Catastrophic Incident Annex

Tab G:
Situational Assessment

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Purpose

General

The purpose of the Situational Assessment Tab G is to identify the ways in which the Washington State Emergency Operations Center will establish and maintain situational awareness during a catastrophic incident to sustain the Situational Assessment core capability and develop a common operating picture for response. This Tab is intended to provide detailed information on the Situational Assessment Core Capability and reflects catastrophic planning that has taken place across the state for its associated Critical Tasks.

Situational awareness[1] is key to providing decision makers with the necessary, relevant, and actionable information they need to determine the next steps in a response and to make strategic and policy decisions to save and sustain life. Establishing and sustaining the Situational Assessment core capability involves a systematic process to gather, analyze, synthesize, and communicate data to inform planning and response decisions and to develop situational awareness. Situation awareness is viewed as a "state of knowledge", and situational assessments are the processes used to achieve

Figure 1: The process of collecting data, analyzing that data into useful, actionable, and timely information and sharing that information to create situational awareness is key to developing a Common Operating Picture for incident response.

that knowledge. Data is gathered from the closest level to the incident and is turned into information through a process called data analysis. Data Analysis is a piece of the Situational Assessment Process as depicted in Figure 1. Information is shared using integrated communication, information management, and intelligence and information sharing systems to share situational awareness across all levels of incident management and across jurisdictions. Information is considered essential if it identifies a resource need or an obstacle to the effective delivery of resources. A Common Operating Picture (COP) is a continuously updated overview of an incident compiled throughout an incident's lifecycle from the information that is shared. The goal of a COP is real-time situational awareness across all levels of government and all levels of incident management.

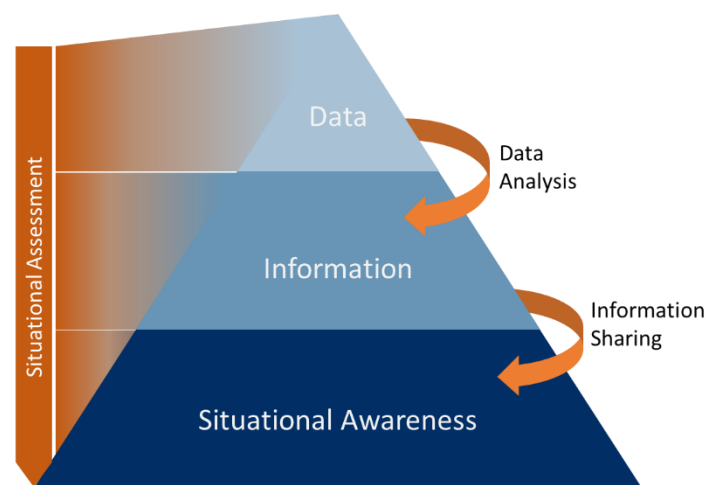[1] Situational awareness is a component of the Situational Assessment core capability. Situational Assessment includes other elements that build up to Situational Assessment such as the implementation of mechanisms like Community Lifelines to enable decision making.

The Damage Assessment[2] portion of Situational Assessment is important in terms of resource needs for immediate lifesaving and sustaining operations, but attention on identifying damage levels in relation to the number of structures damaged/ destroyed or the overall cost estimate is not a consideration outlined within this Tab or the Catastrophic Incident Annex (CIA). All-Hazard plans, processes, and procedures already include the necessary information to conduct these activities. Damage assessments as used in this Tab and the CIA are used to identify priorities and resource needs for the immediate response to a catastrophic incident.

Strategic Goals

Life Safety

Vertical Integration
1. Communicate with all levels of government during a catastrophic incident to effectively gain situational awareness through assessment and reporting.

Horizontal Integration
1. Communicate key findings which directly threaten or affect life safety and sustainment across agencies and partners to inform overall response efforts and identify potential policy decisions.

Information Analysis
1. Facilitate a rapid assessment capability immediately following an incident and determine life-threatening situations and imminent hazards.
2. Facilitate the collection of information and other activities such as predictive modeling, remote sensing, and reconnaissance.

Incident Stabilization

Direction, Control, and Coordination
1. Sustain the collection, analysis, and dissemination of essential elements of [assessment] information which support decision makers situational assessment to guide incident direction, control, and coordination.

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[2] Damage Assessment as outlined here refer to the official process involved in establishing impact losses for federal assistance and reimbursement through Public Assistance, Individual Assistance, and other programs.

Situation Overview

General

Different types of catastrophic incidents will directly affect the availability of incident information (e.g., causalities/fatalities, damage reports, resource needs, etc.). The two categorizations for these conditions are Notice and No-Notice. While there is a distinction between notice and no-notice incidents it is important to remember the term "notice" can be misleading as many factors can make an incident just as time sensitive as having little to no notice (e.g., complex coordination, time of day or year, and geographical area).

Notice Incident
An incident where jurisdictions have warning of an impending hazard, or the incident has escalated to a catastrophic level.

> *Examples of Notice Incidents:*
> - Distant-source tsunamis
> - Distant and slow-moving wildfires
> - Flooding
> - Some HAZMAT incidents
> - Some dam failures

No-Notice Incident
An incident occurring with little or no warning and requiring rapid assessment, decision making, communication, and implementation of protective actions.

> *Technological hazards present the opportunity to be Notice or No-Notice*

> *Examples of No-Notice:*
> - Earthquakes
> - Lahars
> - Landslides
> - Local-source tsunamis
> - Some HAZMAT incidents
> - Some dam failures

The Situational Assessment core capability's effectiveness is dependent on the success of establishing an effective mechanism for Operational Coordination, as it relies on the information flow from both vertical and horizontal response partners and stakeholders. The stream of information incoming will likely be overwhelming in the initial days of the incident, which is why it is essential to institute a methodology to categorize the data into meaningful, consistent, and uniform products (i.e., GIS, SitReps, and Community Lifeline products).

Planning Assumptions and Response Considerations

- Situational awareness requires continuous monitoring, data collection, and data analysis from relevant sources regarding impacts and response operations. The scope and type of monitoring required will vary based on response needs and the extent of the disaster.
- Differing reporting approaches and tools for situational assessments will necessitate a single state reporting, collection, analysis, and dissemination system.
- Reporting by Community Lifeline may not be widely known or utilized by all jurisdictions and reporting entities and may require some training.
- Implementation of the Community Lifelines system can focus response efforts on objectives and tasks which present the highest level of threat and also those which represent key enabling functions or serve as bottlenecks and limitations.
- Response operations which cross organizational and political boundaries must establish guidelines for intelligence-gathering and information-sharing.
- The collection and dissemination of data and information from local jurisdiction is not sufficient to maintain shared situational awareness. Analysis and processing of data and information into projections and forecasts of future events, and preparation of situation summaries will be required for decision makers to make use of the situational assessment.
- Access to accurate and timely information enables decision makers to prioritize actions, resulting in the most effective application of resources.
- Poor information flow may lead to an inaccurate understanding by senior leaders and will affect their situational understanding and decision-making abilities.
- During catastrophic incidents, there is a need to employ an enhanced method to track and share information.
- Information sharing and coordination between the public and private critical infrastructure sectors and state agencies may be hindered by protected critical infrastructure information sharing limitations.
- Initial situational awareness will likely be limited until the SEOC is able to establish communications with local emergency management.
- Impacts to the transportation system may also limit, delay, or otherwise interfere with the ability to establish situational awareness.

- Establishing an Intelligence Section[3] within SEOC operations can be used to gather current information and synthesize it for use by senior leaders, decision makers, and policy groups.

Capability Targets

- *Within (#) (time) of incident, and on a (#) (time) cycle thereafter, provide notification to leadership and (#) partner organizations involved in incident management of the current and projected situation. Maintain for (#) (time).*

Non-Standardized Targets

Rapid Assessment

- *Within (#) (time) of an incident, perform a rapid assessment on the (7) Community Lifeline areas for life threatening situations and imminent hazards that may cause a break in the continuous operation of government functions and critical businesses that are essential to human health and safety.*
    - *Within (#) (time) of an incident, work with the Logistics Section to determine requirements for critical resources needed to support emergency response activities and any obstacles to the effective delivery of supplemental resources using the information collected through the rapid assessment.*

Data Analysis

- *Within (#) (time) of an incident, collect essential elements of information from all available sources across the (7) community lifeline sectors.*
- *Within (#) (time) of an incident, analyze essential elements of information assessment data collected for the (7) Community Lifeline Sectors and develop actionable information to prioritize response actions based on the immediate lifesaving and life sustaining activities for each sector.*

Information Sharing

- *Within (#) (time) of an incident, deliver actionable information sufficient to inform decision making regarding immediate lifesaving and life sustaining activities to decision makers.*
    - *On a (#) (time) cycle, deliver enhanced information to reinforce ongoing lifesaving and life sustaining activities to decision makers for determination of strategic direction.*

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[3] ICS Compliance Note: This falls within the job of the Situation Unit; or is a subcomponent of the Situation Unit. There could also be an Intelligence Manager who falls under the Situation Unit in the Planning Section.

> o *On a (#) (time) cycle, deliver identified gaps to information collection that pose a disruption to the decision-making process, or that present an unknown risk.*
> - *Within (#) (time) of an incident, and in coordination with ESF 15, provide timely and accurate information based on comprehensive situational assessments to responders and survivors within the impacted area and deliver public messaging to meeting the immediate needs of responders and the general public.*

Concept of Operations

General

The Situational Assessment phase in a catastrophic incident follows immediately after activation. Assessment of an incident is critical within the first hours to deploy time-sensitive services and resources. Reassessment of the initial conditions throughout the incident is essential in determining changes in conditions, the identification of new threats and hazards, the status of and need for resources. Information gathered immediately after the occurrence of an incident establishes the initial activation environment and deployment of resources to sustain and protect life and stabilize the incident.

FEMA Response Phases						
1a	**1b**	**1c**	**2a**	**2b**	**2c**	**3a**
Normal Operations	Increased Likelihood or Elevated Threat	Credible Threat	Activation, **Situational Assessment**, and Movement	Employment of Resources and Stabilization	Intermediate Operations	Long-Term Recovery Operations

Table 1: The Federal Emergency Management Agency provides guidance on the phased response to a catastrophic incident. Situation Assessment occurs immediately as the first action after activation in a response. Gaining an awareness of the situation immediately will allow you to determine changes in the situational assessments which will dictate adjustments to the current Incident Action Plan (IAP) activities.

Situational Awareness

Following the activation of the Planning Section's Situation Unit, a check-in/assessment reporting timetable should be established which includes critical information and incorporates activated local jurisdictions. The information obtained from local jurisdictions will need to integrate and consolidate the multiple modes of reporting into a single and uniform reporting and assessment system. The information collection process consists of the following actions:

- Collect, distill, and analyze incoming information from all available sources within and outside the affected areas.
- Integrate reporting procedures and requirements for the information collected.

- Enhance preliminary situational assessments with more comprehensive information collection, validation, and analysis processes to inform decision making.
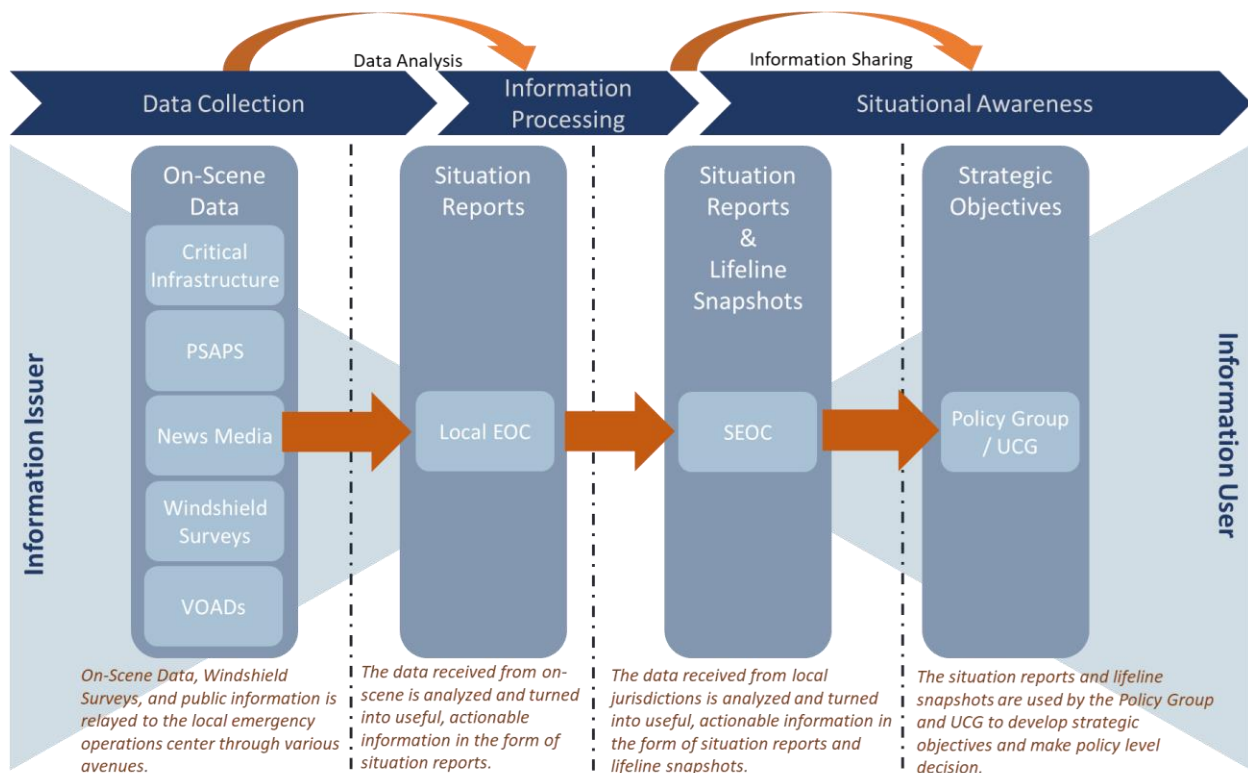- Synthesize incident information into continuous monitoring and reporting of Community Lifelines.

Figure 2: Information sharing is a process in which data from on-scene is shared with response partners and analyzed and converted into information. This information is processed and turned into situation reports. The situation report information is collated into a Community Lifeline SLB Briefs which are used by decision makers to make informed decisions on response direction.

Information Sharing

Situation Assessment information must be shared both vertically and horizontally to allow Operational Coordination[4], decision making, and response direction decisions. The information collected on scene, must be processed and analyzed into actionable intelligence. This information is collated into Community Lifeline reports which are shared with the response

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[4] Operational Coordination as described here shows that it becomes an essential mechanism in relaying data from local jurisdictions to inform SEOC response operations and on the return, a mechanism to relay back aggregated data and resource deployments.

decision makers who will use this higher-level information to make strategic objectives and response decisions.

Efforts should also account for Disclosure of Confidential Information waivers for information sharing amongst federal and state entities whose laws protect the disclosure of confidential information to the public.

Community Lifelines

The FEMA Community Lifeline construct was developed to highlight the highest priority and more complex issues from other incident information. They also allow for an identification of roadblocks, barriers, and dependencies/interdependencies that may be present within one or more community lifelines which are contributing to or preventing the stabilization of specific functions or entire lifelines.
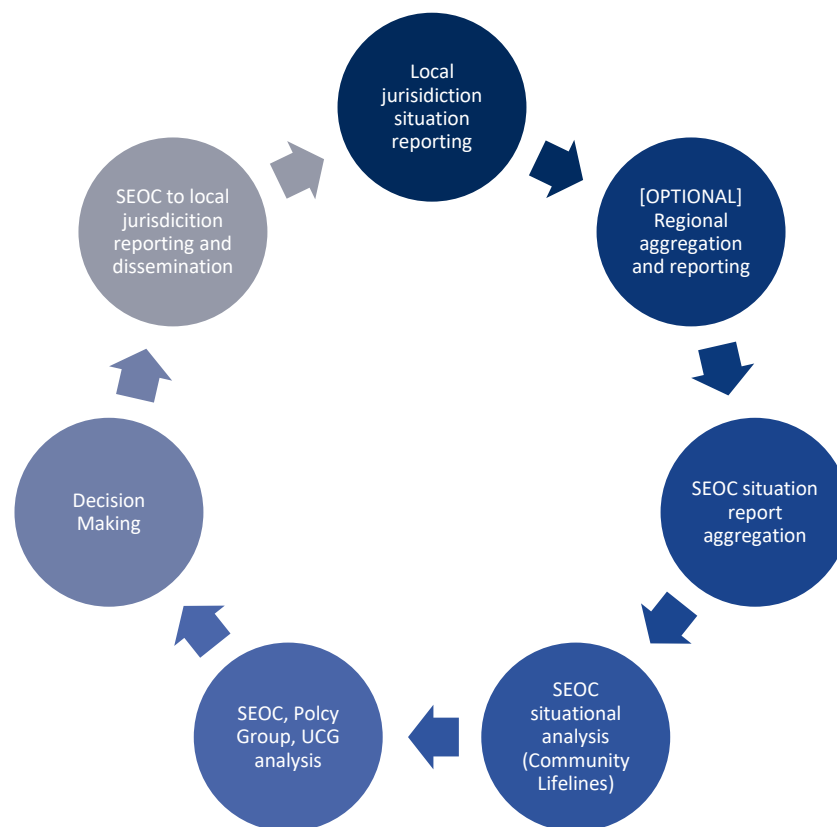

Figure 3 - Community Lifeline Information Flow[5]

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[5] Reporting can refer to information on impacts, conditions, resource needs and shortfalls, and actions being planned/performed.

Synthesizing the information gathered from the Situational Assessment and developing a Community Lifeline incident reports will aide decision makers in determining strategic objectives and response direction.

Figure 4: There are seven Community Lifeline Sectors including: Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communications; Transportation; Hazardous Materials.

Applying the following questions regarding the incident is critical in determining the status of a lifeline and its components:

- Did the incident disrupt services to survivors provided by component capabilities?
- What is the extent of the disruption and impact on the response and survivors?
- Has a solution to the disruption been identified?
- Has that solution been converted into a plan of action?
- Has that plan of action been resourced?
- Are there limiting factors that are preventing stabilization? To what extent are they degrading services?
- Have services for survivors been stabilized? If not, how long to reach stabilization?
- Are there contingency solutions that are enabling stabilization? How long will these solutions be used to sustain stabilization?
- Have circumstances changed since the lifeline/component was last assessed?

Community Lifeline Information Products
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. 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 incident impacts, the intelligence collection cycle is applied to generate appropriate, consistent, and relevant situational awareness information. This then supports the SEOC, Policy Group, and UCG in making informed decisions.

The 4 tiers of the SLB highlight shown in the table below demonstrate how each layer contributes to developing products for different purposes and stakeholders.

Tier	Information
Tier 1: Disaster Summary	• Executive summary • Significant impacts, limiting factors, and actions to address lifeline services • Reported only at the lifeline level, based on Tier II information
Tier 2: Lifeline Overview (Lifeline and Component Assessments)	• 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 reestablishment requirements

Tier 3: Lifeline Component Status (Dashboards)	• Dashboards visually displaying up to date:
	  o Charts, graphs, and other supplemental materials
	  o Geographic Information System (GIS) products
	• Includes linked databases from outside sources

Tier 4: Data Collection (Common Operating Picture)	• 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

Table 2 - Senior Leadership Brief Tiers 1-4

Supporting Core Capability

Situational Assessment

Objective:

Provide all decision makers with decision-relevant information regarding the nature and extent of the hazard, any cascading effects, and the status of the response.

Critical Tasks:

1. Deliver information sufficient to inform decision making regarding immediate lifesaving and life-sustaining activities, and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs and stabilize the incident.
2. Deliver enhanced information to reinforce ongoing lifesaving and life-sustaining activities, and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs, stabilize the incident, and transition to recovery.

Operational Coordination

Objective:

The National Preparedness Goal defines operational coordination as the ability to establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.

Critical Tasks:
1. Mobilize all critical resources and establish command, control, and coordination structures within the affected community, which may no longer be defined by established jurisdictional boundaries as needed throughout the duration of an incident.
2. Enhance and maintain command, control, and coordination structures (C3), consistent with the National Incident Management System (NIMS), to meet basic human needs, stabilize the incident, and facilitate the integration of restoration and recovery activities.

Figure 5: Situational Assessment and Operational Coordination have interdependency as situational assessment is key to supporting the coordination of response operations

Information Collection, Analysis, & Dissemination

Situational Assessment plays a primary role in Information Collection, Analysis, & Dissemination through Community Lifeline Reporting. It is not enough to collect data alone. Data must be analyzed and converted into useful and actionable information through analysis, and this information needs to be shared through dissemination.

Information Collection

General Essential Elements of Information (EEIs)

Essential Elements of information are a set of information requirements that help inform the response. These pieces of critical information offer more details for situational awareness and decision making. Situational Assessment is a unique core capability in relation to the others, in that it encapsulates all EEIs for all core capabilities to create a Common Operating Picture and provide response and decision makers with the information and tools necessary to make informed decisions.

Community Lifeline	Lifeline Component	Lifeline Subcomponent	Essential Element of Information
All	All	All	• Local impact assessments and rapid needs assessments • Immediate resource needs for life safety and life sustainment for each community lifeline sector • Availability of resources that are identified as critical to life safety • Information gaps for each community lifeline sector • Status of each of the community lifeline sectors and emergency support functions. • Limiting factors and shortfalls for each community lifeline sector and emergency support function.

SEOC Field Reporting

Reporting Structure (SEOC Representative)[6]

The SEOC Representative reports to their HLS Branch Director. The HLS Branch Director reports to the Deputy Operations Section Chief. The Deputy Operations Section Chief reports to the Operations Section Chief. The Operations Section Chief reports to the SEOC Supervisor. The SEOC Supervisor reports to the Policy Group/UCG.

SEOC Representative Direction, Control, and Coordination

Figure 6 - SEOC Representative ICS Structure

Information Analysis and Dissemination

Lifelines must be assessed at the component level to understand what services are impacted by a disaster. Lifeline components can be analyzed using six assessment categories which capture Essential Elements of Information (EEI) for response decision makers.

Category	Description
Component	Identify the impacted component(s) of the specific Community Lifeline and any key elements and Essential Elements of Information (EEI) within the component(s).
Status (What?)	Summarize the root cause(s) of disruption to services provided through the Community Lifeline. (Status information should clarify why each applicable component is not stable.)
Impacts (So What?)	Explain the disaster's impacts on specific communities, disaster survivors, and response operations. Detail how the survivor experience and response operations will improve if components are stabilized. Summarize the impacted areas and total populations affected.
Actions (Now What?)	Describe the actions being taken to stabilize and re-establish the disrupted services. Summarize the most critical actions being taken across the whole community.
Limiting Factors (What's the Gap?)	Outline issues that are preventing services from being stabilized or re-established (issues can stem from another lifeline/component, resource shortfall, management, policy, etc.).

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[6] The SEOC Representative position is covered in detail within Tab F: Operational Coordination.

Estimated Time to Status Change or to Re-Establishment Requirements Being Met (When?)	Provide current condition of component(s) or an estimated timeframe for when a change in condition is expected.

Table 3 - Community Lifeline Component Analysis

Situation Unit

The Situation Unit Lead reports to the Planning Section Chief who then reports to the SEOC Supervisor. Within the Situation Unit, the Situation Report writer drafts the Situation Report. The Situation Report serves as a status update of the current operational situation and is a snapshot of a set point in time; it provides:

- Guidance to response partners
- Incident objectives and priorities
- Information on operational planning, requirements, and deployments
- Status and location of resources
- Community Lifeline status

SEOC Representative Information Collection, Analysis, and Dissemination

SEOC Represenative → Situation Unit → [Community Lifelines Reporting] → [Senior Leadership Briefs] → SEOC Supervisor → Policy Group/ UCG

Figure 7 - SEOC Represenative and Situation Unit Analysis

Lifeline Status Flowchart

Using the chart below, those assessing Community Lifeline status are able to make determinations on the current conditions to create situational awareness which informs response operations and decision making.
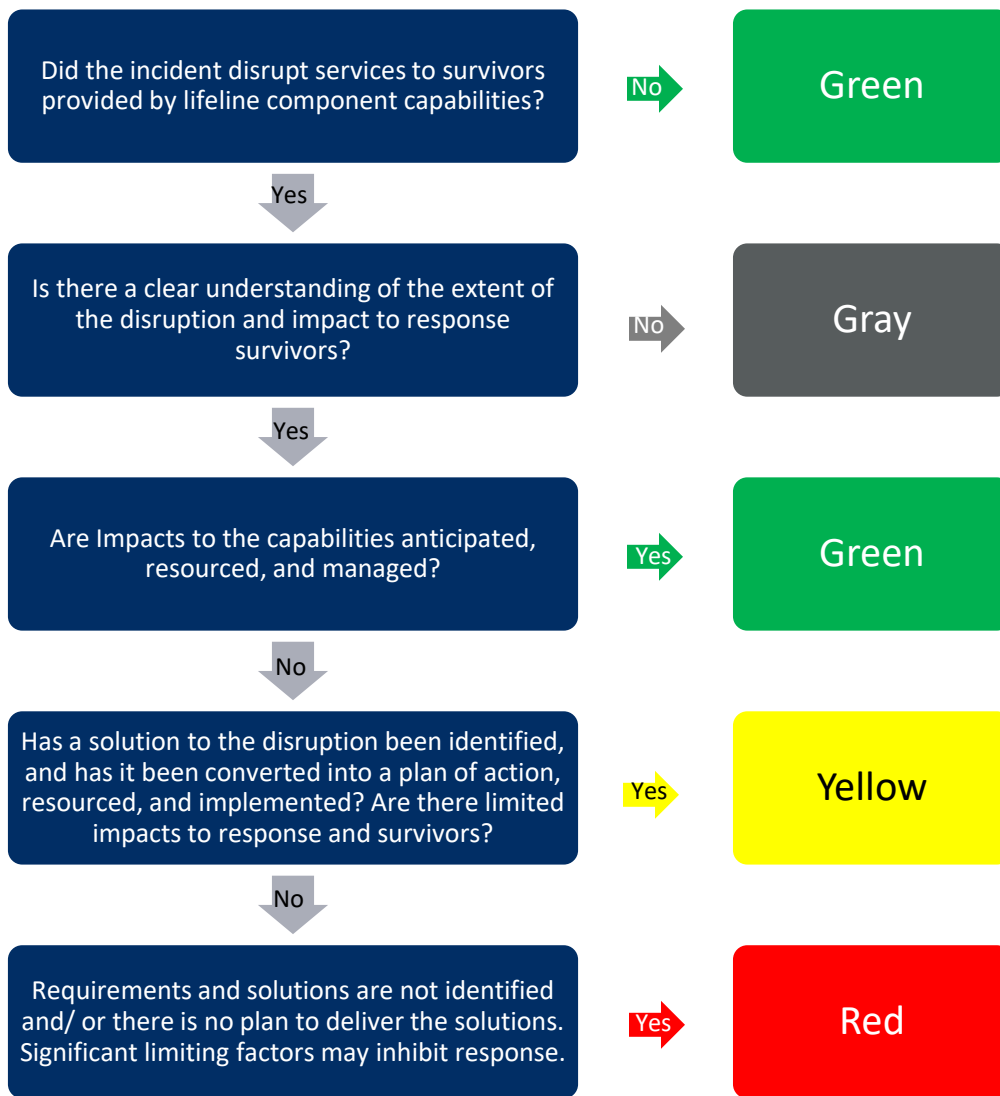
Figure 8 - Community Lifeline Status Indicator

Geographic Information Systems (GIS) Unit

The GIS Unit within the Planning Section and reporting to the Situation Unit Lead, has the ability to provide real-time situational awareness through GIS. The GIS analyst within the Geographic Information Unit, coordinates the production of GIS maps and analysis. GIS and Geospatial mapping products are tools that can be utilized to gain situational awareness. Real-time situational awareness allows for the integration, analysis, and display or information sharing of data and information from many devices.

GIS Unit Information Analysis

Geospatial Analysist → Situation Unit Lead → Planning Section Chief → Seoc Supervisor → Policy Group/ UCG

Figure 9 - GIS ICS Structure

Washington Information Sharing Environment (WISE)

The Washington Information Sharing Environment (WISE) is a Geographic Information System Portal (GIS) that is the Washington Emergency Management Division's and the State Emergency Operations Center (SEOC) main geospatial platform to provide situational awareness during disasters. The WISE system also provides a platform for the exchange of data between the Joint Operations Center and the SEOC.

WebEOC

WebEOC® is a software designed to bring real-time information to the Washington SEOC. WebEOC provides a secure, real time access to operations in the SEOC which allows state partners, local jurisdictions, tribal nations, and regional and federal partners the ability to input data, information and to gain situational awareness from the response.
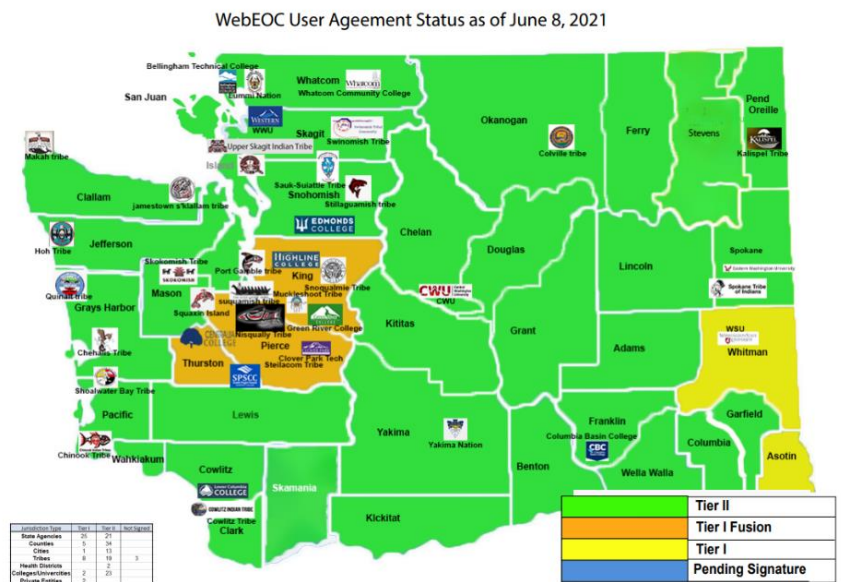

Figure 10: WebEOC User Agreement Status. This map displays the jurisdictions that have access to the use of WebEOC.

Information Dissemination

Information analysis will result in contributions to the Tier 1 Senior Leadership Brief (SLB) provided to the UCG. Additionally, the more detailed information not necessary for executive level response decision making will be supplied for the creation of the Tier 2 Senior Leadership Brief (or Community Lifeline Overview) for use in tracking conditions and informing response personnel.

Division Supervisor → Branch Director → Assistant Operations Chief → Operations Chief → Regional Coordination Center → National Coordination Center

Figure 11 - Information Analysis and Dissemination Process for FEMA Divisions and Branches

Responsibilities

Phase 1 (Prepare)

Phase 1	
Situational Assessment	Information collection, analysis, and dissemination systems have been developed in accordance with existing plans.
Critical Infrastructure, Private Partners, VOADs, PSAPs, News Media	
• Coordinate with external stakeholders to develop and maintain information sharing channels	
Local EOC	
• Coordinate with local emergency management to develop and maintain information sharing channels • Provide guidance and outreach on situation reporting conducted within the SEOC to maintain situation awareness	
SEOC	
• Develop and maintain a comprehensive information collection, validation, and analysis process to inform decision making • Coordinate information collection, analysis, and dissemination systems across public, private, and nongovernmental sectors, as appropriate. • Provide mechanisms for vertical and horizontal coordination, communication, and information sharing on a standardized platform accessible to all partners • Coordinate with SEOC Representatives to provide training on providing information as it aligns with Community Lifeline reporting	
Situation Unit	
• Develop and maintain information collection processes and exercise development of data analysis for situation report writing.	

Geographic Information Unit
• Develop and maintain information geographic analysis systems and procedures and exercise for situational awareness. • Maintain WISE • Identify, define and standardize data that is reliable and accessible for planning, decision support, reporting and research. • Develop standards for data, including data requirements, data governance, and data architecture that support a data exchange environment and improved efficiency in operational work and communication processes.

Phase 2a, 2b, 2c (Initial Response, Resource Deployment, Sustained Response)

Phase 2a, 2b, 2c	
Situational Assessment	Preliminary information about the incident has been collected from all available sources. An initial situational assessment of the incident has been performed.

Critical Infrastructure, Private Partners, VOADs, PSAPs, News Media
• Provide information through appropriate state agencies, local partners, or the SEOC to inform response conditions (e.g., damage reports, 911 calls, Windshield Survey's, Field Reports, and Witness Information)

Local EOC
• Provide updated local response information through the SEOC Representative • Identify Community Lifeline status and barriers or limitations for reestablishment • Establish and sustain local jurisdiction situation reports to the SEOC

Situation Unit
• Collect data from local jurisdictions and state agency partners • Analyze data from local jurisdictions and interpret Community Lifeline status (if not already completed) • Include Community Lifeline status and analysis in Situation Report • Provide Community Lifeline analysis to the Geographic Information Unit.

Geographic Information Unit
• Display data that is relevant for Community Lifeline statuses to aid in situational awareness and decision making • Spotlight areas with significant disruption to Community Lifelines • Display HLS Regional damage and impact assessments • Display significant resource deployments • Inquire about non-standard GIS needs

SEOC
• Collation of information into the Community Lifeline Senior Leadership Briefs. • Sharing and dissemination of information to local jurisdictions, state agency partners, federal partners, and the Unified Coordination Group and Policy Group • In coordination with ESF 15, translate Community Lifeline statuses and updates for public consumption

References and Supporting Guidance

FEMA Incident Stabilization Guide
Describes how FEMA implements lifelines and guides how FEMA applies these concepts to disaster operations.

Terms and Definitions

Analysis
A detailed examination of anything complex in order to understand its nature or to determine its essential features.

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.

Data
Raw, unorganized facts that need to be processed. Data can be something simple and seemingly random and useless until organized.

Information
When data is processed, organized, structured, or presented in a given context so as to make it useful, it is called information.

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.)

Rapid Needs Assessment
An assessment of the current situation immediately after a disaster to determine what resources are necessary to conduct life-saving and life-sustaining operations.

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.

Situational Assessment
The process used to collect, process, and organize ongoing situation information; prepare situation summaries; and develop projections and forecasts of future events.

Situational Awareness

The ability to identify, process, and comprehend the critical information about an incident. This requires continuous monitoring of relevant sources of information regarding actual incidents and developing hazards.

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.