federal Regulations
C&GS	Command and General Staff
COA	Course of Action
CPG	Comprehensive Preparedness Guide
DHS	Department of Homeland Security
EAS	Emergency Alert System
EI	Essential Elements of Information
ESF	Emergency Support Function
ETA	Estimated Time of Arrival
FCO	Federal Coordinating Officer
FEMA	Federal Emergency Management Agency
FIOP	Federal interagency Operational Plan
FOPM	FEMA Operational Planning Manual
FSA	Federal Staging Area
GIS	Geographic Information System
HAZMAT	Hazardous Material
HQ	Headquarters
IA	Individual Assistance
IAB	Information Analysis Brief
IAP	Incident Action Planning
IC	Incident Command
ICP	Information Collection Plan
ICS	Incident Command System
IM	Incident Management
IMAT	Incident Management Assistance Team

IMSK	Incident Management and Support Keystone
IOF	Initial Operating Facility
IPAWS	Integrated Public Alert and Warning System
IS	Incident Support
ISB	Incident Support Base
ISG	Incident Stabilization Guide
ISP	Integrated Strategic Plan
JFO	Joint Field Office
LMR	Land Mobile Radio
LNO	Liaison Officer
LOE	Line of Effort
MOE	Measures of Effectiveness
MOP	Measures of Performance
NAWAS	National Warning System
NDRF	National Disaster Recovery Framework
NEP	National Exercise Program
NGO	Non-Governmental Organization
NIMS	National Incident Management System
NISM	National Incident Support Manual
NOAA	National Oceanic and Atmospheric Administration
NPG	National Preparedness Goal
NPS	National Preparedness System
NRCC	National Response Coordination Center
NRCS	National Response Coordination Staff
NRF	National Response Framework
NSC	National Security Council
NSP	National Support Plan
NWR	NOAA Weather Radio All Hazards
PLSL	Planning Support Unit Leader
PMC	Personnel Mobilization Center

POD	Points of Distribution
PPD	Presidential Policy Directive
PSSC	Planning Support Section Chief
RISM	Regional Incident Support Manual
RRCC	Regional Response Coordination Center
RRCS	Regional Response Coordination Staff
RRF	Resource Request Form
RSF	Recovery Support Function
RSFLG	Recovery Support Function Leadership Group
RSP	Regional Support Plan
SAS	Situational Awareness Section
SCO	State Coordinating Officer
SITL	Situation Unit Leader
SITREP	Situation Status Summary Report
SLB	Senior Leadership Brief
SLTT	State, Local, Tribal, and Territorial
SNAP	Supplemental Nutrition Assistance Program
SPR	Stakeholder Preparedness Review
TCO	Tribal Coordinating Officer
THIRA	Threat and Hazard Identification Risk Assessment
UASI	Urban Area Security Initiative
UC	Unified Command
UCG	Unified Coordination Group
UCS	Unified Coordination Staff
U.S.C.	United States Code
VA	Department of Veterans Affairs
VOAD	Voluntary Organizations Active in Disaster
WEA	Wireless Emergency Alerts

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APPENDIX B: GLOSSARY

Component. The system of critical infrastructure and related service providers which provides a lifeline of services. A lifeline consists of two or more components.

Essential Elements of Information (EEI). A standard information requirement that provides context, informs decision making, and contributes to analysis. EEIs can inform status, impacts, actions, and limiting factors for lifelines, components, or subcomponents.

Lifeline. A common lens which all responders can use to assess whether critical lifesaving and life-sustaining services are disrupted, and, if so, which core capabilities are required to provide those services. A lifeline enables the continuous operation of critical government and business functions and is essential to human health and safety or economic security.

Limiting factor. A condition that either temporarily or permanently impedes the accomplishment of a mission. (Examples include a disruption of a transportation network, lack of facilities or resources, extreme climatic conditions or distance, etc.)

Line(s) of effort (LOE). The specific mission-sets required to stabilize the lifelines. For Federal Emergency Management Agency (FEMA) operations, LOEs are activities that a state, tribe, or territory can ask FEMA and the interagency to manage the consequences of an incident.

Measures of effectiveness (MOE). Indicators to assess the status of an objective or LOE in which the ability to reach the given objective is based on the effectiveness, span, and timeliness of a program or process (i.e., the time an individual assistance [IA] application period is open). MOEs indicate how successful the LOE is in achieving stabilization targets for one or more lifelines.

Measures of performance (MOP). Indicators to assess the status of an objective or line of effort (LOE) in which the ability to reach the given objective is contingent on the efficiency and timeliness of an individual person (i.e., the time it takes for a person to register a survivor and provide the customer service).

Mitigation. The effort to reduce loss of life and property by lessening the impact of disasters.

Outcome Driven Recovery. A problem-solving approach that promotes unity of effort among stakeholders to identify recovery needs, vision, and goals, and to resource holistic recovery solutions.

Resilience. The ability to adapt to changing conditions and withstand and rapidly recovery from disruption because of emergencies.

Senior Leadership Brief (SLB). A situational awareness product that discusses lifelines and the interdependencies between them. The goal of the SLB is to allow users at all levels to

interact with each other to share and digest the most authoritative information on an incident.

Shortfall. Resource-specific limitations which can be determined by identifying the total requirement and subtracting available (organic, mutual aid, and external support) resources from that total requirement.

Stabilization. The state where critical lifeline services necessary to alleviate immediate threats to life and property are available to support the needs of survivors and responders.

Stabilization target. The dynamic desired end- state of response for each lifeline created during the deliberate planning process and modified on a per-incident basis to match incident circumstances.

Subcomponent. A sub-system of critical infrastructure and related service providers necessary for providing a particular service within a lifeline component. A component consists of one or more subcomponents.

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APPENDIX C: AUTHORITIES AND FOUNDATIONAL DOCUMENTS

Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288, as amended, 42 U.S.C.)

The Stafford Act authorizes the programs and processes by which the Federal Government provides disaster and emergency assistance to state and local governments, tribal nations, eligible private non-governmental organizations (NGO), and individuals affected by a declared major disaster or emergency. The Stafford Act covers all hazards, including natural disasters and terrorist events.

Title 44 of the Code of Federal Regulations (CFR), Emergency Management and Assistance

The CFR is a codification of the general and permanent rules and regulations published in the FEDERAL REGISTER that contain critical policies and procedures. Title 44 is entitled, “Emergency Management and Assistance,” and Chapter 1 of Title 44 contains the regulations issued by the Federal Emergency Management Agency (FEMA), including those related to implementing the Stafford Act.

National Incident Management System (NIMS), October 2017

The NIMS is a set of principles that provides a systematic, proactive approach to guiding government agencies at all levels, NGOs, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents—regardless of cause, size, location, or complexity—in order to reduce the loss of life or property and harm the environment.

National Response Framework (NRF), Fourth Edition, October 2019

The NRF is an essential component of the National Preparedness System mandated in Presidential Policy Directive (PPD)-8. This version of the NRF supersedes the third edition of the NRF released in 2016. The framework sets the doctrine for how the Nation builds, sustains, and delivers the response core capabilities identified in the *National Preparedness Goal*. The NRF is built on scalable, flexible, and adaptable coordinating structures identified in the NIMS to align key roles and responsibilities across the Nation, linking all levels of government, NGOs, and the private sector. The term “response,” as used in the NRF, includes actions to save lives, protect property and the environment, stabilize communities, and meet basic human needs following an incident. Response also includes the execution of emergency plans and actions to support recovery.

National Disaster Recovery Framework (NDRF), June 2016

The NDRF is a guide that enables effective recovery support to disaster-impacted states, tribes, territories, and local jurisdictions. The NDRF provides a flexible structure that enables disaster recovery managers to operate in a unified and collaborative manner. The NDRF also focuses on how best to restore, redevelop, and revitalize the health, social, economic, natural, and environmental fabric of the community and build a more resilient nation.

The NDRF is consistent with the vision set forth in PPD-8, “National Preparedness,” which directs FEMA to work with interagency partners to publish a recovery framework. The NDRF is the first framework published under PPD-8 reflecting the core recovery capabilities by supporting operational plans as an integral element of a National Preparedness System. The NDRF is a first step toward the PPD-8 objective to achieve a shared understanding and a common, integrated perspective across all mission areas (prevention, protection, mitigation, response, and recovery) to achieve unity of effort and make the most effective use of the Nation’s limited resources.

FEMA, Incident Management and Support Keystone (IMSK), January 2011

The IMSK is the primary document from which all other FEMA disaster response directives and policies are derived. The IMSK describes how the response doctrine, articulated in the NRF, is implemented in FEMA disaster response operations.

FEMA Incident Action Planning (IAP) Guide, Rev. 1, July 2015

The IAP Guide provides guidance for planning and executing operations during an incident. This document explains the incident action planning process, how to use it, and defines the roles and responsibilities of the various participants in the process.

FEMA Operational Planning Manual (FOPM), June 2014

The FOPM provides comprehensive guidance for how FEMA develops two types of operational plans: (1) deliberate plans developed under non-emergency conditions and (2) crisis action plans developed in response to incidents. The FOPM provides detailed guidance on how planners engage stakeholders and develop plans using a consistent process.

FEMA National Incident Support Manual (NISM), February 2011

The NISM describes the roles and responsibilities, activities, and functions of FEMA national staff support as they assist responders and survivors through responding to, recovering from, and mitigating hazards.

FEMA Regional Incident Support Manual (RISM), January 2013

The RISM describes the roles and responsibilities of FEMA regional staff through supporting FEMA incident operations. The RISM discusses regional functions, activities, and organizational structures of regional staff.

FEMA, *Integrated Strategic Plan (ISP) Guide*, (Pre-decisional Operational Draft), September 2019.

The ISP is a critical tool of FEMA incident response and recovery planning. The purpose of the ISP Guide is to establish a standardized process for developing the ISP throughout the entire life cycle of an incident, setting goals, objectives, and milestones; coordinating with other agencies and partners; and implementing the ISP. The ISP Guide is designed to improve and standardize the ISP development process within and across incidents.

FEMA Community Lifelines Implementation Toolkit, Version 2.0, November 2019

The *Community Lifelines Implementation Toolkit*, Version 2.0, provides whole community partners the information and resources to understand lifelines, coordinate with entities using lifelines, and serve as basic guidance for how to implement community lifelines during incident response.

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APPENDIX D: LIFELINES INFORMATION MANAGEMENT AND PLANNING

The unified approach to incident management (IM) integrates resource management, communications and information management, and incident command to form an effective system. These characteristics allow organizations with different jurisdictional, geographical, or functional responsibilities, authorities, and resources to coordinate, plan, and interact effectively in support of a commonly recognized incident objective.

The principles and practices of information management are essential to ensuring the unified approach is achieved by providing analyzed and validated information to all decision makers in a timely and easily digestible manner. The Federal Emergency Management Agency's (FEMA) responsibilities require significant information sharing across multiple jurisdictions at all levels of government and includes both the public and private sectors. To effectively conduct its missions, FEMA must employ consistent and standardized information principles, practices, and products. This includes following a process where information requirements are established and data is then collected, analyzed, and disseminated to decision makers. This appendix outlines the procedures for the situational awareness staff to collect, analyze, and distribute information on lifelines during an incident.

Intelligence Collection and Information Management Overview

Information management is a continuous process of intelligence collection, analysis, dissemination, and evaluation to inform those responsible for decision making. Throughout the process, leadership and stakeholders provide guidance to ensure that information outputs describe situations, provide predictions, or recommend decisions.

The terms "intelligence collection" and "situational awareness" are often used interchangeably. Like other functions within FEMA, such as deliberate plans or mitigation projects, situational awareness is the result of an application of the intelligence cycles in a specific context. Developing common intelligence collection and management processes across all of FEMA's operations throughout their life cycles can allow FEMA to analyze disasters at an aggregate level.

The intelligence cycle is divided into the five steps described next and shown in Figure 9.

1. **Planning and Direction:** The determination of intelligence requirements, development of an appropriate intelligence architecture, preparation of an information collection plan (ICP), and issuance of orders and requests to information collection agencies.

2. **Collection:** The acquisition of information and the provision of this information to processing elements.
3. **Modeling and Analysis:** Models are defined as a program, algorithm, or computational tool that transforms or processes data to produce new information. Analysis is the conversion of processed information into intelligence through the integration, evaluation, analysis, and interpretation of all source data and the preparation of intelligence products in support of known or anticipated user requirements.
4. **Dissemination and Integration:** The delivery of intelligence to users in a suitable form and the application of the intelligence to appropriate missions, tasks, and functions.
5. **Evaluation and Feedback:** Continuous assessment of intelligence operations throughout the intelligence process to ensure that the commander's intelligence requirements are being met.



Figure 9: Intelligence Collection Cycle

Lifeline Reporting

Chapter 2: Community Lifelines Overview describes that lifelines are broken down into components and subcomponents. Within each subcomponent are Essential Elements of Information (EEI). EEIs are standard information requirements that provide context, inform decision making, and contribute to analysis. EEIs are required to plan and execute an operation and to support timely logical decisions. EEIs are developed by incident leadership and included in deliberate plans.

Tiered Senior Leadership Brief Design

The Senior Leadership Brief (SLB) is a situational awareness product that discusses lifelines, activities that work toward their stabilization, their statuses, and the interdependencies between them. FEMA staff develop the SLB using available tools and templates (e.g., Microsoft Word and PowerPoint). Staff at all levels use these resources to gather and share the most authoritative information on an incident. This facilitates the capture of ground truth information in situation reports at the local level and supports development of concise executive summary reports for leadership on situational status.

With the addition of lifelines as the primary method of conveying impacts before, during, and after incidents, the intelligence collection cycle is applied to generate appropriate, consistent, and relevant situational awareness information. This then supports emergency managers and decision makers at all emergency management levels. A tiered design to the SLB addresses three key steps of the intelligence collection cycle (i.e., collection, modeling and analysis, and dissemination and integration). Figure 10 shows the SLB tiers and associated steps of the intelligence cycle.

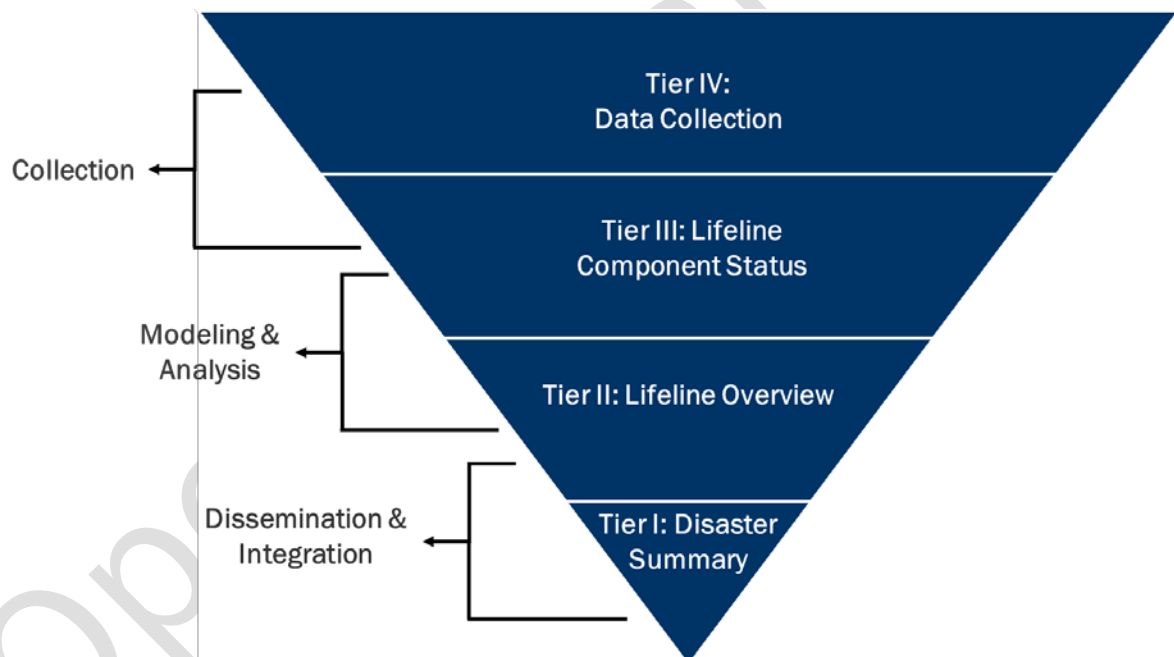


Figure 10: SLB Tiers and the Intelligence Cycle

The tiered SLB design complements community lifelines by enabling information to flow between the field, regional, and national levels, fostering transparency and reducing duplication of effort. Table 6 describes the information conveyed in each SLB tier.

Table 6: Senior Leadership Brief Tier Information

Tier	Information
Tier I: Disaster Summary	<ul style="list-style-type: none"> • Executive summary. • Significant impacts, limiting factors, and actions to address lifeline services. • Reported only at the lifeline level, by state/tribe/territory, based on Tier II information.
Tier II: Lifeline Overview (Lifeline and Component Assessments)	<ul style="list-style-type: none"> • Assessment report on lifeline and component condition. • Analysis of component condition, impacts, actions, limiting factors, estimated time to change in condition/current status, with consideration to re-establishment requirements.
Tier III: Lifeline Component Status (Dashboards)	<ul style="list-style-type: none"> • Dashboards visually displaying real-time automated dynamic updates: <ul style="list-style-type: none"> ○ Charts, graphs, and other supplemental materials; and ○ Geographic Information System (GIS) products. • Includes linked databases from outside sources.
Tier IV: Data Collection (Common Operating Picture)	<ul style="list-style-type: none"> • Board-enabling multiple data inputs and interconnectivity to other incident-level boards by lifelines and components. • Data collection from all incident levels, to include incident management, regions, state, and interagency.

The tiered SLB design enables a scalable response by allowing emergency managers to include information for specific lifelines and components as applicable to the incident circumstance, but information is not required for all lifelines and components if they are not impacted. The level of information required is directly proportional to the overall level of actual/anticipated impacts.

Dissemination and Integration

Table 7 describes the dissemination and integration tiers of the SLB.

Table 7: SLB Dissemination and Integration Tiers

Tiers	Summary
Tier I: Disaster Summary	High-level overview of lifelines which are prioritized by effect on overall stabilization. Includes significant Federal Emergency Management Agency (FEMA) and/or interagency actions.
Tier II: Lifeline Overview	Overview of a single lifeline at a time, with prioritized lifeline component status.

Tier I Reporting

Tier I of the SLB includes executive-level summary information summarizing the situation, lifeline status, and critical impacts, actions, and limiting factors for the lifeline.

The disaster summary provides the most pertinent information in the early stages of the response. During severe weather, the latest information from the National Hurricane Center or other authoritative weather or scientific sources should be included, as well as emergency and disaster declarations. After severe weather or other hazards have passed, a summary of the incident should be included.

At the National Response Coordination Staff (NRCS) and the Regional Response Coordination Staff (RRCS) level, assessing and reporting on lifeline status and condition should be recommended by the situational awareness leadership and validated by the NRCS or RRCS leadership but based on the status reported by the states, tribes, and/or territories. The statuses are based on actual impacts during that operational period and on the perspective of the disaster survivors within impacted areas. The status is not a reflection of capabilities, but rather to determine whether there are disruptions to the delivery of lifeline services to disaster survivors and where the response is in providing those services. Lifeline condition, in turn, is based on the underlying components and is informed by situational awareness reports, impact assessments, and conversing with partners across public, private, and non-profit sectors.

Additional products that should be included are the force laydown map, updated information on incident management assistance teams (IMAT) and liaison officer (LNO) locations, Regional Response Coordination Center (RRCC) status, state emergency operation center status, and emergency/disaster declarations, among others.

Tier II Reporting

The Tier II report includes detailed information on all impacted components’ conditions, impacts, actions, limiting factors, and conditions with consideration to re-establishment. The product is a multi-page document that describes all pertinent information regarding whether disaster survivors have access to lifeline services and how disaster operations are driving toward stabilizing and re-establishing the services. At this time, only the NRCS produces a Tier II report, but other operational levels may choose to produce a Tier II report or another report, as necessary, to meet the needs of that operational level.

Reporting Responsibilities: Incident Management, RRCC, and NRCC Activated

Table 8 provides an example of how reporting responsibilities may work for an incident when the Joint Field Office (JFO), RRCC, and NRCC are activated. However, specific roles and responsibilities will be determined for each incident.

Table 8: Example Reporting Responsibilities: JFO, RRCC, and NRCC

Tier I: Disaster Summary				
Summary: Executive summary (with option for other levels to roll up a Tier I document of a single region or state/tribe/territory).				
Created by:	JFO, RRCC, and NRCC Activated	JFO and NRCC Activated	JFO and RRCC Activated	JFO Only Activated
	NRCC Situational Awareness Section (SAS): National Level	NRCC SAS: National Level	RRCC Situation Unit Leader (SITL): Regional Level	Field-Level SITL: State-Level Only and Accompanies the Traditional Field-Level Briefing Product

Tier II: Lifeline and Component Assessment				
Summary: Assessment of the impacted lifelines and components, emphasizing status, impacts, actions, limiting factors, and estimated time to condition change or current status with re-establishment requirements included (with option for other levels to roll up a Tier II document of a single region or state).				
Created by:	JFO, RRCC, and NRCC Activated	JFO and NRCC Activated	JFO and RRCC Activated	JFO Only Activated
	NRCC Situational Awareness Section (SAS) and RRCC Situation Unit Lead(s) SITL: National Level	NRCC SAS and Field-Level SITL(s): National Level	RRCC SITL(s) and Field-Level SITL(s): Regional Level	Encouraged in Place of Incident Status Summary (ICS-209A) or Situation Status Summary Report (SITREP)

Situation Report

It is encouraged that field- and regional-level planners use the SLB Tiers I and II as the primary situational awareness product. The SLB Tiers I and II will be used in place of the FEMA Incident Command System (ICS) Form 209a, “Incident Status Summary” (Situation Report) at the regional and national levels. The requirement of a situational awareness report (either ICS form or SLB format) at the field-level remains unchanged.

Modeling and Analysis

Table 9 describes the modeling and analysis tiers of the SLB.

Table 9: SLB Modeling and Analysis Tiers

Tiers	Summary
Tier II: Lifeline Overview (Lifeline and Component Assessments)	Overview of a single lifeline at a time (with prioritized lifeline component condition, impacts, actions, limiting factors, estimated time to condition change, and/or current status with re-establishment requirements) based on information from Tiers III and IV.
Tier III: Lifeline Component Status (Dashboards)	Geographic Information System (GIS) analysis and products that support information in Tier II and Tier I.

Lifelines allow FEMA to organize and report information in a manner which highlights priority areas and interdependencies by focusing on the outcomes that drive actions being taken to stabilize lifelines, communicating coordination efforts toward stabilization, and integrating information.

Lifeline Stabilization as a Goal for Response

Community lifelines focus on response actions for lifeline stabilization. The expected outcome is to stabilize all lifelines during response operations. As the incident progresses, FEMA and impacted jurisdictions continuously assess lifelines, even after a lifeline has

“stabilized.” Stabilization targets for each lifeline are developed collaboratively with key stakeholders, including local, state, regional, and national stakeholders.

Modeling Pre-incident Lifeline Impacts

Models are a computational tool that processes, analyzes, collates, simulates, or enables the visualization and understanding of data. Modeling involves integrating known demographic, infrastructure, exposure, engineering, historical events, and geographic characteristics with one or more characteristics expected to be generated by a specific event, including hazardous materials releases, ground shaking, flood inundation, or wind. The product of this integration is an estimate of the effects of an event on societies and the environment, which can be used for problem solving and decision support.

Models are generally developed in steady-state, using best-available datasets and methodologies. Model results are then tested with data from past disaster events; therefore, results can be matched and verified with available data, such as damage assessments, flood depth grids, imagery, etc. This allows user understanding of the accuracy and confidence level of the model’s outputs. The ability to estimate consequences with reasonable accuracy allows decision makers to initiate preparations for identifying and mobilizing resources required for responding to anticipated impacts. The ability to prepare in advance of an actual event (or before actual damage assessments can be performed) can significantly reduce the time required to deliver critical resources to affected areas and help mitigate potential impacts. Models are often the best sources of information for planning factors in the immediate aftermath of an event.

Table 10 displays the flow of information from raw data toward mission-specific requirements to provide course of action recommendations to decision makers. Using the information continuum graphic previously described, impact estimates can be updated as information with increasing levels of confidence becomes available, increasing the validity of key leader decisions.

Table 10: Flow of Information for Decision Making

Information Category	Description
Condition: What?	
Raw Data	Raw data is used to describe the environment and can include static look-up tables, on-the-ground assessment data, steady-state information (e.g., bridge databases), or real-time data (e.g., observational weather data).
Event Characterization Models/Analysis	Processes and analytical tools used by subject matter experts to forecast the location, timing, and severity of an event. For example, the National Hurricane Center is the authority for characterizing a tropical weather system as a tropical depression, storm, or hurricane.

Information Category	Description
Situational Awareness Data	Situational awareness information can be the outputs of event characterization models which process raw data or may be obtained through the extraction, transformation or analysis of raw data such that they can be used to describe or characterize the event. Situational awareness information addresses the question of “what happened?”
Impacts: So What?	
Consequence Models/Analysis	Consequence models predict the impacts of a potential or impending hazard, including, but not limited to, economic consequences, infrastructure damage, health effects, or impacts to the supply chain.
Impact Estimates	Impact estimates define the consequences of an event, answering the question “who and what is affected and to what degree?” These estimates include the outputs of predictive consequence models or post-event assessment data that has been collected and processed to provide an analysis of the event impacts.
Actions: Now What?	
Decision Support Tools	Decision support tools are those that define the amount and type of resources, including materials and personnel, necessary to support mission-specific activities.
Mission-Specific Requirements	The outputs of decision support tools help define the amounts and types of material and personnel resources necessary to support each mission, answering the question, “What needs to be done?” Mission-specific requirement information/products can help inform the course of action (COA) development, COA analysis, COA comparison, and COA selection processes. These resource-specific planning factors are a key component of pre-incident operation assessment and can set the stage for ongoing operation assessment during an incident.
Limiting Factors and Shortfalls: What Are the Gaps?	
Conditions and Resources	<p>Once mission-specific requirements have been developed and refined, it is imperative to identify constraints and restraints inhibiting progress toward stabilization targets.</p> <p>A limiting factor is a condition that either temporarily or permanently impedes the accomplishment of a mission. (Examples include a disruption of a transportation network, lack of facilities or resources, extreme climatic conditions or distance, etc.)</p> <p>Shortfalls are resource-specific limitations and can be determined by identifying the total requirement and subtracting available (organic, mutual aid, and external support) resources.</p>

Analytics and modeling are in the highest demand when the level of confidence in data is low because of unavailable or limited data or information regarding impacts. Assumptions and modeling should not dictate the “official” status of a lifeline, which is required to be based on factual data and known impacts. If the status of a lifeline is unknown, in addition to modeling there are planning and preparedness experts who can assist leadership in understanding community conditions and formulating potential courses of action.

Establishing Operational Tempo

During an incident, the federal coordinating officer (FCO) and state coordinating officer (SCO)/tribal coordinating officer (TCO) collaborate to make a final determination on the status of each lifeline and component. Decision makers rely on reviewing situational awareness reports, impact assessments, and input from conversations among federal, state, tribal, territorial, local, private sector, and non-profit and community partners to inform lifeline and component status determinations. This is a collaborative and iterative process, focusing on impacted communities and disaster survivors.

Chapter 3: Objectives-Based Response Operations explains how component assessment categories and associated questions guide the assessment of incident impacts and help response leadership determine the status of the lifelines and components. It is important not only to assess and report on the status and actions, but also to thoroughly evaluate the impacts to disaster survivors and the limiting factors that are inhibiting the ability to achieve stabilization. Status determinations should be made by considering the factors outlined in Chapter 3: Objectives-Based Response Operations and in collaboration with the relevant stakeholders (states/tribes/territories, incident management assistance teams [IMAT], Regional Response Coordination Staff [RRCS], and National Response Coordination Staff [NRCS]) and with leadership concurrence.

As a best practice, a FEMA region takes the assessment provided by its impacted states, and the National Response Coordination Center (NRCC) reports the assessments provided by the states and regions. However, follow-on conversations supported by supplemental narrative regarding conditions, impacts, actions, and limiting factors may be required to understand why a status determination was made and whether an adjustment should be made. Ideally, all parties can come to consensus about the lifeline assessments so that all reports reflect the same joint assessment. On occasion, there may be discrepancies and the Regional Response Coordination Center (RRCC) and NRCC retain the ability to report a different assessment if consensus cannot be achieved.

Establishing an operational reporting tempo will help ease reporting and synchronize the lines of effort. The reporting tempo should identify a timeline for submission of the following information:

- Capability validation by lifeline and component and by state/tribe/territory leadership;
- Conditions/impacts/actions/limiting factors; and
- Current condition and/or estimated time to a change in status, including re-establishment requirements.

Collection

Table 11 describes the intelligence collection tiers of the SLB.

Table 11: SLB Intelligence Collection Tiers

Tiers	Summary
Tier III: Lifeline Component Status (Dashboards)	Linked databases for dynamic, real-time updates, including from outside sources.
Tier IV: Data Collection (Common Operating Picture)	Boards for multiple data inputs and data connectivity for potential incident dashboards.

To synchronize operations, an ICP is created at the different incident levels to identify the EEIs necessary for informing decisions. ICPs from the different levels may be synched as appropriate and reported via Tier IV. Some elements that feed into an ICP are as follows:

- Component, subcomponent, and EEI;
- Proposed methodology for collecting and evaluating the information;
- Responsible element or authoritative source;
- Deliverable;
- Suspense (time completed); and
- Distribution.

In addition, a best practice is to organize EEIs by association with a primary lifeline, component, and subcomponent, as well as recovery outcomes. EEIs are also associated with actions being taken to stabilize lifelines, the logistics to support responders and response operations, and the characteristics of the threat or hazards.

The doctrinal approach to coordinating across operational levels (FEMA HQ, region, and field) for situational reporting is the use of Tier IV. The ICP can be created and managed to identify what information must be collected to gain and maintain situational awareness. The ICP serves as a tool to guide information collection and dissemination throughout the life cycle of an incident. This includes the transition of responsibilities from the region or FEMA HQ to the field. In the beginning of a response, FEMA HQ and regions could be in the best position to establish situational awareness as incident level operations are stood up. Over time, field staff will develop better situational awareness. However, all three operational levels need to communicate frequently to establish collection and reporting roles and responsibilities. In a system where all three parallel situational awareness reporting streams (field, regional, and national) are being fed by the same information, senior leaders at all levels will be able to make decisions informed by the same information. Figure 11 shows how these parallel collection streams typically work in more detail.

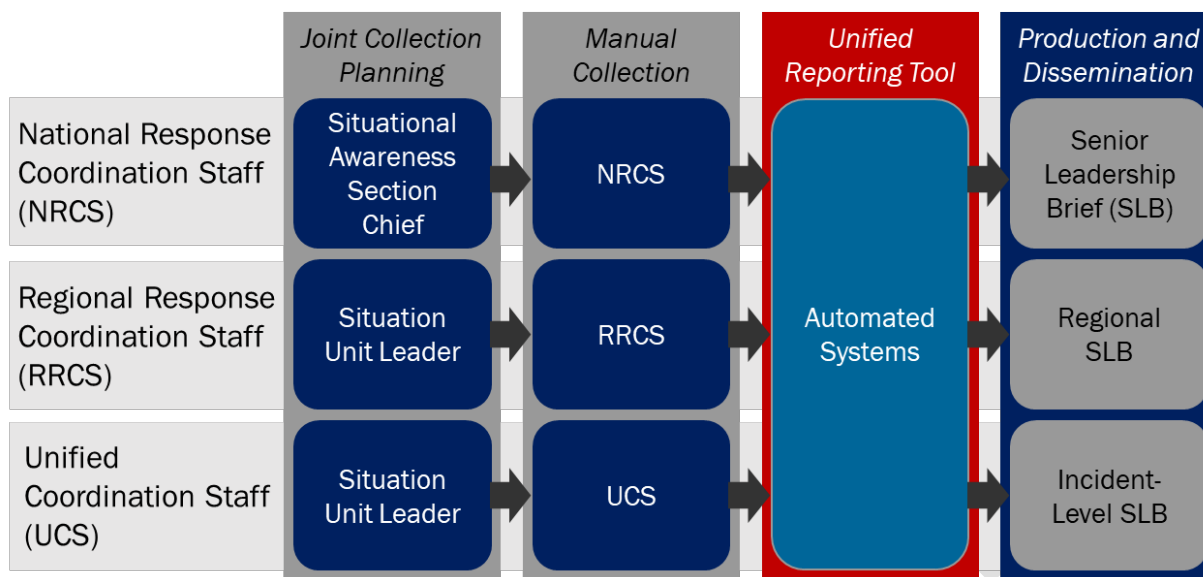


Figure 11: Parallel Collection Planning, Collection, Production, and Dissemination

Evaluation and Assessment Considerations

During FEMA operations, there is often a need to conduct evaluation and assessment activities to provide deeper situational understanding and insights into the effectiveness of FEMA operations (i.e., what we are doing) to stabilize lifelines. As technology advances, so does the ability to provide on-the-ground evaluation, assessment, and effective feedback. Gaps in information can be resolved by using descriptive, predictive, and prescriptive analytics using both qualitative and quantitative data. The decision to conduct an analysis should attempt to answer a question of whether the operation has met or will meet an LOE intermediate objective, reach an LOE end-state, or stabilize a lifeline; therefore, all analysis should be in line with the achievement of incident objectives.

Operational Assessment

Operational assessment indicators are measurements of the status of an intermediate objective or LOE and are presented using measures of performance (MOP) and measures of effectiveness (MOE) in addition to other metrics.

MOPs and MOEs should be aligned with overall programmatic goals and measures or be established from a collaborative decision made by the LOE principal as soon as it is identified that there is not an existing measure to assess the status of an intermediate objective or LOE.

MOPs are indicators to assess the status of an objective or LOE in which the ability to reach the given objective is contingent on the efficiency and timeliness of an individual person (i.e., the time it takes for a person to register a survivor and provide the customer service).

MOEs are indicators to assess the status of an objective or LOE in which the ability to reach the given objective is based on the effectiveness, span, and timeliness of a program or process (i.e., the time an individual assistance [IA] application period is open). MOEs indicate how successful the LOE is in achieving stabilization targets for one or more lifelines.

Operational assessment indicators, both MOPs and MOEs, are used to understand when stabilization will likely be achieved by measuring the progress toward an intermediate objective or the end of an LOE. Figure 12 shows how LOE performance indicators map to MOPs and MOEs.

There is no perfect analysis, but assessment, evaluation, and feedback of ongoing efforts can provide useful insight. Analysis is also important to understand, as is communicating all assumptions made, and the source and reliability of the information collected during the analysis. Assessment, evaluation, and feedback of LOEs can provide a critically useful decision framework and understanding of operational efforts made toward stabilization.

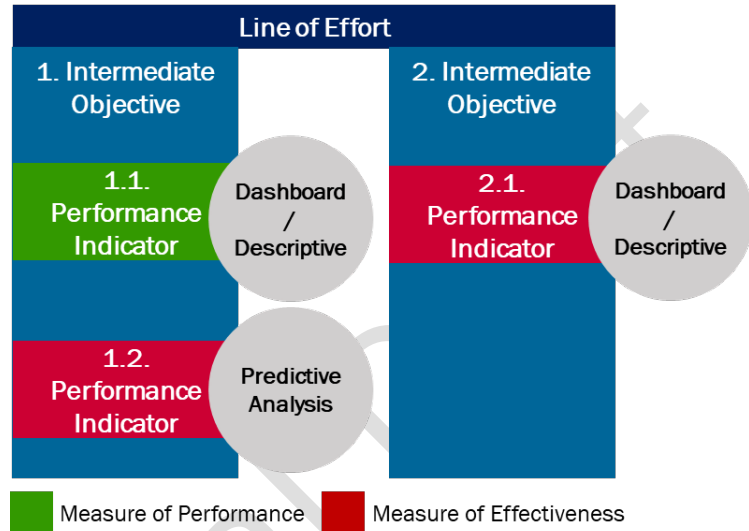


Figure 12: LOE Performance Indicators

Descriptive Status Dashboards

Dashboards are visual platforms that can provide at-a-glance understanding of the status of a performance indicator for an intermediate LOE objective, overall LOE, or individual lifeline. Most often, dashboards are descriptive products that provide a high-level summary of information related to the incident. For information to be absorbed quickly, it is recommended to have summary statistics for a specified LOE or lifeline. In general, it is best practice to frame the dashboard so that it can encompass the life of the LOE or lifeline from instability to stabilization. For more complex LOEs where there are multiple stakeholders or intermediate objectives, designing a dashboard for each intermediate objective or stakeholder can be beneficial.

To develop a dashboard, it can be helpful to outline the stabilization objectives and ask a specific question on how to arrive there. For example, the LOE of sheltering operations to stabilize the food, water, and shelter lifeline during DR-4399-FL (Figure 13) included the intermediate objective to de-populate Red Cross shelters. To aid in that LOE, understanding the data to answer the question, “Do we need to provide temporary housing solutions?” can be accomplished using a dashboard.

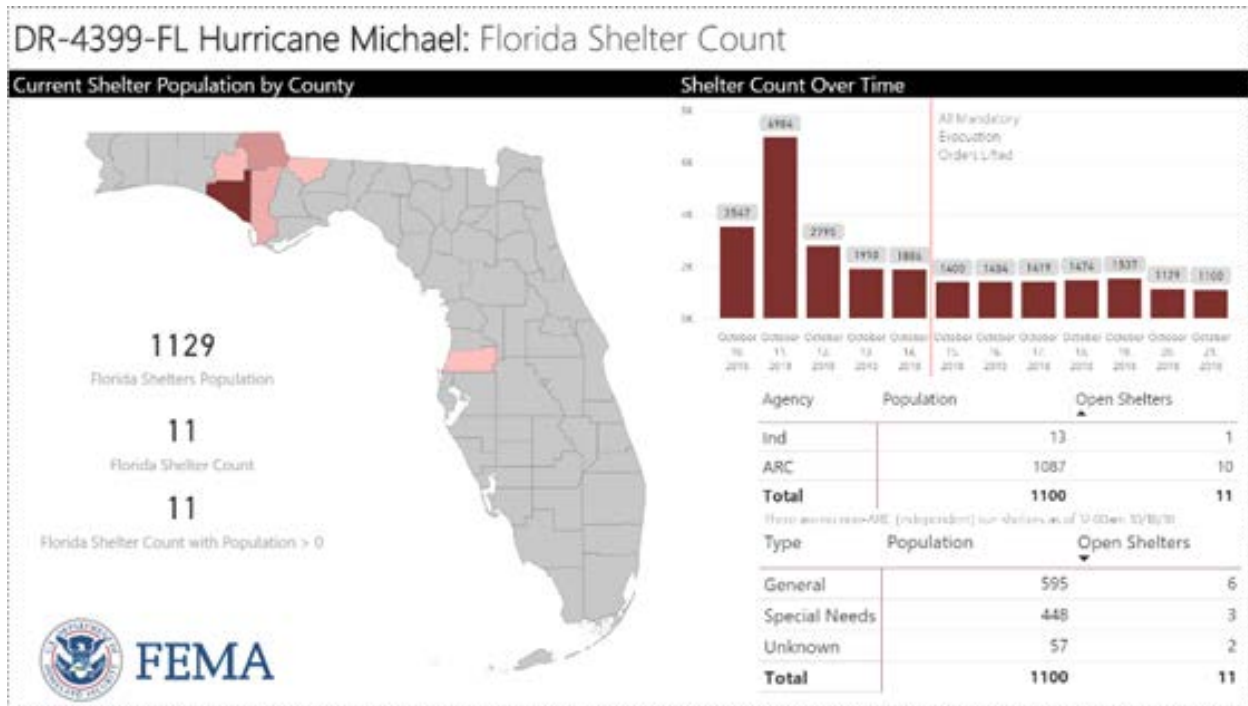


Figure 13: Shelter Information Dashboard DR-4399-FL

Dashboards can be created in various analytical or geospatial platforms (Microsoft Power Bi, Esri GIS Insights, Esri GIS Operations Dashboard, Tableau, R Shiny, etc.), but are more effective when information can be fed to them in real-time. A dashboard should primarily include graphics rather than text. Overall, the dashboard should be clean and simple while able to communicate complex material. Dashboards should also include a logo of the agency; the incident name and major disaster or emergency declaration number; geographic specification, as needed; a few sentences describing the information; and disclosure on information type, if needed (i.e., “deliberative purposes only,” “For Official Use Only,” or “FEMA Internal Product”). Every effort should be made to allow the end-user to interact with the dashboard in a dynamic presentation. If presented in a static format, dashboards should be distributed as backup to the SLB as a Tier III product.

Predictive and Prescriptive Analytics

Providing estimates for completion and the general scope of intermediate objectives and end-states can be difficult given complex situations and various factors. Basic operational knowledge and understanding of operations is invaluable, but the addition of predictive and

prescriptive analysis can close the gap on information and assist decision makers. This predictive and prescriptive analysis allows for incident leadership and LOE task force leads to define projections for the achievement of intermediate objectives and completion of an LOE. For example, during DR-4399-FL the LOE of commodity distribution to stabilize the food, water, and shelter lifeline had an intermediate objective of providing commodities to survivors. To assess when the intermediate objective had been met as a function of when other factors would stabilize the food, water, and shelter lifeline, there was a need to assess the decision to turn off commodities and provide feedback on when that objective would be met—a predicative analysis. Whenever possible, predictive and prescriptive analysis products should accompany the presentation of LOEs in the incident approach.

Similarly, analysis can be done to anticipate an LOE. Continuing from this case study, the estimated non-evacuation population provided a basis to analyze if a long-term feeding mission would be necessary. Figure 14 provides an example of how analysis was used as a decision framework to anticipate the need for an LOE based on the projected rate of power restoration, an estimate of the population, and collected Voluntary Organizations Active in Disaster (VOAD) food distributions.

Estimated Mass Feeding Analysis

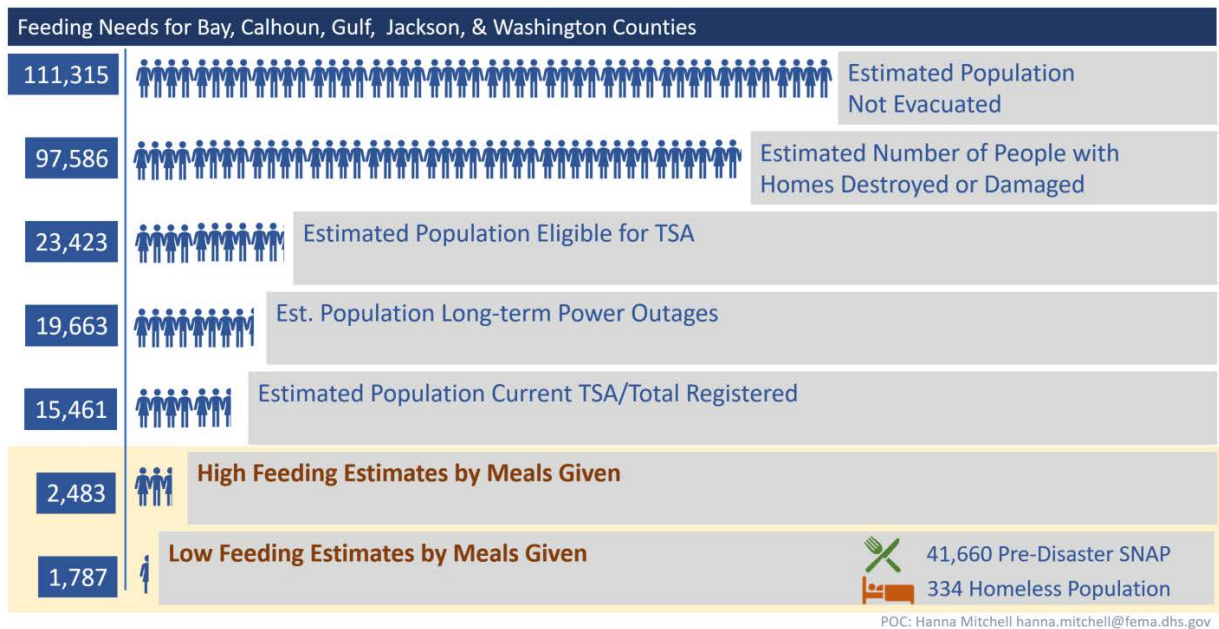


Figure 14: Sample Predictive Analysis for a Potential Mass Feeding LOE

Conceptual Considerations for Strategy Development

The following are conceptual considerations for incident personnel at all levels to contemplate when designing a FEMA operation and developing strategies for lifeline stabilization.

Defining the Current State vs. Lifeline Stabilization, Re-establishment, and Recovery Outcomes

Defining the current incident state is an assessment process that is foundational to FEMA operations and widely understood as Phase 1 of the incident action planning process: understand the situation. This phase of the incident action planning process allows incident personnel at all levels to identify assumptions, facts, and gaps in existing information. The result is a comprehensive understanding of the sources of instability in the incident area.

Defining the lifeline stabilization targets and recovery outcomes is an assessment process that focuses on establishing goals for the operation. This process should identify what stability or recovery means to the state, tribe, or territory.

This goal-setting process also translates to the development of LOEs, discussed next. The development and execution of each LOE requires an understanding of the current state of execution and goal (called the LOE's end-state), which typically equates to the end of requirements for federal assistance of an LOE. LOEs developed during response operations for incident stabilization that articulate the steps necessary to meet a desired end-state may transition to recovery operations and be included in the Integrated Strategic Plan (ISP) (typically these are LOEs associated with FEMA recovery programs).

Lines of Effort

LOEs are the functions and activities that must be performed to achieve lifeline stabilization targets and recovery outcomes. For FEMA operations, LOEs are activities that a state, tribe or territory can ask FEMA and the federal interagency to support to fill their capability gaps in managing the consequences of an incident. LOEs help incident personnel at all levels to visualize how federal interagency capabilities can support state, tribe and territorial governments to achieve lifeline stabilization targets and recovery outcomes by clearly articulating and communicating the strategy to meet federal assistance requests. LOEs sequence intermediate incident objectives for inclusion in the incident action planning cycle (i.e., milestones) and resources (to include FEMA programs, contracts, and mission assignments) to reach a desired end-state where federal assistance for that function is no longer required. The following list identifies common LOEs agreed upon by all 10 FEMA regions. Additional LOEs may be necessary to meet regional- or incident-specific requirements.

- Damage assessment;
- Debris management;
- Emergency repairs and augmentations to infrastructure;

- Evacuation, receptions, re-entry, and return;
- Fatality management;
- Hazardous waste;
- Healthcare systems support;
- Medical transportation;
- Natural and cultural resource protection and restoration;
- Private sector coordination;
- Public information and warning;
- Responder security and protection;
- Restoration of public infrastructure;
- Search and rescue;
- Sheltering operations;
- Temporary emergency power; and
- Temporary housing (repair, rental assistance, and direct housing).

LOEs articulate strategy by sequencing intermediate objectives for inclusion into the incident action planning process (i.e., milestones) and resources (to include FEMA programs, contracts, and mission assignments) to reach a desired end-state where federal assistance for that function is no longer required. Figure 15 describes the mechanisms applied to assess LOE progress toward the desired end-state.

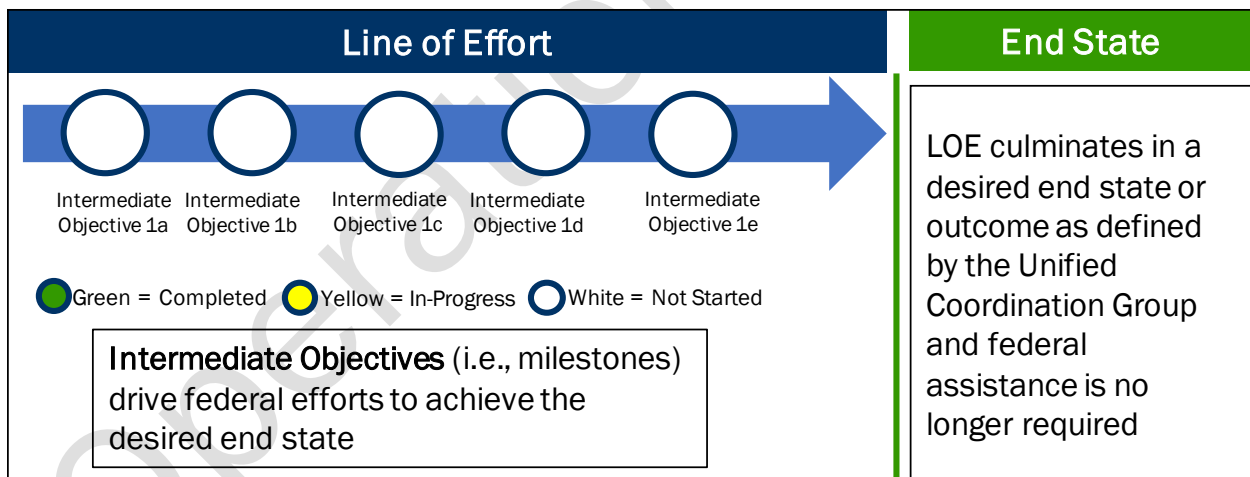


Figure 15: LOE Dissection

LOEs help incident personnel at all levels visualize how federal interagency capabilities can support lifeline stabilization and recovery outcomes by clearly articulating and communicating the strategy to meet federal assistance requests. LOEs are particularly valuable tools when used to achieve unity of effort in an incident involving many ESFs, RSFs, and FEMA programs coordinating to execute multiple requests for federal assistance.

It is important to note that a state, tribe, or territory may request FEMA assistance for multiple LOEs to stabilize a single lifeline. Similarly, a single LOE, such as the provision of temporary emergency power, may enable the stabilization of multiple lifelines because the relationship between LOE and lifeline is not one to one.

ESFs and FEMA programs are responsible for one or more LOEs. A single lifeline may require multiple LOEs to achieve stabilization. Conversely, a single LOE may support the stabilization of multiple lifelines.

The LOE concept is not exclusive to lifeline stabilization. LOEs may begin during stabilization, ultimately evolving along the disaster continuum toward outcome driven recovery. For example, there are operations and logistics intermediate objectives within a temporary housing (repair, rental, assistance, and direct housing) LOE that must be executed at the early stages of an incident in anticipation of and shortly after federal assistance has been approved. Subsequent intermediate objectives will continue for months and possibly years as a direct housing mission progresses toward a permanent housing solution for survivors.

Phasing

FEMA leverages phasing in most FEMA operations with a response component. Phasing in FEMA operations lays out the focus of the execution of LOEs in a logical sequence to break the operation into manageable parts. Phases are stages of a FEMA operation where a large portion of operations is involved in similar or mutually supporting activities for a common purpose. A phase should have a clearly defined focus, purpose, and conditions for moving between phases in alignment with deliberate plans. When a phase has culminated, it is time for the next phase to start. It is important to recognize that phase culmination is often reached at different times in different geographic areas across a single incident. Figure 16 shows example LOE execution across different phases for a no-notice incident.

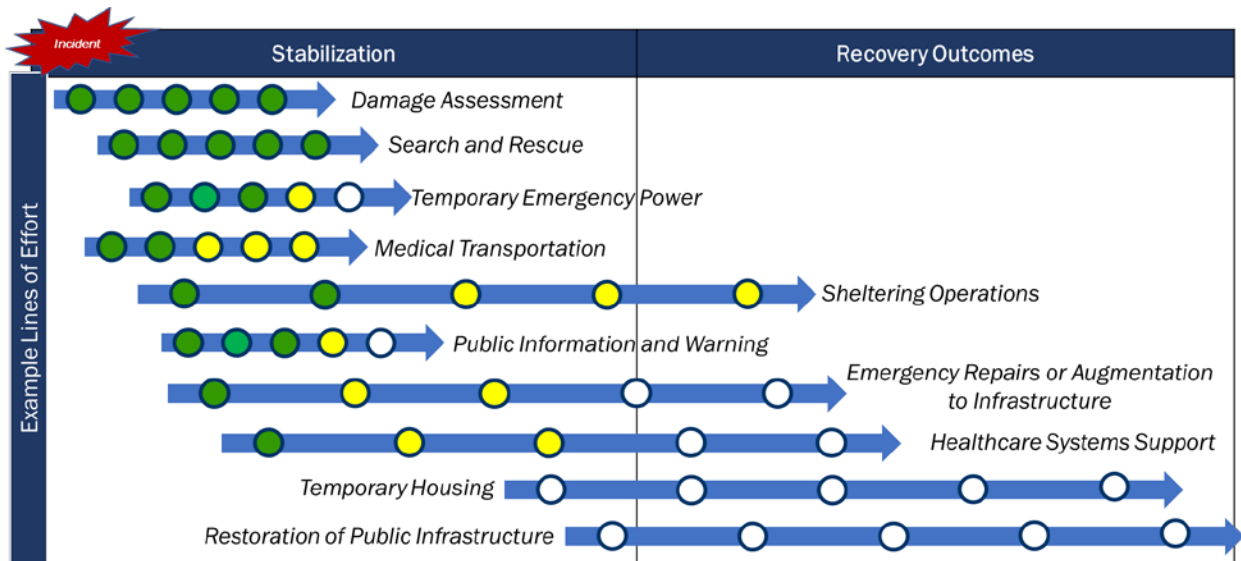


Figure 16: Example LOE Execution Across Different Phases for a No-Notice Incident

Pivotal Events

A pivotal event is a key intermediate objective or multiple lines of effort that, once achieved, represent substantial progress toward stabilization because the plan of action is in place, resourced, and is sustainable. Pivotal events suggest when, where, and what actions are necessary to transition from instability toward stability and provide focus to incident personnel at all levels on how to prioritize actions within LOEs to achieve maximum effect.

Anticipation

Anticipation in FEMA operations means considering and planning for the worst-case incident impacts with the goal of avoiding surprise and preventing a pivotal event that negatively impacts the operation. Anticipation is dependent upon good situational awareness and modeling for assumptions. Incident personnel must keep an open mind, exercise caution, and carefully consider information they use to make decisions and derive assumptions. Incident personnel must be aware of indicators of emerging instability that may need to be addressed by a re-allocation of resources or additional resources not currently in place and understand and address the risks associated with either decision.

Unity of Effort

Unity of effort in FEMA operations is about using traditional and non-traditional resources, partner organizations, and the private sector together to achieve lifeline stabilization. Unity of effort requires coordination to increase the capabilities available to stabilize lifelines beyond what could be achieved by the federal interagency effort alone. This includes thoughtful considerations for commercial capacity and outcomes the federal interagency effort can influence to enable a resumption of pre-incident community services and commerce.

Operational Reach

Operational reach in FEMA operations is the distance and duration of time that logistical support can be provided for FEMA operations. Incident support bases (ISB), federal staging areas (FSA), and other logistics architecture must be designed with an understanding of the problems that need to be solved. This requires accurate problem framing so that transportation capabilities, throughput, basing, resource requirements, equipment and commodity pre-positioning, and state, tribal and territorial capabilities are in place for the needs of the incident. The goal of operational reach in the strategy development process is to extend operations as close to the incident area as the risk level allows.

Strategy Development for Incident Support and Incident Management

Strategy development at the national incident support (IS) level provides the context to understand what national-level resource deployment and intelligence collection assistance is required and when the NRCC is no longer necessary to support FEMA operations. Similarly, strategy development at the regional IS level provides context to understand what regional-level resource deployment and intelligence collection assistance is required and when the RRCC is no longer necessary to support FEMA operations. At the national and regional levels, strategy development is synchronized with subordinate levels to provide a common understanding of the trajectory of FEMA operations and aids in evaluating when to transition control of an incident to the FCO and the FCO's Unified Coordination Staff (UCS).

Just like at the national and regional levels, strategy development at the incident level begins early in a FEMA operation but continues after national and regional levels deactivate. As lifelines begin to stabilize, strategy development at the incident level provides the foundation for traditional strategic planning to guide the incident toward recovery outcomes.

Strategic-Level Planning

Strategic-level planning, through the development of the incident approach during initial operations, identifies what needs to be done to stabilize lifelines. Strategic-level planning uses the concepts and considerations of strategy development for FEMA operations and is developed at a higher level of analysis than operational and tactical planning (Figure 17). This is primarily conducted to provide incident personnel at all levels with a clear picture of the following:

- Incident-wide approach to IM and IS;



Figure 17: Strategic Planning

- LOEs to achieve lifeline stabilization; and
- The concept of logistics support.

The resulting incident approach, focusing on lifelines, provides guidance and does the following:

- Field, regional, and national resource deployment and employment decisions (contracts, resource request forms [RRF], mission assignments, and FEMA personnel requests);
- Establishment of LOE task forces and crisis action planning teams; and
- Development of field-level objectives (ICS Form 202).

Adaptive Planning

Field, regional, and national elements must leverage and operationalize deliberate plans at regional and national levels to the greatest extent possible—primarily Annexes B (Intelligence), C (Operations), and D (Logistics)—to the regional all-hazards plans (AHP) and national-level Federal Interagency Operational Plans (FIOP). These annexes provide actionable information and metrics regarding state, tribal, and territorial stabilization targets.

State Stabilization Targets

During deliberate planning efforts, regional planning branches work extensively with state, tribal, territorial, and local partners to identify accurate and actionable stabilization targets for each lifeline. These targets must be validated and adapted by SLTT partners during initial operational periods and refined over the response.

Lines of Effort

Deliberate planning includes select LOEs relevant to the region or hazard scenario. Examples of the LOEs that may be found in deliberate planning include search and rescue, sheltering operations, healthcare systems support, medical transportation, and temporary emergency power. All these examples are complete with pre-scripted intermediate objectives, desired end-states for the LOE, resourcing, non-resource limiting factors, and resource shortfalls. The structure, format, and general content within deliberate planning provides the starting point for the incident approach when an incident occurs. Figure 18 provides an example of a deliberately planned LOE that can be used when forming LOEs in the incident approach.

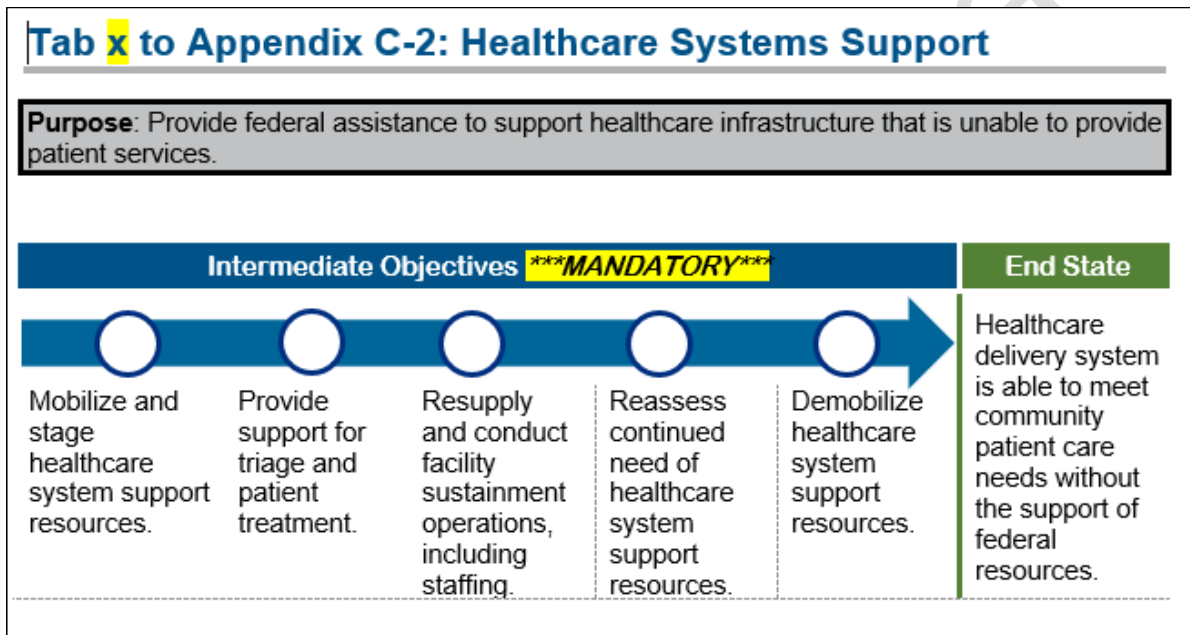


Figure 18: Example Healthcare Systems Support LOE in FEMA Deliberate Planning

Roles and Responsibilities: Developing the Incident Approach

The incident approach is iteratively developed and continuously synchronized with stakeholders using the same prescribed template which can be found in the Community Lifelines Implementation Toolkit 2.0. However, depending on the phase of the response and the activities of the compiling entity, the descriptiveness and availability of information may vary. Planning staff at all operational levels must train on and use the incident approach planning support template as often as possible.

Primarily, the planning support unit leader (PLSL) at the RRCC, the planning support section chief (PSSC) at the NRCC, and the PLSL at the field level are principally responsible for the development, maintenance, validation, briefing, and dissemination of the incident approach. However, depending on supervisor and leadership discretion and the unique circumstances of the response, other staff members may be assigned with incident approach responsibilities.

The incident approach must be briefed to incident, functional, and programmatic leadership regularly during a response. Once developed, the incident approach must be widely distributed among federal responders to ensure a common understanding of the strategic approach to lifeline stabilization for the incident.

The incident approach includes five sections:

1. Problem framing
2. Lines of effort
3. Concept of logistics support
4. Areas of operation
5. Senior leader decisions

Section I: Problem Framing

Preferably, the first iteration of problem framing takes place before the first formal operational period (i.e., as soon as FEMA's operations are initiated and prior to the first incident action planning cycle) and is continually revised in subsequent operational periods. To make incident information actionable and reliable, decision makers must understand the problems federal responders face, anticipate the impacts of those problems, and align federal LOEs to stabilize those problems.

The problem frame is organized pursuant to the seven lifelines. Problem framing includes describing the current state (or anticipated post-hazard impacts) of each lifeline, indicating the lifeline's stabilization target, and identifying the anticipated and active federal LOEs required to stabilize impacts to lifelines.

Each lifeline's current state and anticipated post-hazard impacts must align symmetrically to that lifeline's stabilization targets. The stabilization targets should reflect goals defined and described in deliberate planning and should be validated and refined throughout the incident. Stabilization targets must indicate what metrics are to be used to classify a lifeline as "stabilized" or a narrative description of the conditions when mission sets associated with the stabilization of that lifeline are considered complete.

Once the lifeline's current state and stabilization targets have been identified and indicated, the appropriate planning staff will indicate the required, active, and completed federal LOEs required to achieve that stabilization targets. Each identified LOE will be thoroughly built out in the second step of the incident approach.

Section II: Lines of Effort

LOEs are identified and developed by working collaboratively with a principal or identified lead for that LOE. These principals are indicated on each LOE slide for reference, including their contact information and organizational assignment. Strong relationships must be established and maintained between the incident approach compiler (planning element)

and the principal because the circumstances and activity regarding a particular LOE may change without notice.

The formulation of an LOE occurs through the following five steps:

1. Define what the end of federal assistance means.
2. Determine what must happen (i.e., intermediate incident objectives or milestones) to reach the end of federal assistance and how progress will be measured.
3. Identify primary organization and roles/responsibilities.
4. Perform an operational assessment (identify key indicators for each intermediate objective).
5. Assign resources.

Each intermediate objective in the continuum of stabilization is color-coded to indicate status: Green indicates “completed,” yellow indicates “in-progress,” and white indicates that the objective or activity has “not yet started.” Several milestones or intermediate objectives may be “in-progress” simultaneously.

Additional supporting information is required for each LOE. The incident approach template provides several categories of key information that must be captured and indicated. LOEs must be continuously synchronized with the Logistics Branch to ensure that its activities are appropriate to support the completion of the LOEs and the stabilization of the lifelines.

Section III: Area(s) of Operation

Planning elements may identify areas of operation for each geographic incident (e.g., branches and divisions). Planning elements may identify priorities for effort and support across multiple jurisdictions. Declaration maps, force laydown maps, or other GIS products should allow readers to visualize the area(s) of operation and its geographic properties.

Section IV: Concept of Logistics Support

All entities must leverage deliberate plans at regional and national levels to the greatest extent possible to scope the initial concept of Logistics Branch support by operationalizing Annex D (Logistics) to regional AHPs.

The concept of logistics support should comprehensively cover all active LOEs. Planning elements must describe how the Logistics Branch will support the LOEs to achieve the stabilization targets. Typical concepts of logistics support include the active FSAs, ISBs, personnel mobilization centers (PMC), initial operating facilities (IOF), JFOs, area field offices (AFO), points of distribution (POD), fuel distribution, shuttle services, and other forms of logistics support emplaced to bolster active LOEs and support lifeline stabilization.

Additionally, succinct explanations of the various support activities that the Logistics Branch is conducting must be articulated for readers’ understanding of the comprehensive incident approach that responders are using.

Section V: Senior Leaders Decisions

Planners present decisions for regional and national leadership regarding early phase resource activation, phasing, and mobilization based on assumptions. Field-level planners present decisions to the Unified Coordination Group (UCG) for resource activation and mobilization once operational control has transitioned to the incident level. The final slide of the incident approach should be the necessary questions that must be answered by senior leaders.

Transition to Integrated Strategic Planning

Once lifelines begin to stabilize and incident personnel can anticipate operations beyond stabilization, the field-level Planning Section initiates the development of the ISP. The ISP complements the lifeline stabilization-focused incident approach by specifying milestones required to reach recovery outcomes. While many LOEs developed in the incident approach will end relatively early in the life cycle of the incident, several LOEs developed in the incident approach will transition to longer-term operations and be included in the ISP (e.g., those LOEs associated with FEMA recovery programs). The incident approach informs the ISP, and once the first ISP is published the incident approach is no longer applicable.

Operational Level Planning

While many LOEs employ resources in a straightforward manner, some LOEs may have complexities that require atypical solution sets. These solution sets should be generated through the crisis action planning process and should result in an LOE operational plan (formerly known in previous guidance as a functional plan) (Figure 19).

The LOE operational plan refines the desired end-state and intermediate objectives (e.g., milestones) in the incident approach and details the tasks to achieve the intermediate objectives, as well as the resources required. The LOE operational plan also identifies and mitigates risks that may inhibit achieving the objectives because of a lack of resources or other non-resource limiting factors.

LOE operational plans should be developed using an LOE task force with a formal organizational structure and clearly defined roles and responsibilities. The task force should, to the maximum extent capable, follow the six-step crisis action planning process when developing the LOE operational plan.

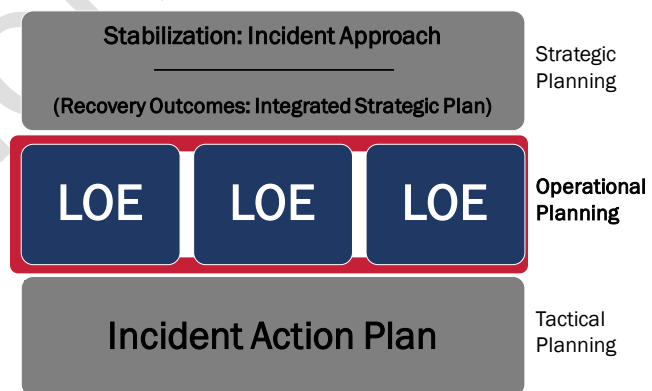


Figure 19: Operational Planning

Guidelines for When an LOE Operational Plan Is Necessary

The LOE task force formation and facilitation processes can be cumbersome on staff and should only be employed in specific instances. The following guidelines should be considered when determining if an LOE task force and operational plan are necessary:

- Currently available resources are insufficient to stabilize a lifeline.
- Unconventional resource delivery sequencing is necessary because of location or environmental restriction.
- Lifeline interdependencies are preventing stabilization.
- Atypical resource types or capabilities are required to stabilize a lifeline.
- Exceptionally high duration of instability necessitates extraordinary resource measures.
- The timeframe to achieve either lifeline stabilization or recovery outcomes is unnaturally shortened because of external pressures.

LOE Task Force Organization

Like most entities that support incident response, to be effective LOE task forces must be able to scale to the size and scope of the incident and the associated impacts. Because an LOE task force is not always needed, even in larger incidents, the ability to ascertain the need for a task force and the ability to quickly assemble the necessary task force members to address the issue(s) are critical to ensuring scalability while maintaining a resilient workforce. To achieve this capability, an LOE operational planning and analysis unit should be in place to identify requirements and form and facilitate LOE task forces, as needed by the incident to provide solutions to stabilize complex lifeline instability problems. This unit will identify the necessary types and quantities of staff based on the incident level and identify the administrative and operational controls necessary to ensure proper support.

Operational Planning and Analysis Unit

The Operational Planning and Analysis Unit is an optional unit of the Planning Section, which fits the previous requirements in providing a scalable team that identifies current and potential needs for LOE operational plans and associated LOE task forces.

The unit is led by a FEMA operational planner and is supported with other planners and analysts as the incident size requires. The Operational Planning and Analysis Unit lead is responsible for engaging incident leadership on the overall effectiveness of all existing LOEs and for facilitating the development of solutions to stabilize lifelines. Additionally, the unit lead is responsible for staffing the incident with subject matter experts, analysts, and operational planners, as needed, to support all required LOE task forces. See FEMA crisis action planning guidance for staffing requirements based on incident size and scope.

Organizationally, this unit should reside administratively within the Planning Section to ensure availability to other sections, as needed, and ensure ease of access of incident-wide information housed in the other Planning Section units. Operationally, components or subsets of this unit should be sent to temporarily support the section/branch/group/unit responsible for the LOE.

Crisis Action Planning Teams and LOE Task Forces

Crisis Action Planning (CAP) teams, like LOE task forces, are formed to address complex issues surrounding lifeline impacts or LOE effectiveness. The primary difference between LOE task forces and CAP teams is where they reside in the response organization. Whereas LOE task forces operate at the field level to develop LOE operational plans, CAP teams reside at the regional and national levels and identify resources that support those LOE operational plans. CAP teams are identified by leadership at the regional and national levels and coordinate with the field-level LOE task forces to ensure all anticipated needs are met when requested.

CAP teams may be established to anticipate future resource sourcing and deployment challenges and may not require a complementary LOE task force for resource employment. Similarly, not every LOE task force requires a complementary CAP team for resource sourcing and deployment assistance.

National and Regional Incident Support Planning

As described in the previous strategic level planning section, IS planning occurs at the regional level for most incidents and at the regional and national levels for all Level 1 and some Level 2 incidents.

At this level of planning, an information analysis brief (IAB) is first developed where actual, modeled, or forecasted impacts, as well as potential resources, are identified for consideration. Using the IAB as an input, the incident approach can be used to then identify possible LOEs. These LOEs may then drive some, if not all, National Support Plan (NSP) and Regional Support Plan (RSP) objectives.

Although not tactical in application, NSP and RSP use objectives and associated tasks to drive federal support actions prior to an event (notice) or immediately post-event (no-notice). Objectives in an NSP and RSP generally involve the ordering, activating, staging, and outfitting of resources for further employment at the field level. Many, if not all, objectives in an NSP and RSP can serve as the starting point for LOEs, as defined in deliberate planning. (See previous strategic level planning section for details.) Figure 20 provides an example LOE for IS objectives.

Tab x to Appendix C-2: Healthcare Systems Support

Purpose: Provide federal assistance to support healthcare infrastructure that is unable to provide patient services.

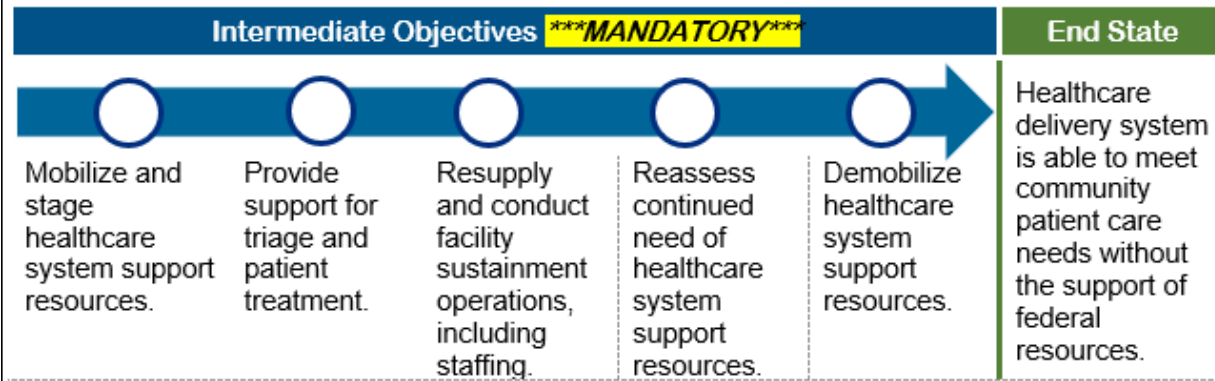


Figure 20: Example Healthcare Systems Support LOE Incident Support Objectives

As described in the following tactical planning section in more detail, support objectives evolve as LOEs progress forward. Because of the limited scope of RRCC and NRCC tactical control during initial response, most, if not all, LOEs will be in an early stage of execution upon transfer to the field.

Figure 21 shows the evolution of the LOE during IS, beginning during the IAB process and ending with transition to the field.

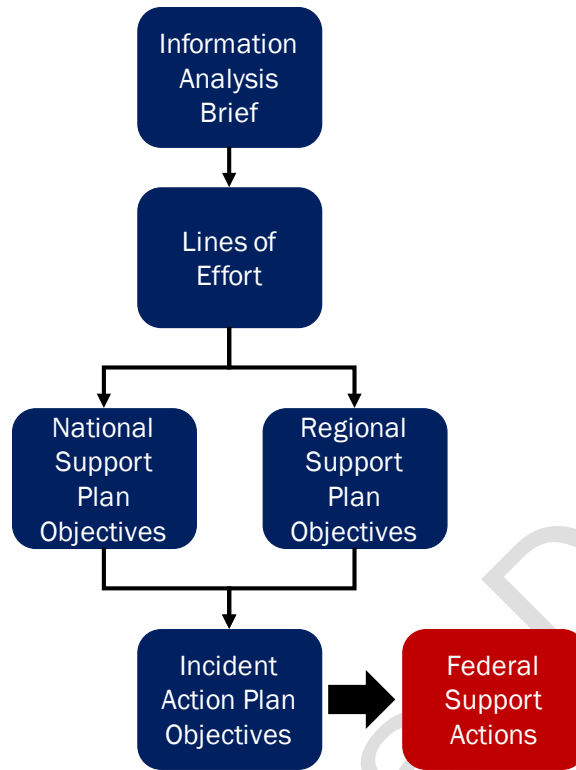


Figure 21: Incorporation of Lifelines in National and Regional Planning

Tactical Level Planning

Tactical planning for lifeline stabilization occurs through the existing incident action planning process, outlined in FEMA’s *Incident Action Planning Guide* (Figure 22). Lifelines enter the IAP through the development of incident objectives, listed for the next operational period on ICS Form 202 (Figure 23). It is important to capture on the ICS Form 202 which lifelines are being stabilized by the achievement of each incident objective.



Figure 22: Tactical Planning

5. General objectives for the Incident:	
Objective Number	Description
1	Rapidly respond to requests for life saving search and rescue and assisted evacuations. (Safety and Security Lifeline)
2	Evaluate at-risk populations and provide congregate evacuation sheltering. (Food, Water and Shelter Lifeline, Safety and Security Lifeline)
3	Ensure redundant communications in affected areas. (Communications Lifeline)
4	Position food and water for post-impact commodity distribution. (Food, Water and Shelter Lifeline)
5	Strategically position generators for post-impact temporary emergency power requirements. (Energy Lifeline)
6	Evaluate and stabilize main transportation arteries in Search and Rescue areas. (Transportation Lifeline)
7	Complete Preliminary Damage Assessments for potential permanent repairs to damaged infrastructure by 10/31/2018. (Infrastructure Unified Recovery Outcome)

Figure 23: Example ICS Form 202 Incident Objectives

Incident objectives are developed and anticipated in the incident approach for each LOE as points across the continuum from the current state to the end-state for the federal assistance mission. Within a few operational periods, as LOEs are matured in the incident approach, incident leadership can anticipate the sequence of incident objectives across the LOE. Similarly, through evaluation of performance and effectiveness of the LOE, incident leadership can anticipate when incident objectives will be achieved and transition to the next incident objective across the LOE. Each incident objective on ICS Form 202 should relate to a point on an LOE in the incident approach. Figure 24 provides an example of intermediate objectives across multiple IAPs.

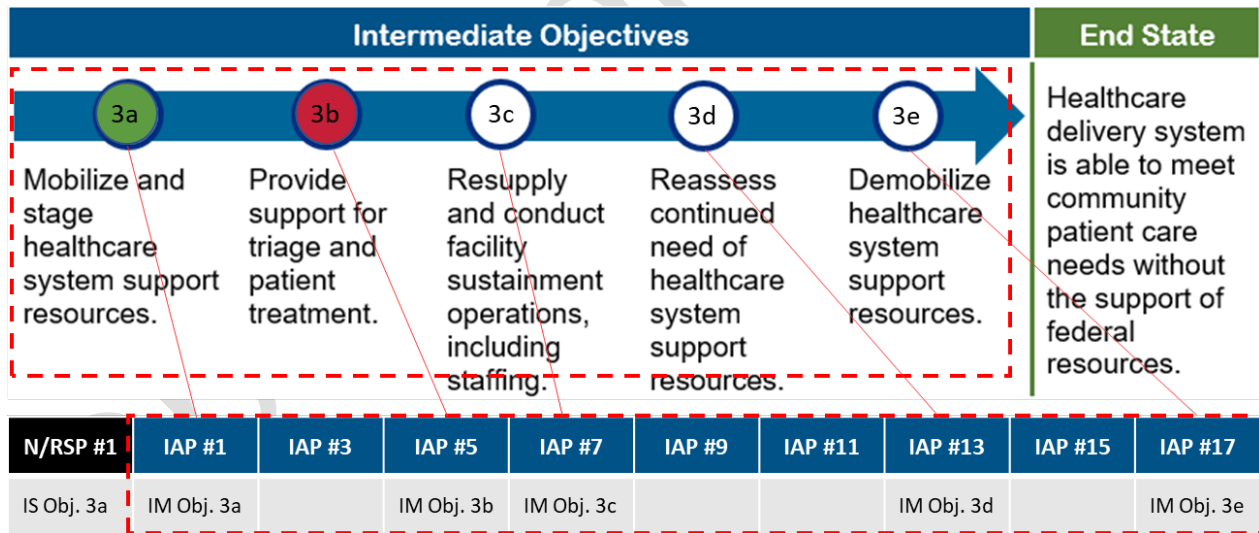


Figure 24: Example Healthcare Systems Support LOE Intermediate Objectives Across Multiple IAPs

As FEMA operations progress and as lifelines are stabilized, incident objectives may advance from general statements to include more specific intent. As this transition occurs,

and as lifeline stabilization is achieved, the identification of which lifeline is being stabilized by a certain LOE may also change.

Incident Action Planning Cycle

The traditional incident action planning meetings remain largely unchanged, as described next:

- The **UCG meeting** centers around a discussion on the current incident priorities (ideally articulated in terms of unstable lifelines and lifeline components) and the refinement of incident objectives for the next operational period based on progress of each respective LOE.
- In the **Command and General Staff (C&GS) meeting**, incident priorities and objectives are provided by the UCG to the C&GS. The incident approach, SLB, and/or dashboards can enhance the C&GS meeting by providing needed information to the C&GS to assist in their incident action planning efforts. Typically, during the C&GS meeting the Operations Section Staff brief their resource shortfalls and limiting factors. In addition to programmatic delivery updates, briefers should also identify their strategies, resource shortfalls, and limiting factors according to the unstable lifelines and LOEs they are supporting.
- While not typically part of FEMA's incident action planning cycle, an **Initial Strategy meeting** is recommended in addition to the UCG meeting during the first or first several operational periods. This is particularly important because it allows the UCG and C&GS to share information and jointly determine the initial approach to stabilize community lifelines, formally documented in the incident approach. After the first several operational periods, subsequent strategy meetings may be held in addition to UCG meetings, as required.
- During the **Operations Tactics meeting**, an analysis of the alignment of work assignments and their relationship to supporting the stabilization of one or more lifelines can be discussed in addition to their alignment to the incident objectives.
- The **Planning meeting** is focused on the review and approval of the IAP for the next operational period. To ensure the IAP meets the incident objectives, an analysis may be discussed during the planning meeting that demonstrates which work assignments are in support of each incident objective for the next operational period. Because each incident objective in the IAP (i.e., intermediate objective across an LOE for that specific operational period) supports the stabilization of one or more lifelines, analysis may also be discussed that compares the number of work assignments being applied to one or more lifelines.

Figure 25 shows the NIMS planning “P” incident action planning cycle.

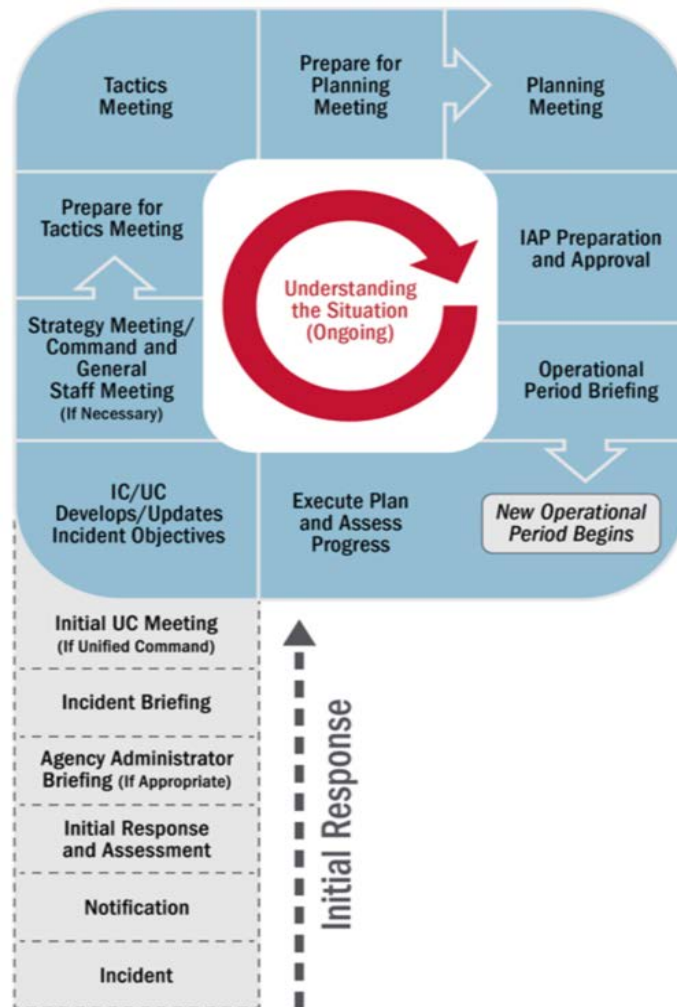


Figure 25: NIMS Incident Action Planning

Current states, end-states, and goals should be continually reassessed and revised during the assessment process. When evaluating the current state or maximum anticipated impact, understanding what is known and the potential maximum disaster impact is critical. Some potential questions to ask during this assessment process include the following:

- What are the lifeline stabilization targets we are striving to achieve?
- What are the recovery outcomes we are striving to achieve?
- How do we know we have been successful?



Operational Draft




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APPENDIX E: COMMUNITY LIFELINE COMPONENTS AND SUBCOMPONENTS

Table 12 identifies the components and subcomponents typical to each lifeline. Components are fixed, pre-determined capabilities, while subcomponents remain flexible to meet incident requirements.

Table 12: Community Lifeline Components and Subcomponents

Lifeline	Components	Subcomponents
	Law Enforcement/Security	<ul style="list-style-type: none"> • Police Stations • Law Enforcement • Site Security • Correctional Facilities
	Fire Service	<ul style="list-style-type: none"> • Fire Stations • Firefighting Resources
	Search and Rescue	<ul style="list-style-type: none"> • Local Search and Rescue
	Government Service	<ul style="list-style-type: none"> • Emergency Operations Centers • Essential Government Functions • Government Offices • Schools • Public Records • Historic/Cultural Resources
	Community Safety	<ul style="list-style-type: none"> • Flood Control • Other Hazards • Protective Actions
	Food	<ul style="list-style-type: none"> • Commercial Food Distribution • Commercial Food Supply Chain • Food Distribution Programs (e.g., Food Banks)
	Water	<ul style="list-style-type: none"> • Drinking Water Utilities (Intake, Treatment, Storage, and Distribution) • Wastewater Systems • Commercial Water Supply Chain
	Shelter	<ul style="list-style-type: none"> • Housing (e.g., Homes and Shelters) • Commercial Facilities (e.g., Hotels)
	Agriculture	<ul style="list-style-type: none"> • Animals and Agriculture

Lifeline	Components	Subcomponents
	Medical Care	<ul style="list-style-type: none"> • Hospitals • Dialysis • Pharmacies • Long-Term Care Facilities • Department of Veterans Affairs (VA) Health System • Veterinary Services • Home Care
	Patient Movement	<ul style="list-style-type: none"> • Emergency Medical Services
	Fatality Management	<ul style="list-style-type: none"> • Mortuary and Post-Mortuary Services
	Public Health	<ul style="list-style-type: none"> • Epidemiological Surveillance • Laboratory • Clinical Guidance • Assessment/Interventions/Treatment • Human Services • Behavioral Health
	Medical Supply Chain	<ul style="list-style-type: none"> • Blood/Blood Products • Manufacturing <ul style="list-style-type: none"> ○ Pharmaceutical ○ Device ○ Medical Gases • Distribution • Critical Clinical Research • Sterilization • Raw Materials
	Power Grid	<ul style="list-style-type: none"> • Generation Systems • Transmission Systems • Distribution Systems
	Fuel	<ul style="list-style-type: none"> • Refineries/Fuel Processing • Fuel Storage • Pipelines • Fuel Distribution (e.g., Gas Stations and Fuel Points) • Off-shore Oil Platforms
	Infrastructure	<ul style="list-style-type: none"> • Wireless • Cable Systems and Wireline • Broadcast (Television and Radio) • Satellite • Data Centers/Internet
	Alerts, Warnings, and Messages	<ul style="list-style-type: none"> • Local Alert/Warning Ability • Access to Integrated Public Alert and Warning System (IPAWS) (Wireless Emergency Alerts [WEA], Emergency Alert System [EAS], National Oceanic and Atmospheric Administration [NOAA] Weather Radio All Hazards [NWR]) • National Warning System (NAWAS) Terminals
	911 and Dispatch	<ul style="list-style-type: none"> • Public Safety Answering Points • Dispatch
	Responder Communications	<ul style="list-style-type: none"> • Land Mobile Radio (LMR) Networks

Lifeline	Components	Subcomponents
	Finance	<ul style="list-style-type: none"> Banking Services Electronic Payment Processing
	Highway/Roadway/Motor Vehicle	<ul style="list-style-type: none"> Roads Bridges
	Mass Transit	<ul style="list-style-type: none"> Bus Rail Ferry
	Railway	<ul style="list-style-type: none"> Freight Passenger
	Aviation	<ul style="list-style-type: none"> Commercial (e.g. Cargo/Passenger) General Military
	Maritime	<ul style="list-style-type: none"> Waterways Ports and Port Facilities
	Facilities	<ul style="list-style-type: none"> Oil and HAZMAT Facilities (e.g. Chemical and Nuclear) Oil/HAZMAT/Toxic Incidents from Facilities
	HAZMAT, Pollutants, Contaminants	<ul style="list-style-type: none"> Oil/HAZMAT/Toxic Incidents from Non-Fixed Facilities Radiological or Nuclear Incidents