Installation Incident Commander and Environmental Unit Leader

EMSI

Training Manual

EXCELLENCE IN TRAINING, EXERCISES, AND RESPONSE

1

Unit 1 – Welcome, Intro, and Overview

2

3

Terminal Performance Objectives

- Given the training manual and reference material, the student will state the purpose of the course, administrative details, and course delivery procedures.

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Cadre Introductions

- Background
- Experience
- Role in the course

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Participant Introductions

- Provide your name and organization
- Level of NIMS ICS training
- Experience as a Qualified Individual or other relevant examples
- Emergency Response or other relevant background
- Expectations from the Course

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Unit 1 – Welcome, Intro, and Overview

Course Objective

- The students will develop skills and knowledge needed to perform as an Installation Incident Commander or Environmental Unit leader
- By the end of this course, the students will be able to articulate the roles and responsibilities of an Installation Incident Commander and Environmental Unit Leader as guided by US Navy policy and regulations

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Ground Rules

- Refrain from sidebar conversations
- Cell calls and text messaging should be done outside the classroom
- Return from breaks on time
- Ask questions freely
- ICS-233 Open Action

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Course Tools

- Job Aid
- Response Plan
- Scenario and related products

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Unit 1 – Welcome, Intro, and Overview

Activity Expectations

- You will be working on activities based on a realistic scenario
- You will be evaluated on the quality and accuracy of your work
- Everyone will participate in various briefings
- Teamwork is critical to success
- Activity products will be evaluated and will serve as the final exam

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Activity Materials

- Navy Response Plan(s)
- Maps
- Team developed Incident Briefing Form, ICS-201 and hazard/risk assessment, ICS-201-5
- Prior activity products
- Scenario information
- ICS and course tools

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Practical Application Activity Day Three

- Will work in teams
- Continuation of class scenario
- Will respond to injects and scenario updates
- Will use and update prior activity products
- Will conduct briefings
- Counts towards final exam

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Unit 1 – Welcome, Intro, and Overview

Course Evaluation

- Collected and reviewed by curriculum developers and host organizations
- Used for course improvement and updates
- Completed at the end of the course
- Certificates issued after completing evaluation
- Course evaluations are available at http://www.emsics.com/course-evaluations/ or using this QRC

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Unit Summary

In this Unit, we covered…

1. Knowledge and skill level of cadre and participants
2. How the course will be conducted
3. How the course materials will be used throughout the course
4. Evaluation and testing process

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Unit 1 – Welcome, Intro, and Overview

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Unit 2 – Roles, Responsibilities, Plans & Regulations

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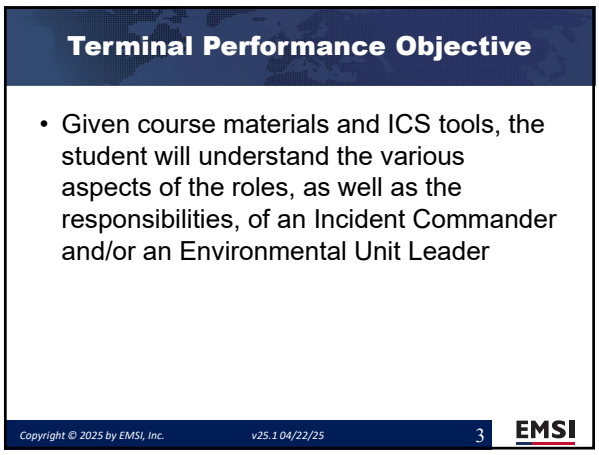

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Positive Control of Incident

What is meant by "establishing positive control of an incident"?

Who does this?

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Incident Command Responsibilities

- Overall in charge of Incident/Event
  - Command leads staff and staff manages the Incident/Event
- Accountable to installation, agency or company executives

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Incident Leadership

- The ability to set direction for the IMT and influence people to follow that direction
  - Direction includes establishing strategic vision, organizational values, mission direction (priorities & objectives) and specific tasks for the IMT
  - Influence involves giving IMT members the authority to perform their functions effectively while holding them accountable for results

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Unit 2 – Roles, Responsibilities, Plans & Regulations

Incident Command's Role

- Command provides:
  - Leadership
  - Intent
  - Direction
  - Management Oversight
  - Decision Making
  - Presence
  - Team Building and Motivation
  - Accountability

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Activity 2.1
Leadership Skills & Traits

- Working in groups:
  - List the leadership skills and traits needed to be a successful Incident Commander
- Discuss results

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Interaction and Cooperation Between Installation Leaders and IC

- Installation Leaders provide the Incident Commander with:
  - Policy
  - Mission
  - Direction
  - Authority
  - Constraints
  - Information Reporting Requirements

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Unit 2 – Roles, Responsibilities, Plans & Regulations

Duties of the Installation Leaders

- Determine (or support determination of) incident complexity
- Assign qualified personnel
- Clarify authorities
- Establish priorities, desired outcomes, and direction, and brief the Incident Commander, and IMT if needed
- Supervise the Incident Commander and monitor performance
- Ensure JIS and EOC functions are staffed
- Support the IC/UC throughout the response

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Unit 2 – Roles, Responsibilities, Plans & Regulations

Lines of Authority

- Only one Incident Commander unless incident is operating under Unified Command
- Installation Incident Commander is accountable to Installation Leadership
- The Installation Leadership is responsible for orienting, counseling, and instructing the Incident Commander on management objectives and expected accomplishments
- If needed, a written Delegation Of Authority (DOA) is issued to Incident Commander

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Incident Command Provides?

What are the major things an Installation Incident Commander provides Installation Leadership?

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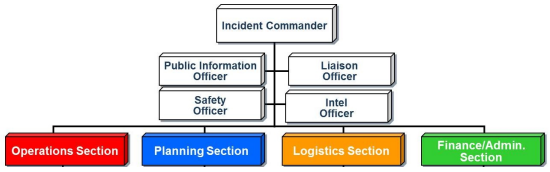
Incident Command Interactions and Expectations



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Unit 2 – Roles, Responsibilities, Plans & Regulations

Subordinate Positions

- Assistant – subordinates of Command Staff positions assigned to assist managing workload.
  - May also assigned to Unit Leader positions
- Deputy – fully qualified individual who, in absence of superior, could be delegated authority to manage a functional operation or perform a specific task.
  - Assigned to Incident Commander, General Staff, and Branch Directors.

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Activity 2.2 Incident Command Interactions with Staff

- Working in groups:
  - List three major expectations or interactions with each member of the Command and General Staff that an IC will need to have for the incident scenario
- Discuss results

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Multi-Agency Incidents & Events

How often are you involved in multi-agency incidents or events? Does it influence your leadership style?

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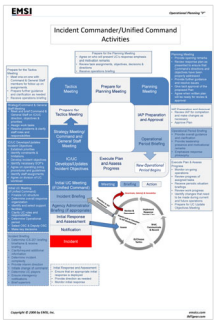
Unit 2 – Roles, Responsibilities, Plans & Regulations

Operational Planning "P"



Job Aid
Back Cover

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Incident Command's Time Management

- **Meetings**: ensure they are prompt and well executed
- **Briefings**: convey expectations clearly, what is important to know at your level?
- **Daily Routine**: pulse staff (be visible/ present), review results, make calls, maintain external contacts, brief executives, etc.
- **Best Practices**: delegate, correct problems promptly, have a system, take care of yourself

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Incident Command Accomplishments and Tasks

What are the major things that Incident Command must accomplish on a response? What tasks should Incident Command own?

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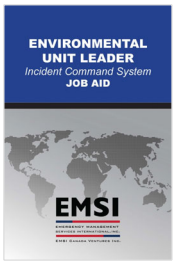
Unit 2 – Roles, Responsibilities, Plans & Regulations

Environmental Unit Leader (ENVL)



Notes: …

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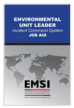
Activity 2.1 ENVL Responsibilities

- As a class, consider:
  - What are key responsibilities and/or duties of the ENVL?
  - What are some key relationships to manage as an ENVL?
- Raise your hand and provide answer when called upon.
- Use your Job Aid as a reference (pg. 2-5)



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Environmental Technical Specialist CNRSEINST 5090.4

- Paragraph 6. d. Environmental Technical Specialist
  - Members of the installation's EOC
  - Ensure that environmental concerns are included in the Incident Action Planning Process
  - May report to EOC Planning Section
- In practical terms – "Environmental Unit Leader (ENVL)"

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Responsibilities of the ENVL

- Provide scientific technical expertise and advice to Command and General Staff
- Acquire, distribute and analysis of scientific forecasts i.e., weather, currents, ice, winds
- Predict the fate, transport and disposition of agents in environment
- Provide recommendations on clean-up counter-measures that produce the greatest net environmental benefit
- Establish "agreements" with key IMT members to provide environmental related support to their efforts
- Supervise/Lead Environmental Unit

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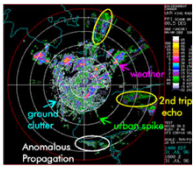
Responsibilities (cont.)

- Identify resources at risk – environmental, cultural, and historical
- Understand/explain chemical behavior
- Validate/explain environmental processes:
  - Weather
  - Sea State
  - Hydrology
  - Photo-oxidation
  - Others?



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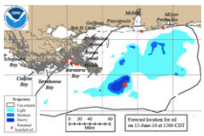
Unit 2 – Roles, Responsibilities, Plans & Regulations

Responsibilities (cont.)

"What's the agent of concern doing?"

- Fate, Transport, Disposition of Agent:
  - Chemical (Including Oil)
  - Radiological
  - Biological
  - Other?
- Exploitation of Transport Medium:
  - Air, Water, Ground, Anthropogenic



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Responsibilities (cont.)

"How is it posing a risk?"

- Human Health
- Wildlife
- Flora
- Fauna
- Microbes
- Habitat

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Responsibilities (cont.)

"What Cleanup Techniques Provide BEST Net Environmental Benefit (NEB)?"

- Mechanical
- Chemical
- In-Situ Burning
- Treatment
- Bioremediation
- Natural Attenuation

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Unit 2 – Roles, Responsibilities, Plans & Regulations

Responsibilities (cont.)

"What Scientific Data?"

- Field observation/collection recommendations
- Data Management:
  - Collection Methods
  - Analysis Protocols
  - Presentation & Communication
  - Integrity, Storage and Archiving

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Routine Activities of the ENVL

- Attend/provide briefings
- Collect & review data
- Provide environmental advice
- Coordinate with IMT members
- Participate in meetings
- Stakeholder outreach, education & support
- Identify/evaluate strategies and tactics
- Monitor impacts of response
- Lead/manage the Environmental Unit

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Assistants

What are possible indicators for making the decision to have an Assistant ENVL?

Shout Out

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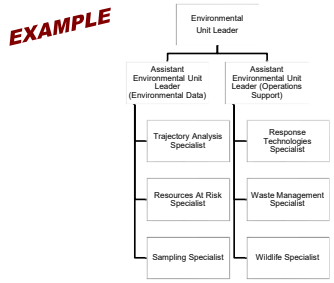
Unit 2 – Roles, Responsibilities, Plans & Regulations

Staffing the Environmental Unit for a Smaller Incident

EXAMPLE



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Staffing the Environmental Unit for a Major Incident

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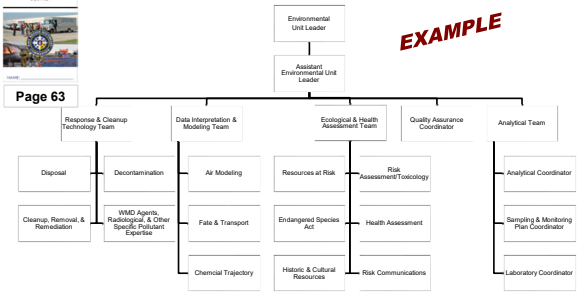
EXAMPLE



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Subordinate Roles

- Assistant ENVL – Environmental Data
  - Trajectory/Mass Balance Analyst/Specialist
  - Remote Sensing Specialist
  - Resources At Risk Specialist
  - Air Monitoring Specialist
  - Sampling Specialist
  - Display Processor(s)
  - Data Manager

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Subordinate Roles

- Assistant ENVL – Operations Support
  - SCAT Supervisor
  - Wildlife Specialist/Supervisor
  - Waste Management Specialist
  - Response Technologies Specialist
  - Sampling Supervisor
  - Air Monitoring Supervisor
  - Aerial Observer Supervisor
  - Field Team Coordinator/Planner

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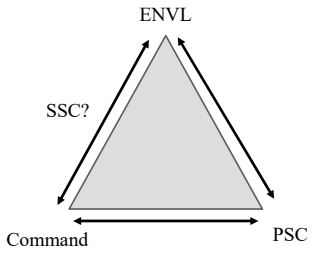
Unit 2 – Roles, Responsibilities, Plans & Regulations

Command and PSC Relationships with ENVL



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Command and PSC Relationships

- Federal and/or State Scientific Support Coordinators (SSC) could directly support FOSC/SOSC (Command)
- Command may need direct contact with ENVL for interpretation of scientific data/recommendations
- PSC is your direct supervisor
- Assist PSC in determining the extent of environmental impact and the feasibility, effectiveness, and impacts of cleanup operations
- Assist PSC by completing support plans
- Assist PSC by closely working with OSC to provide input during the preparation of tactics and coordinate Environmental Unit field activities for the next op period

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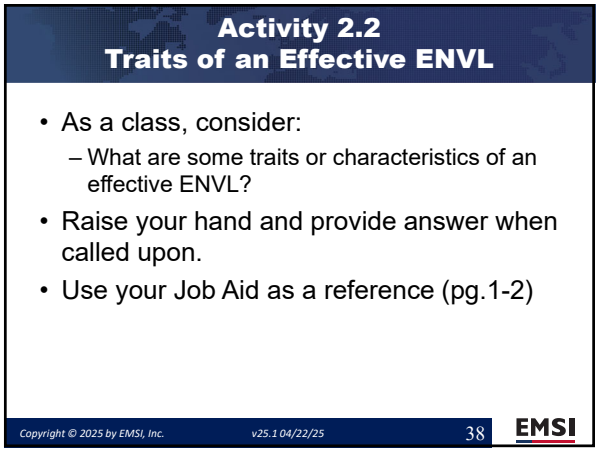
Unit 2 – Roles, Responsibilities, Plans & Regulations



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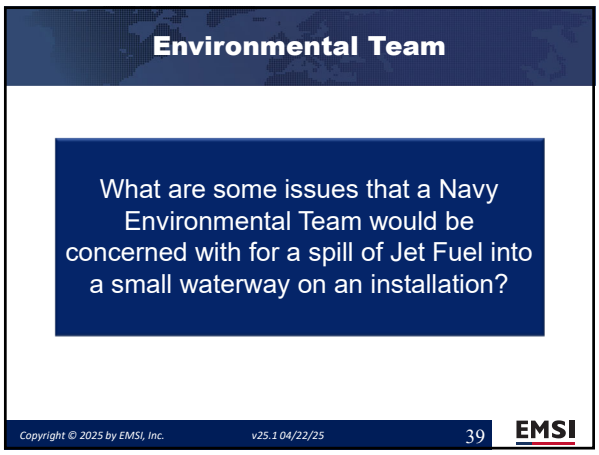

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Installation Response Plans

- Guide local response activities
- Incorporate federal, state, and local requirements
- Establish specific procedures and protocols
- Identify stakeholders, agencies, and others to be notified
- Additional considerations (environmentally sensitive areas, etc.)

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Unit 2 – Roles, Responsibilities, Plans & Regulations

Unit Summary

In this Unit, we covered…

1. Roles of a Installation IC & ENVL
2. Responsibilities of a Installation IC & ENVL
3. Navy guidance that applies to Navy IC's & ENVL's
4. Reviewed role of Navy Environmental Tech Spec. (ENVL)

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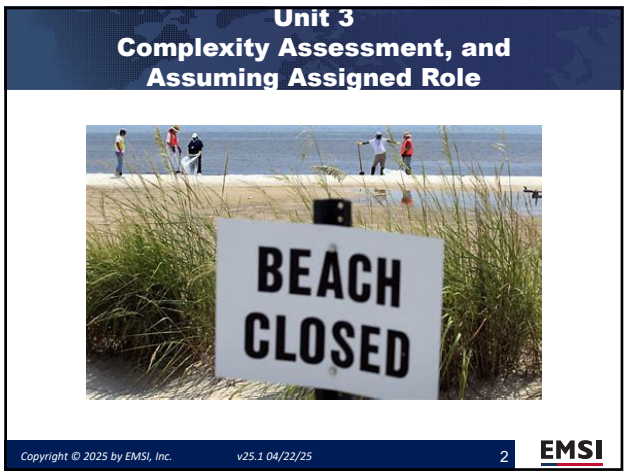
Unit 3 – Complexity Assessment & Assuming Command



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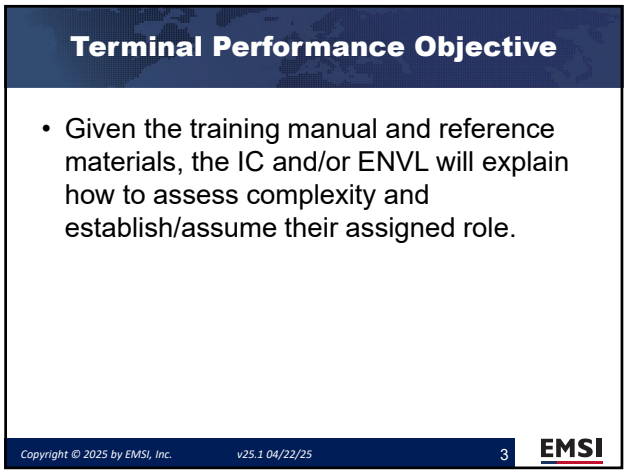

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Scenario Introduction

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Activity 3.1
Situational Assessment and Awareness

- Working in your team and based on the initial response call for this scenario:
  - Develop a list of 3-5 questions to determine additional information you would want to know about the incident
  - Select a presenter and be prepared to discuss results

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Incident Size-Up and Assessment

- Scene Size-Up
- What happened?
  - What is known and what is unknown?
- What needs to be done and why?
- Incident potential assessment
- Assessment of variables
  - Weather, source control, spill migration, etc.
- Boundaries, reactivity, and hazard areas
- How is this communicated to all responders?

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Unit 3 – Complexity Assessment & Assuming Command

Incident Complexity

Why should Installation ICs or ENVLs care about incident complexity?

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Complexity Factors

- Two Categories:
  - Operational Complexity Factors
  - Non-Operational Complexity Factors

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Activity 3.2 Complexity Factors

- Given the scenario information
  - Develop a list of operational complexity factors (include environmental factors)
  - Develop a list of non-operational complexity factors
  - Select a presenter and share with the class

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Unit 3 – Complexity Assessment & Assuming Command

Non-Operational Complexity Management

Who will manage most of the non-operational complexity concerns?

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Unit 3 – Complexity Assessment & Assuming Command

Incident Potential

- Must consider incident potential during the initial response
  - *How big, how bad could this get?*
  - *Consider what could go wrong or escalate?*
- Consider:
  - Complexity of operations
  - Duration of the incident
  - Cascading effects (road closures, etc.)
  - External influences
  - Resource limitations
  - What if?
- This is why we "stage" extra resources!

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"What-If"?

What are some "What-If's" for our scenario?

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Situational Awareness

- Emergency responses are very dynamic just by their very nature. Everyone must maintain situational awareness.
- Pitfalls:
  - Tunnel Vision
  - Distractions
  - Improper Hazard Recognition

"You observe, but you do not see" Sherlock Holmes to Dr. Watson

Situation assessment is an on-going process through-out the life cycle of the incident. Re-evaluating the incident characteristics should become a part of on-going assessment.

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Establishing Positive Control of the Scene

What are the key steps that need to take place when arriving at the scene of the incident in order to ensure positive control is established?

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Command Definition

- Command: The act of directing, ordering, or controlling, by virtue of explicit statutory, regulatory, or delegated authority.
- At an incident scene, the designated Incident Commander has the authority to assume command!

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Unit 3 – Complexity Assessment & Assuming Command

Command

- First position established
- Provides overall leadership and command/ control for the incident
- Performs all major Command & General Staff functions until delegated
- Establishes and communicates priorities, objectives, and tasking
- Directs resources and drives progress

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Establishing Command

- Must establish and assert command and control
- Convey Command Presence
- Definitive and directive in assignments
- Establishes:
  - Unity of Command
  - Chain of Command
  - Accountability
- Increases safety
- Consider Unified Command

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Command Presence:
The way in which the leader presents her/himself – the myriad of personal attributes and behaviors that communicate that the leader is worthy of trust and respect.

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ENVL & Initial Actions Upon Assuming Role

- Check in, obtain briefing from IC or PSC
- Obtain initial data about spill conditions and potential environmental protection actions
- Assess incident complexity and request/order appropriate subordinate staff
- Help Operations make risk-based decisions to minimize impact to environment
- Identify Resources at Risk (RAR) in the trajectory of the spill and communicate results to IC and OSC. Share display with SITL

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Unit 3 – Complexity Assessment & Assuming Command

Initial Response Fundamentals

- Initial response tends to be operationally focused but external influences can have major effects
- Most initial response activities are reactive and directed by SOPs/SOGs and checklists
  - What does your SOP/SOG or checklist say?
- Must conduct situational assessment and react to the situation
- Command must be established right away

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Unit Summary

In this unit, we covered…

1. Steps in Initial Response
2. The course scenario
3. Establishing and maintaining Situational Awareness
4. External influences on an incident
5. Steps to establish command and control of an incident
6. Critical elements of Initial Response and Operations Section organization

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Unit 3 – Complexity Assessment & Assuming Command

Unit 4 – Organizing & Direction

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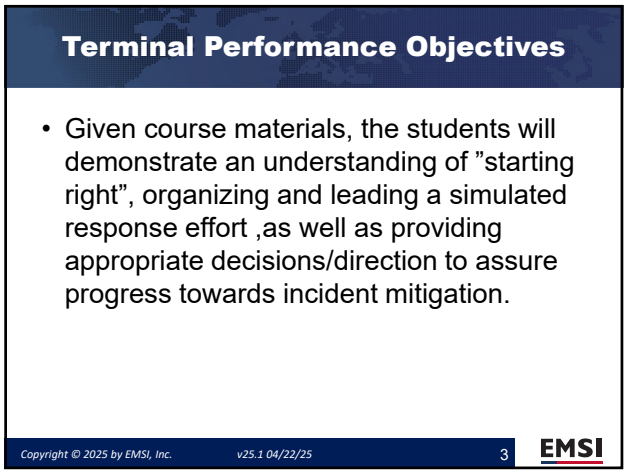

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Unit 4 – Organizing & Direction

"Starting Right"

What are some of the things an Installation IC and/or ENVL should do early in an incident response to ensure they are "starting right"?

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Organize Initial Response Resources

- Initial response will mostly be about Operations
- Operations organization builds from the bottom up
- Most initial response objectives will be operationally / tactically focused
- Manage current operations while thinking about incident potential and planning for future operations
- Identify and request needed resources

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Under-Organizing vs. Over-Organizing

Under-Organizing

- Too many resources reporting to a single supervisor
- Inadequate supervision
- Communications and safety problems

Over-Organizing

- Disproportionate number of overhead positions to operational resources
- Ineffective use of span-of-control
- Too many layers for formal communications

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What do you need?

How does an Installation IC determine what is needed for a response?

How do you request these things?

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Unit 4 – Organizing & Direction

Assign and Supervise Operational and Environmental Resources

- Resource arrives and may check in
- Receives assignment and a briefing
  - Specific work assignment, chain-of-command, communications, information reporting, and safety
- Measure progress towards objectives
- Maintain span-of-control

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Assure Initial Response Safety

- Safety cannot be compromised
- Usually one of the 1st positions staffed
- ICS-201-5
- Initial Site Safety Plan (ICS-201-5 or ICS-208)
- Safety Briefings
- Assistant Safety Officers added, as required

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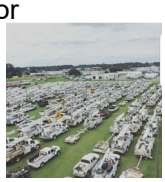
Consider Staging Area(s)

- Resources can be assigned to the Staging Area awaiting re-assignment
- Resources are also assigned to a Staging Area to be prepared for contingencies or "what if"
- Single resources to be formed into teams, or other groupings prior to assignment



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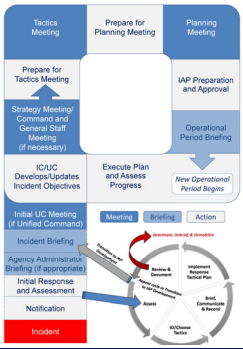
Initial Response "Process"



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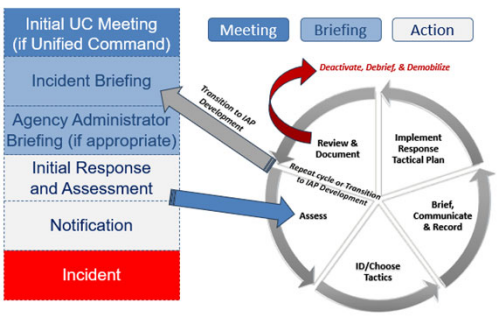
Initial Response "Process" (con't)



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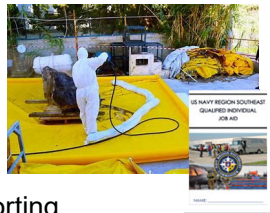
Maintain On Scene Situational Awareness

- ICS-201-1
- Chronology of Events Log
- Maps/Diagrams
- Regular Briefings
- Operational Progress Updates
- Forecasts/Projections
- Risk and Hazard Reporting



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EOC Situational Awareness

- Gather and communicate current and predicted situation information
- Create situation displays (maps, images, etc.)
- Prepare and deliver briefings
- Establish and communicate critical and routine information reporting criteria
- EOC may assign a Situation Unit Leader
- EOC maintains awareness; IC/UC provides command and control of the incident

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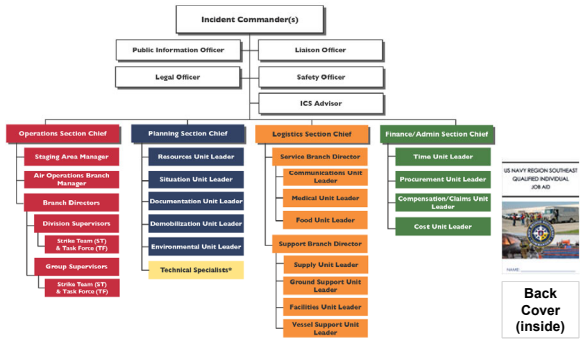
ICS Organization



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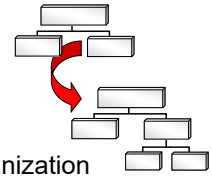
Unit 4 – Organizing & Direction

Modular Organization

- Spill response organizational structures are based on:
  - Size and complexity of the incident
  - Specifics of the hazard environment created by the incident
  - Incident planning process and incident objectives
  - Realistic incident potential
- Simple incident = Simple organization



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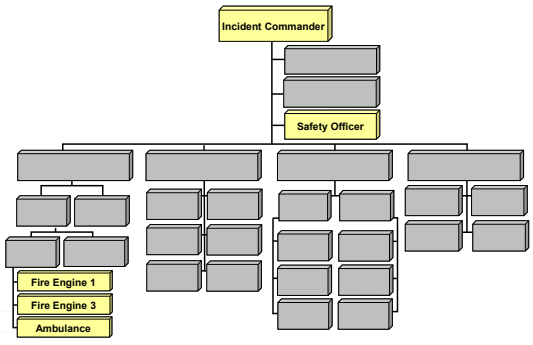
Simple Incident



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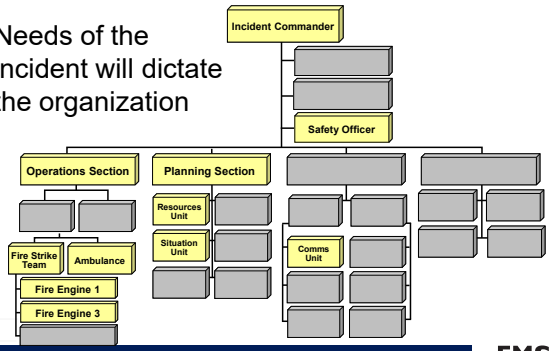
A "More" Complex Incident

Needs of the incident will dictate the organization



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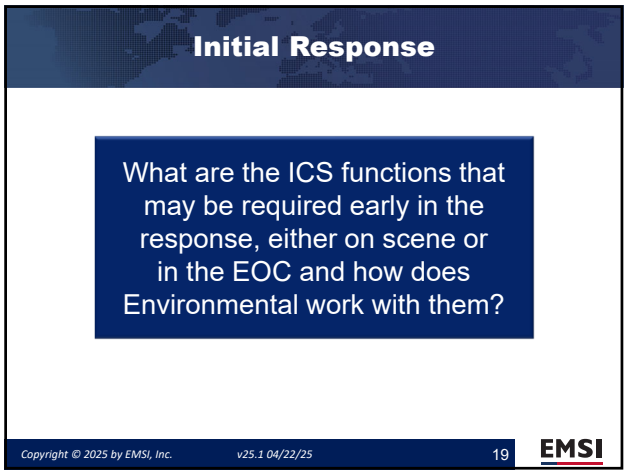
Unit 4 – Organizing & Direction

Unit 4 – Organizing & Direction



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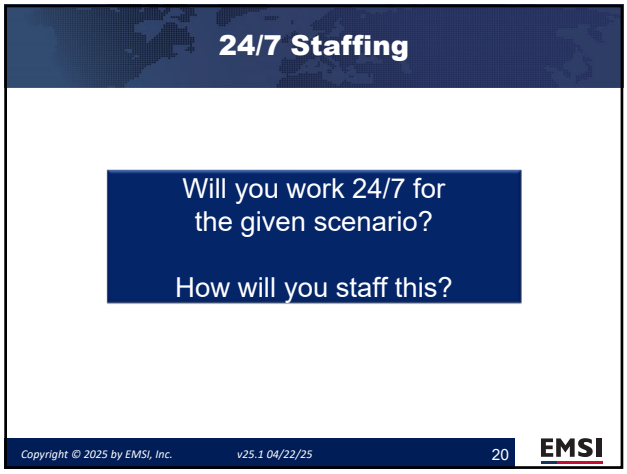

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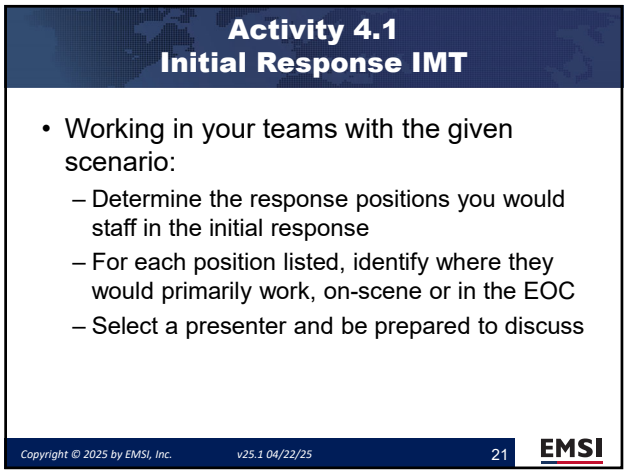

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Initial Response Command Direction

- Typically limited to:
  - Decisions
  - Initial Response Priorities
  - Initial Response Objectives
  - Interim Direction and Assignments

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Decisions

Specific and immediate decisions made and communicated by the Incident Commander

- May direct immediate tactical action or support requirements.
- May impose limitations and constraints.
- May set expectations for responders.

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Priorities

Critical factors that influence the allocation of resources or actions necessary to achieve incident objectives.

- High level considerations.
- Listed numerically in priority order.
- Usually revolve around:
  - Life Safety
  - Public Health
  - Security Incident Stabilization
  - Property and Values Protection

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Unit 4 – Organizing & Direction

Incident Objectives

Statements of guidance and direction necessary for the selection of appropriate strategies and the tactical direction of resources.

- Initial response objectives, communicate the outcome desired, in the form of a sentence, i.e. ***"Contain and recover spilled material"***
- Early, they tend to be operationally focused on immediate threats and hazards
- AMF
  - Achievable, Measurable, Flexible

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Activity 4.2 Objectives

- Working in your teams with the given scenario:
  - Given a set of Priorities
  - Develop on scene initial response objectives
  - Activity Deliverables:
    - Complete list of on scene objectives
  - Select a presenter and be prepared to discuss

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Communicating Command Direction

How does the Installation IC communicate direction to the team?

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Information Flow

- Formal Communications
  - Chain of Command
  - Meetings and Briefings
  - Incident Action Plans
- Informal Communications
  - Interacting among IMT Members
  - Preparing for Meetings and Briefings
  - Stakeholder engagements
  - Scientific Community

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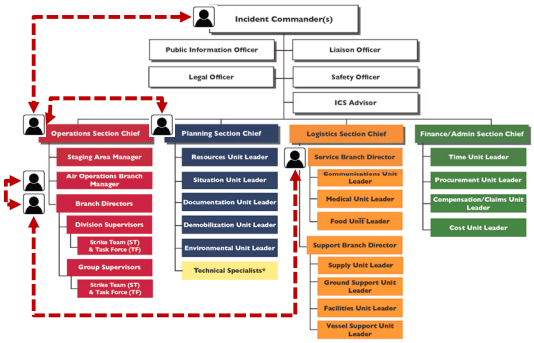
Formal IMT Communications



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Informal IMT Communications

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Unit 4 – Organizing & Direction

Validation of Information

- All information received must go through a validation process to ensure that it is true, accurate and current, and whether it needs to be vetted for confidentiality
  - Where did the information come from?
  - How can it be verified?
  - When was it received versus when it happened?
  - Are there any security issues? Can it be shared?

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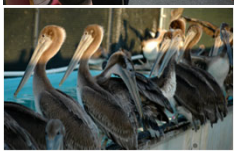
ENVL Stakeholders

- A person, group or organization affected by and having a vested interest in the incident and the response organization.
- Internal and External
- Know who your stakeholders are!



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ENVL Stakeholders by Function?

- Wildlife
- Trajectories
- Waste Management
- Toxicology
- Data Management
- Air Monitoring
- Sampling
- SCAT
- Permitting
- Dispersants
- Aerial Observation
- Hydrology
- Remote Sensing
- Mass Balance
- Display Processor
- Field Team Coordinator
- Risk Mitigation

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IMT Interactions

What are some important internal IMT interactions with ENVL?

Shout Out

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ENVL & Command (UC/IC)

- When: All meetings involving Command and when otherwise directed
- Command provides: ICS-201 or verbal brief on incident status, updates to command objectives and priorities, CIR's, Reporting thresholds, product requests
- ENVL provides: Data interpretation, resources at risk, assistance with technical objectives, limitations or constraints to operations, briefings, awareness of scientific community concerns, responsibility to tasks, objectives assigned

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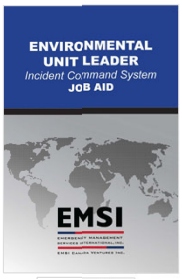
Receiving an Incoming Briefing



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Unit 4 – Organizing & Direction

ENVL & Safety Officer (SOFR)

- When: Upon arrival, Command & GS Meeting, Prep for Tactics, Tactics Meeting, Planning meeting, Ops briefings, As needed
- SOFR provides: Site Safety Plan, Safety briefing, Risk Analysis ICS-215A, Review of ICS-215E, Safety messages for IAP/ICS-204s, Agreements
- ENVL provides: Briefing on environmental data that has impact on human health/safety, review of Site Safety Plan related to hazards, Review of ICS-215A, Environmental hazard mitigations, Operational Agreements

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ENVL & Liaison Officer (LOFR)

- When: As Needed
- LOFR provides: Stakeholder support issues, updates on assisting and/or cooperating agency commitments, schedule of briefings
- ENVL provides: Technical answers and interpretation of environmental data, key stakeholder information for the LOFR to track, talking points or designated speaker for stakeholder engagement briefings

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ENVL & Public Information Officer (PIO)

- When: Upon arrival, as needed for press briefings
- PIO provides: Estimated time/location of media briefing; products requested (to be cleared by command)
- ENVL provides: Briefing on current situation, ICS-209 data, accomplishments, critical/sensitive areas, weather, and future projections, maps/charts displays for PIO and/or JIC, products requested/display board

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ENVL & Planning Section Chief (PSC)

- When: Check-in brief, Command & GS Meeting, Tactics Meeting, Planning meeting, Section meetings
- PSC provides: Initial briefing, Objectives (ICS-202), Initial resources, updates to ICS-202A and 202B, product requests
- ENVL provides: Requests to approve Unit personnel and equipment resources (ICS-213RR, ICS-235 – Facilities Assessment Form), ICS 232, Risk Analysis (ICS-215E); critical/sensitive areas, and future projections; Maps/charts displays, Display boards, Optional: Products matrix; ICS-215 for Field Teams

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ENVL & Documentation Unit Leader (DOCL)

- When: Throughout incident
- DOCL provides: Incident documentation process; duplication services, archived products and secure data storage services
- ENVL provides: original versions of all printed and electronic documents, displays, maps, charts, diagrams when no longer used/needed during incident; ICS-214 Unit Logs

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ENVL & Finance Section Chief (FSC) and Finance Section Unit Leaders

- When: At formal meetings, throughout incident
- FSC provides: Incident costs, time audits, claims status
- ENVL provides: Briefings on current environmental impact, critical/sensitive areas, future projections, updated maps/charts, diagrams, etc.

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Unit 4 – Organizing & Direction

ENVL & Logistics Section Chief (LSC) and Logistics Section Unit Leaders

- When: At formal meetings, throughout incident
- LSC provides: Status and support for comms, medical/first aid, food plan, incident facilities, ground/vessel support, supply needs and resource ordering process
- ENVL provides: Work area and space needs for EU, provide briefing on field team activities, unmet needs, critical/sensitive areas, and future projections; procedures on ordering specific environmental resources

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ENVL & Situation Unit Leader (SITL) and Technical Specialist (THSP)

- When: Throughout incident, product updates/deliveries based on matrix schedule and/or "agreements"
- SITL/THSP provides: Accurate information, products, and briefings for use in presentations or SITL products
- ENVL provides: Technical or truth-checked products, predictions, and/or modeling; 232 resources at risk, 215E Risk Analysis, maps of sensitive areas, environmental messages for field teams, agreements to avoid duplication of effort between units

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ENVL & Operations Section Chief (OSC)

Key Relationship

- When: All formal meetings, IAP prep, Ops Briefing, Shift debriefings, when consultation needed
- OSC provides: Updated field information for displays, ICS-234 collaboration, tactical plan, mass & balance support, "operational agreements" where ENVL & OSC have equities
- ENVL provides: scientific technical expertise, critical/ sensitive areas, resources at risk, & future projections; Updated maps/charts displays, technical data/diagrams for ops teams/work assignments, recommendations on clean-up, "operational agreements" counter-measures

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Unit 4 – Organizing & Direction

Operations Section Chief (OSC) vs Environmental Unit Leader (ENVL)

OSC	ENVL
• Leader of field teams and ICP staff	• Leader of field teams and ICP staff
• Safety and Logistics support required	• Safety and Logistics support required
• Resource planning	• Resource planning
• Accomplish assigned objectives	• Accomplish assigned objectives
• Public/media scrutiny over success/failure	• Public/media scrutiny over success/failure
• Addresses needs of Stakeholders	• Addresses needs of Stakeholders

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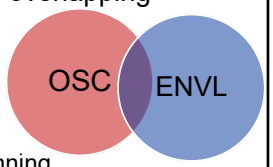
Unit 4 – Organizing & Direction

OSC and ENVL Relationship

- Operating field teams in overlapping incident areas?
- OSC needs expertise and support from ENVL
  - Support: operational agreements, tactical planning, recommendations for clean-up options, permitting, distilling scientific information for Ops field team leaders, support during briefings/meetings, resource ordering



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Specialized Information Sources

- Resource advisors
- National Weather Service
- Contingency Plans
  - Environmentally sensitive areas
- National Oceanic & Atmospheric Administration
  - Modeling
- Others?

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Validation of Information

- All information received must go through a validation process to ensure that it is true, accurate and current, and whether it needs to be vetted for confidentiality
  - Where did the information come from?
  - How can it be verified?
  - When was it received versus when it happened?
  - Are there any security issues? Can it be shared?

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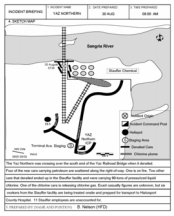
Initial Response Activities

- Start right with structured documentation
- Use ICS-201 consistently
- First building block to incident action planning process
- Transition to expanded operations
- IC initially responsible for form, but often delegates



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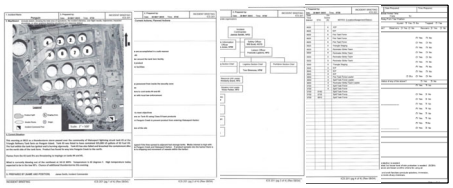
Document and Communicate Response Actions

- Incident documentation must occur early on
- Must maintain chronology of events log also
- The ICS-201 serves as a tool for documentation of the response and tracking actions and resources
- Incident documentation must be kept up to date



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Unit 4 – Organizing & Direction

ICS-201: Incident Briefing

Who fills out the Incident Briefing Form (ICS-201)?

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ICS-201 Design Intent

- Design Intent
  - Document ongoing operations and planned actions
  - Initial and ongoing briefing tool
  - Transition tool between shifts or changes of command
- Added Value
  - Assist planning function in capturing initial resource and situation status information
  - May serve as an "Initial IAP", though that was not part of the original design intent

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ICS-201-1 Situational Information

- Incident map or diagram (sketch)
- Current situation summary

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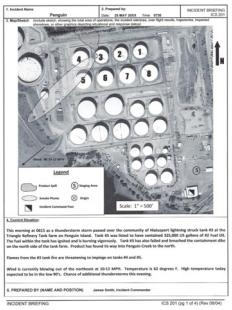

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Unit 4 – Organizing & Direction

ICS-201-2
Summary of Actions

- Priorities
- Objectives
  - Current Actions
  - Planned Actions
- Incident Potential

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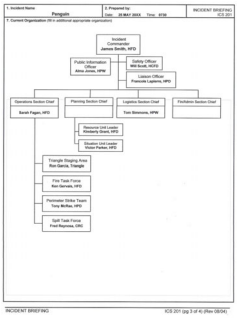
ICS-201-3
Current Organization

- Unified Command
- Initial Response IMT
- Operations Section organization



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ICS-201-4
Resources Summary

- Resources name/identifier
- Leader
- Check-in time
- Assignment

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Unit 4 – Organizing & Direction

ICS-201-5
Initial Site Safety & Control Analysis

- An adaptation to the standard ICS-201
- Becoming more widely used and accepted
- Initial capture of response safety information
- Not a replacement for a Site Safety Plan or specific job hazard analysis
- A quick checklist to start thinking about safety early on

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Tactical Worksheet

- Used to organize initial response operations
- Many different formats
- May be part of a pre-established "Command Board"
- Often initiated prior to the 201, or can be attached to an existing 201
- Helps to anticipate next set of tactics or tasks
- Greatly improves briefing of operational resources before their work shift

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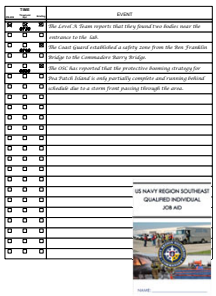
Chronology of Events Log

- Log of major events, activities, and decisions
- Useful tool for assembling situational awareness
- Critical for post incident analysis and decision reconstruction, including legal review



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Unit 4 – Organizing & Direction

ICS-201: Incident Briefing

Who will you be briefing with the ICS-201?

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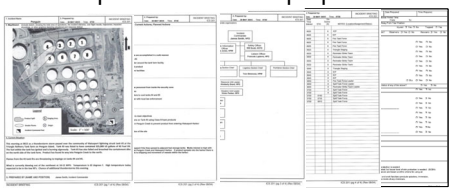
Activity 4.3
Managing the Initial Response with the ICS-201

- Working in your teams with the given scenario and previous activity products:
  - Develop an ICS-201 for the incident
  - Select a presenter and be prepared to discuss



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Unit Summary

In this unit, we covered…

1. "Starting Right"
2. Modular development of ICS organization
3. ICS functions critical to initial response and initial response IMT positions
4. Documenting response activities
5. Use of the ICS-201

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1

Unit 5 –Agency Support, Coordination, & Unified Command

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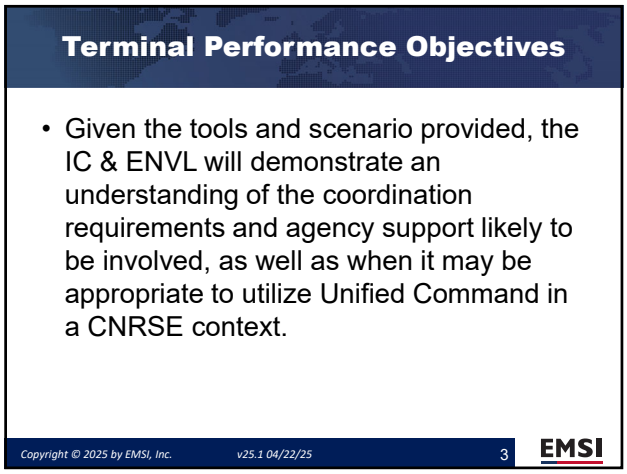

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Unit 5 –Agency Support, Coordination, & Unified Command

Installation Initial Transfer of Command

Who is the initial IC for our scenario?

Who do they transfer Command to and when?

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Activity 5.1 Agency Support

- Working in your teams with the provided scenario, determine what agencies could be involved for the given scenario, describe their jurisdiction, and list what support they could provide.
- Deliverables:
  - List of agencies
  - Describe their jurisdiction
  - Describe the support they could provide
  - Select a presenter and be ready to discuss thought process

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Unified Command

What is Unified Command?

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What is Unified Command?

- Application of ICS used when more than one entity has authority to manage an aspect of the incident
- Incident Commanders from each entity work in a Unified fashion to jointly manage the incident
- Accomplished without losing or abdicating authority, responsibility, or accountability

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Unified Command

When is Unified Command necessary?

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When is Unified Command Necessary?

- Crosses jurisdictional boundaries
- Involves various levels of government and/or private industry
- Impacts different functional areas of responsibility
- Includes different statutory authorities and legal requirements
- Any combination of the above

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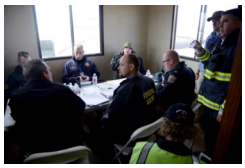
Unit 5 –Agency Support, Coordination, & Unified Command

Primary Features of Unified Command

- Agreed upon priorities and objectives
- A single integrated incident organization
- One Incident Command Post
- One Incident Action Plan, through an Integrated planning process
- Unified decisions



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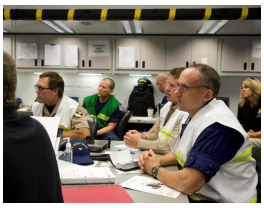
Primary Features of Unified Command (cont.)

- Leveraged limited resources
- Collocated, shared facilities
- Integrated operating procedures
- Shared support plans



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Evolution of Unified Command

- Single Incident Commander
  - Single individual in charge
- Multiple Incident Commanders
  - Mixed understanding, different visions, independent priorities and objectives, "stovepiped" organizations, multiple voices
- Unified Command
  - Common understanding, shared vision, single set of priorities and objectives, integrated organization, Unified Command speaks with one voice

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Unit 5 –Agency Support, Coordination, & Unified Command

Establishing Unified Command

- Recognize the need
- Determine the players and authorities
- Establish early
- Usually requires a strong leader to initially pull it together
- May require an initial briefing to orient all players
- Even in Initial Response, Initial Unified Command Meeting agenda can be used to facilitate the process

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Unified Command

What makes a Unified Command successful?

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A Successful Unified Command

- Uses the strength of each Incident Commander
- Has a shared vision and understanding of situation
- Agrees on priorities and objectives
- Is open to different perspectives and willing to compromise
- Understands each Incident Commanders authorities, responsibilities, and limitations
- Defers to the “expert” when the situation warrants
- Speaks with one voice and presents a unified front to the organization

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Unit 5 –Agency Support, Coordination, & Unified Command

Unit 5 –Agency Support, Coordination, & Unified Command

Unified Command

What can cause a Unified Command to fail?

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What Can Cause Unified Command to Fail?

- Egos and Personalities
- Lack of understanding/respect for the authorities, responsibilities, and limitations of each Incident Commander
- Lack of authority to execute your job
- Lack of knowledge or experience with the Unified Command process
- Inability to work with others

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Keys to Success

- From the earliest stages of the incident:
  - Get Unified
  - Share information
  - Understand different requirements
  - Agree on priorities and objectives
  - Integrate organizations
  - Speak with one voice
  - Identify and leverage strengths of each agency

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Activity 5.2
Unified Command

- Working in your teams with the provided scenario and results from Activity 5.1, determine what agencies could be in Unified Command for the given scenario.
- Deliverables:
  - List of agencies potentially in Unified Command
  - Describe each potential UC member's authority and jurisdiction
  - Select a presenter and be ready to discuss thought process

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Unified Command Formation

When would Unified Command have started in our scenario?

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Initial Unified Command Meeting

- Some form of the Initial UC meeting must occur whenever the UC is formed
  - Stem of the "P" is not necessarily linear in this regard
  - Meeting is an agenda driven unification process
- Meeting should be used to:
  - Review authorities and responsibilities
  - Identify members of UC
  - Discuss how UC will work together and collectively manage the incident
- Initial UC Meeting agenda should be revisited whenever the Command changes significantly

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Unit 5 –Agency Support, Coordination, & Unified Command

22

Unit 5 –Agency Support, Coordination, & Unified Command

Unit 6 – Resource Management

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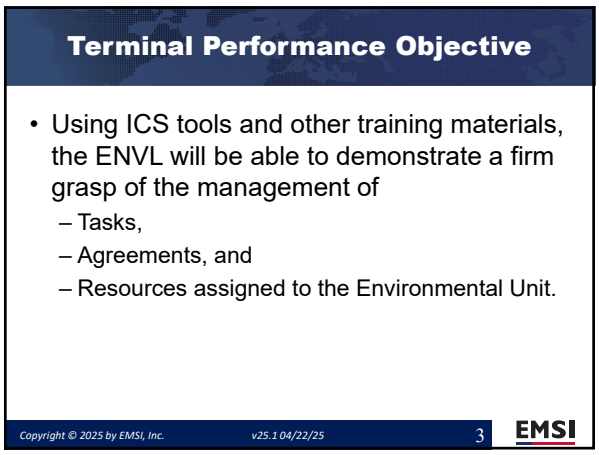

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Unit 6 – Resource Management

Enabling Objectives

- How to gauge demand signal and identify typical tasks given to ENVL
- Understand “operational agreements” and determine ENVL role in each
- Describe staffing/equipment needs for Environmental Unit
- Describe how resources are requested/managed during an op period

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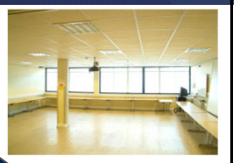
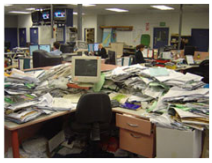
4

Gauging Demand Signal

How can I assess the demand signal for ENVL services?





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5

Assessing Needs & Requirements

- Command/PSC Expectations
- Objectives/tasks assigned
- Meetings and IAP schedules
- “Operational Agreements”
- Staffing and hours of operation
- Limitations and/or constraints
- Environmental Product Requirements
- ENVL Stakeholders

Pages 11-13

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6

ENVL in the Installation EOC

What does the ENVL working in the installation EOC have at their disposal (staff, other capabilities)?

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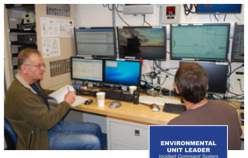
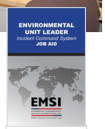
7

Unit 6 – Resource Management

Equipment Needs

- Phones – Landline and Cell
- Computers and internet
- Tables and work area
- Easels and flip charts
- Projector and screen
- Poster printer
- TV and DVD player
- Video teleconference capabilities





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8

Environmental Products

- ENVL products are varied and play a significant role in incident management priorities and objectives
- ENVL products help the team make informed decisions and support the effectiveness of the response

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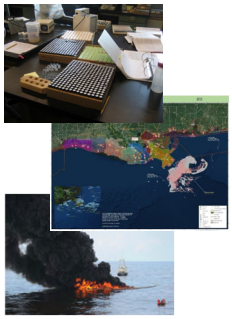
Unit 6 – Resource Management

Environmental Products



- Weather Forecasts
- Spill Trajectories
- Resources at Risk
- Sampling Plans
- Air Monitoring
- Wildlife Impacts
- Response counter-measure assessments
- Scientific analysis

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10

"Operational Agreements"

- Remember, "Operating Procedures" – a command product – normally focus on internal management processes for the response.
  - Typically use company policies or agreed upon by UC
- "**Operational Agreements**" – are incident-specific procedures that directly involve or impact Operations Section personnel particularly when there is a shared responsibility among one or more members of the IMT
  - Could be pre-arranged and/or agreed upon by UC/IC once deemed crucial to response

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What are some examples of "operational agreements" that ENVL needs to resolve?

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Examples of "Operational Agreements"

- Air monitoring
- Pre- and post- impact area sampling
- Drone operations
- Debriefing off going shift field supervisors
- 213RR support to OPBDs/DOSC
- FOBS & DIVS
- ENVL and SITL
- Others?

If left ambiguous, who inherits ownership of the resolving task?

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Unit 6 – Resource Management

Environmental Unit Staffing Needs

- Staffing guides
  - Number of Divisions/Groups
  - Span of Control
  - Work Hours
- Meetings & IAP Support times
- ENVL Products Schedule
- Field Teams
- ICS-213RR to order staff

Assistants
Teams
Individuals

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Organizing EU Field Teams

Single Resource

Team

EU Teams should have an assigned leader!

Examples?

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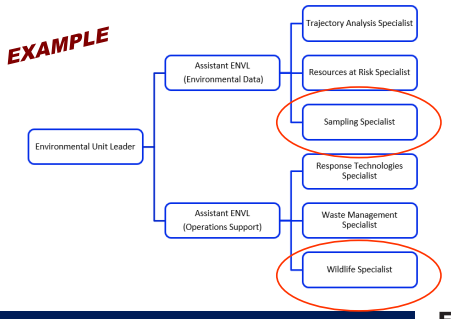
15

Staffing the Environmental Unit



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Unit 6 – Resource Management

Field Teams in OPS Example: Sampling and Wildlife Teams

- Sampling Teams
  - Makeup: two trucks, four personnel, sampling kits, PPE, one Team Leader, communications
  - Resource Identifiers
    - Sampling Team 1
    - Sampling Team 2
- Wildlife Teams
  - Makeup: ?
    - Wildlife Team 1
    - Wildlife Team 2

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Why Teams and not Task Forces

- EU Teams and Task Forces appear similar
- But…Strike Teams, Task Forces, Groups, Division, and Branches are all organizational components of Operations Section only
- It is important to differentiate between what Operations Section resource assignments and how EU Field Teams are named and organized

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Resource Management – why?

- Maximizing effective use
- Reducing span-of-control for safety and supervisory duties
- Reducing communications traffic
- ICP Staff and Field Team need to be organized for efficiency
- Inform and deconflict field activities with Operations, Logistics, and Safety

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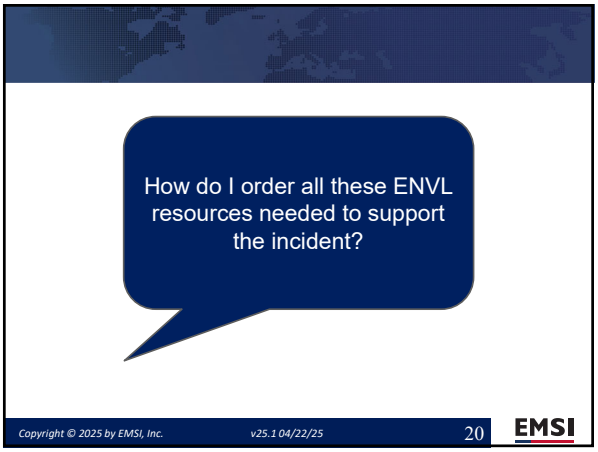
Unit 6 – Resource Management



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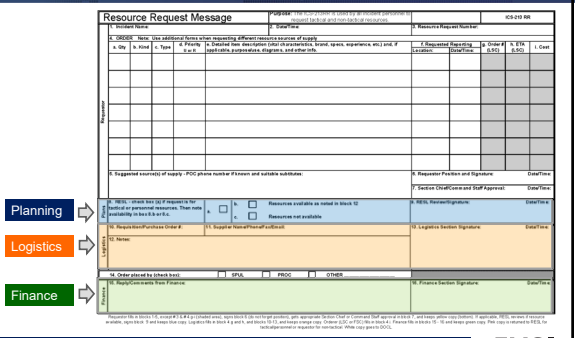
ICS-213 RR
Resource Request Message



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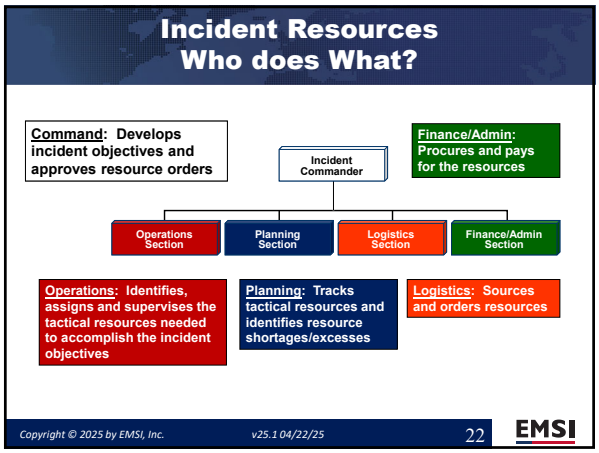

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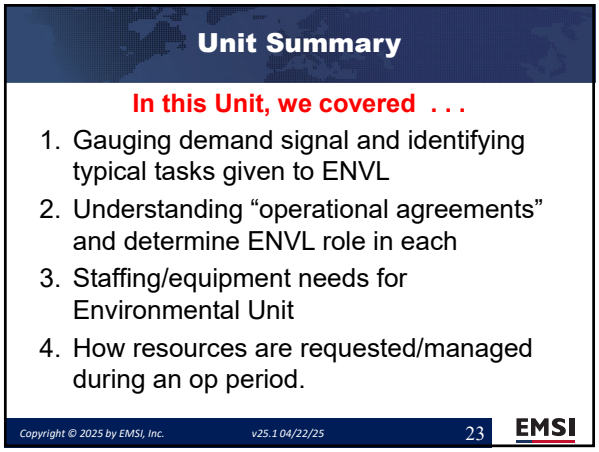
Unit 6 – Resource Management



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Unit 7 – Assessing Progress and Effectiveness

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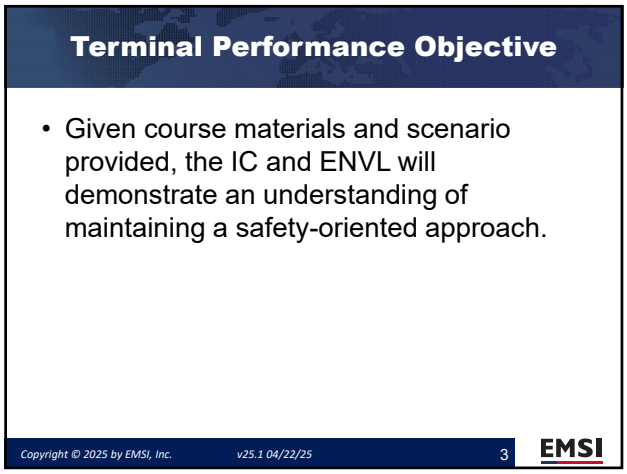

3

Safety Assessment

How do you know if your response is a safe one?

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4

ICS-201-5 Initial Site Safety & Control Analysis

- When was it last updated?
- What conditions have changed?
- Who is doing this for you?
- Should we have a Site Safety Plan or specific job hazard analysis now?
- How do you implement on-scene?
- Are you doing safety briefings?

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5

Safety Officer

Is it time to assign a Safety Officer or Assistant to support on-scene efforts directly?

Who makes that decision?

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6

Unit 7 – Assessing Progress and Effectiveness

Safety Assurance

- Usually the #1 Priority
- Whether assigned on-scene or in the EOC, Safety must be enforced
  - Continuous risk/hazard analysis
  - Recommendations for safe work accomplishment
  - Safety briefings before work starts each shift
  - Written plan required by 29 CFR 1910.120

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7

Safety Officer

- **Roles and Responsibilities**
  - Develops and recommends measures for ensuring the safety of responders and the public.
  - Assesses and anticipates hazardous and unsafe situations.
  - Provides safety counsel and advice to Command.
- **Indicators that the Position is Needed**
  - High risk operations.
  - Complex Operations in close proximity to each other.
  - Hazardous materials.
  - Whether the position is staffed or not, the function of safety should be addressed on every incident. If not assigned the IC owns it!

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8

ICS-215a Hazard/Risk Analysis Worksheet

- Next level from ICS-201-5 safety planning is the ICS-215a
- Safety Officer (In the EOC or On-scene)
  - Reviews and evaluates proposed tactics from ICS-215
  - Recommends safer alternatives, as necessary
  - Identifies appropriate mitigation actions
  - Ensures safety has proactive input into plan or action

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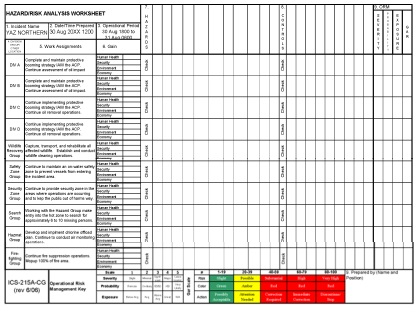
Unit 7 – Assessing Progress and Effectiveness

ICS-215a



10

Measuring Progress

How do you measure progress on a Response?

11

Current Incident Status

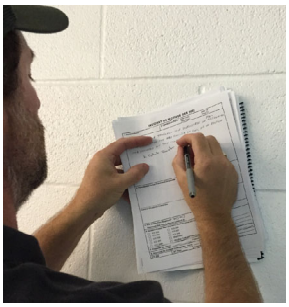
- Develop as thorough an understanding of the entire incident as possible:
  - Situational awareness
  - Incident potential and complexity
  - Operational progress
  - External influences
  - Incident projections & forecasts

12

Unit 7 – Assessing Progress and Effectiveness

Progress Towards Objectives

- Continually assess progress towards stated objectives
- Effectiveness of response
- Is the incident going to be resolved or will it keep evolving?



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13

Incident Potential

- Conducted during initial size-up
- Initial assessment of incident potential should be periodically revisited
- Has anything changed for the better or worse?
- What is forecasted or predicted?

Pages 39-40

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Incident Complexity Analysis Update

Time to Update:

- Where are we in the Incident Lifecycle?
- What conditions have changed?
- Is the organization still effective in managing the response?
- Are the operational & non-operational factors changed from first assessment?
- What is predicted?

Pages 40-41

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Unit 7 – Assessing Progress and Effectiveness

Where do we go from here?

- Time to Adjust (?):
  - Response Resources
  - Staffing
  - Procedures
  - Locations
- Time to Inform:
  - Leadership
  - Responders
  - Stakeholders

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16

Making Adjustments

What are some indicators that adjustment is needed?

How do you make the adjustments?

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"Incident Within an Incident"

- "Incidents within an incident" are significant events that are not planned for or expected and can cause major disruption to planned operational activities.
- What events would you consider "incidents within an incident", or secondary events?
- Try to anticipate them if possible so you can stage resources, more quickly address them, and minimize disruption.

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Unit 7 – Assessing Progress and Effectiveness

"Incidents Within an Incident" (cont.)

- One of the worst occurrences during any incident is the time when injuries, serious exposures, or fatalities occur.
- As an IC/ENVL, you must be prepared for an incident within an incident.
- ICS must be able to manage the current operations as well as the special situation.
- Implement the team's incident within an incident or emergency plan ASAP.

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Activity 7.1 – Incident Situations (Case Study Problems)

- Given a series of sample incident situations and working in groups:
  - Determine the appropriate Command/QI response for each situation
- Be prepared to discuss

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20

Unit Summary

In this unit, we covered…

1. Methods of assuring a more safety oriented posture
2. Incident potential and external influences
3. The process of reviewing progress
4. Methods for adjusting the response posture and organization in response to assessment information
5. How to make adjustments to improve response effectiveness

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21

Unit 7 – Assessing Progress and Effectiveness

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Unit 8 – EOC Support & Managing Expanded Ops

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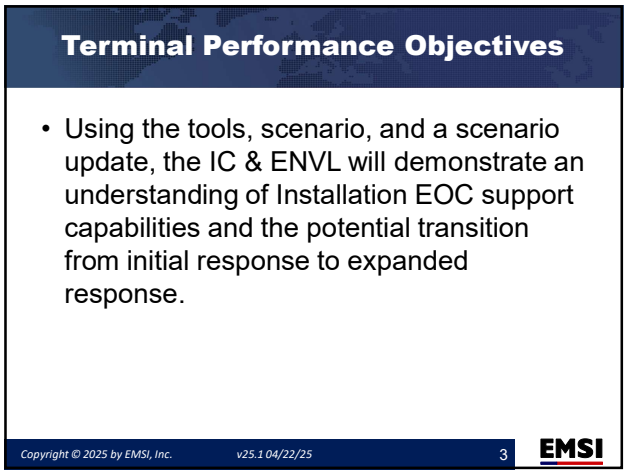

3

Installation EOC Responsibilities

EOCs = Support and Coordination

- Support Staff
- Operational and Support Planning
- Logistical Support
- Community and Stakeholder Engagement
- Resource and Situation Management
- Environmental Expertise
- Installation Coordination
- Others?

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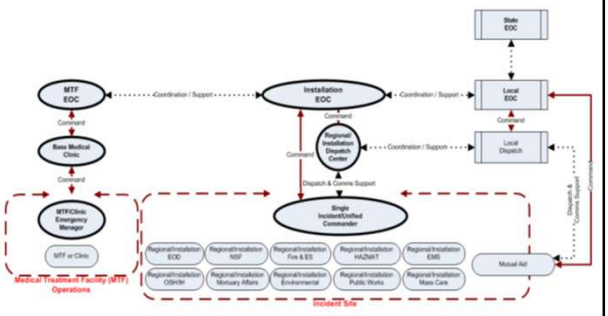
4

Installation EOC Organization



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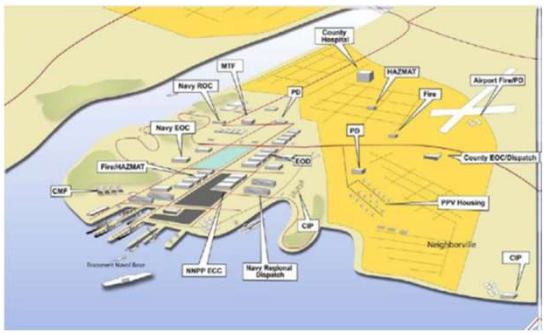
5

Installation EOC Coordination with Surrounding Community



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6

Unit 8 – EOC Support & Managing Expanded Ops

Activity 8.1
EOC and IC Coordination

- Working in teams and using the provided scenario:
  - Develop a list of all of the entities with whom the Installation EOC may be coordinating
  - Develop a list of the entities with whom the Installation IC specifically may be coordinating
- Select a presenter, and present results

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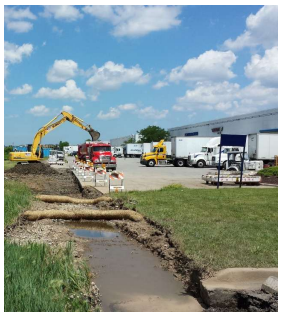
7

When Complexity and Operations Expand…

- More resources arriving
- 24/7 operations
- Expanded Logistics support needs
- Need more robust tactical plan
- Expanded Safety considerations
- Others?



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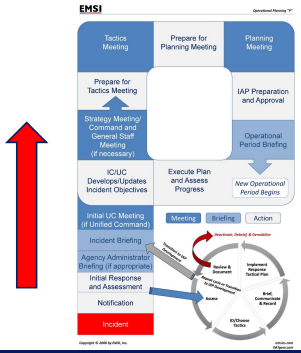
8

Do We Transition from Initial Response to Extended Response?



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9

Transition Decision

Transitioning out of the Stem of the "P" is a conscious decision, who makes it in our scenario?

What do they consider?

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10

Transitioning Out of the Stem

- Transitioning out of the stem of the Operational Planning Cycle considerations:
  - Has the incident stabilized enough to plan for the next Operational Period?
  - How long will the response likely last?
  - Will an Incident Action Plan add value?
  - Is the IMT staffed to effectively manage and support current operations and simultaneously develop a written plan for the next Operational Period?

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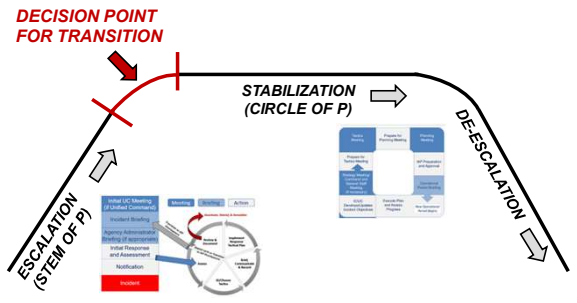
11

Incident Lifecycle



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12

Staffing Considerations

- 24-hour operations
- Expanded Planning
- External influences
- Multi-hazard operations
- Technical expertise
- Logistical requirements
- Environmental impact
- Incident potential
- Management support

Pages 23-26

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24/7 Operations

- Increased requirement for resources (x2)
- Planning for day and night shift
- Logistics support
- Transition briefings
- Safety considerations

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Activity 8.2
Installation IC & ENVL

- Working in teams and using the provided scenario:
  - Develop a list of all of the tasks the IC and/or Environmental Unit would be doing if the incident expanded
  - Identify where each task would be performed on-scene or in the EOC
- Select a presenter, and present results

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Unit 8 – EOC Support & Managing Expanded Ops

Geographic Response Plans

- Tool for Environmental Unit to help guide tactical response efforts
- What are some variables?
  - Weather
  - Time of year
  - What else?

Example:
https://ocean.floridamarine.org/ACP/GRS/

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Expanding the Logistical Support

- As the Operations Section expands, so does the requirement for logistics support
  - Communications: Radio and IT
  - Facilities: Incident support facilities
  - Medical: Responder medical aid
  - Supply and Ordering: Resource requests and orders
  - Food: Food and nourishment considerations for response personnel

 17 EMSI

17

Reasons for an Enhanced ICS-201

- Need for more comprehensive briefings
- Allows for a more effective transition to an IAP
- Results in more comprehensive documentation
- Provides clearer direction to responders

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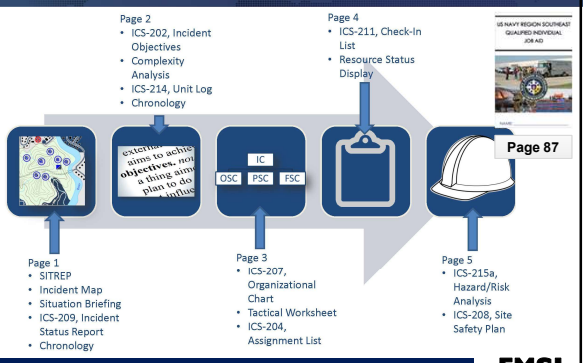
Expanding Beyond the ICS-201: "ICS-201 Heavy"



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Activity 8.3: Managing Extended Initial Response with the ICS-201

- Working in teams and using the provided scenario update:
  - Establish or update situation and/or briefing displays
  - Update the chronology of events log
  - Update the Tactical Worksheet
  - Update on-scene resource listing
  - Update the ICS-201, add any desired enhancements

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Unit Summary

In this unit, we covered…

1. Role of Navy EOC in response
2. Transitioning out of initial response and the alternatives to transitioning
3. How to effectively expand the IMT in response to the needs of the incident
4. Enhancing resource and situation management capabilities beyond the ICS-201

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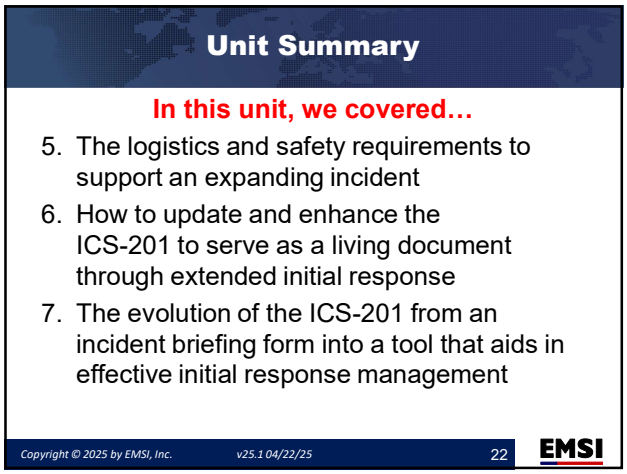
Unit 8 – EOC Support & Managing Expanded Ops



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Unit 8 – EOC Support & Managing Expanded Ops

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Unit 9 – Briefings

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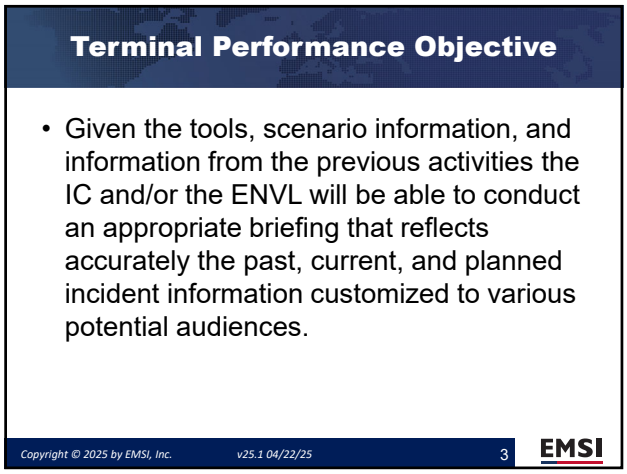

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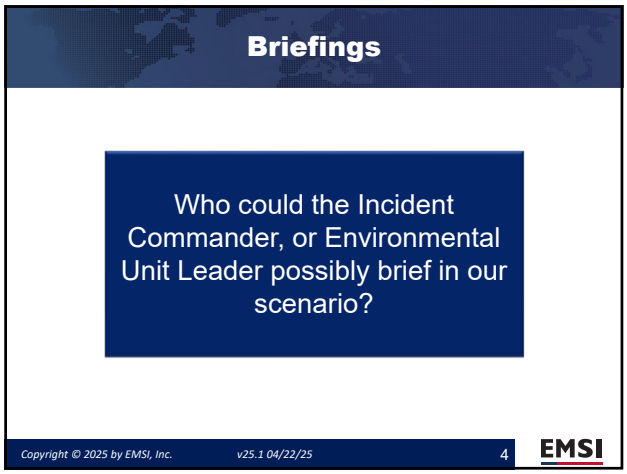

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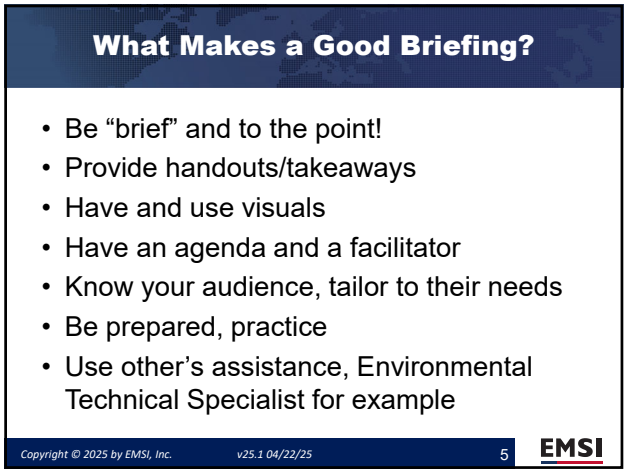
Unit 9 – Briefings



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Activity 9.1
Conduct A Briefing

- Working in your teams and using the provided scenario, and products from Activity 8.3, prepare for and conduct the assigned briefing.

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7

Unit Summary

In this unit, we covered…

1. Discussed who the IC and/or ENVL might be briefing
2. What makes a good briefing
3. Practiced conducting briefings with products prepared thus far

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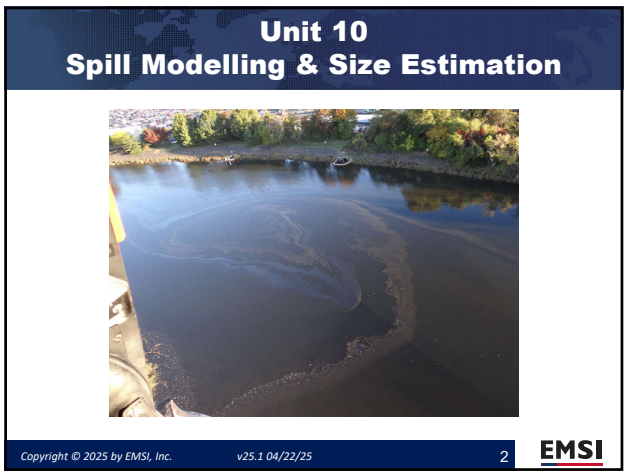
8

Unit 9 – Briefings

1

Unit 10 – Spill Modelling & Estimation



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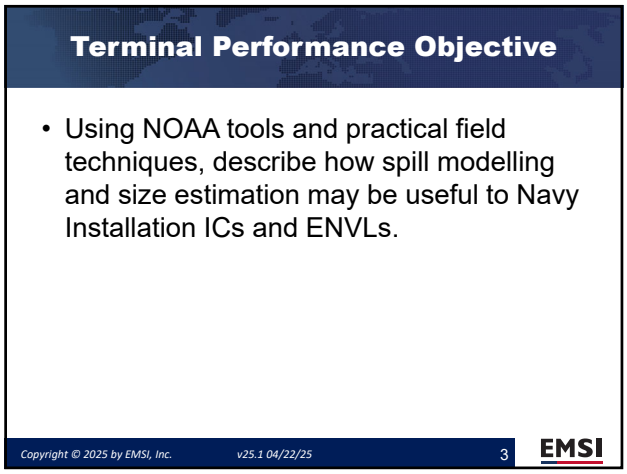

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Modelling Support to Navy Environmental Unit

Program	Use	Operator	Training Source	Equipment Requirements	Program Source
HPAC	Detailed downwind hazard prediction	ROC, Group 1 EOC, METOC, or DTRA Ops Center	DTRA, MLMOC, & METOC	Standalone or networked laptop plus call in capability with NLMOC, DTRA, & JTF-CS	DTRA (free for HPAC)
CATS	Assessment of hazards/impact of event	ROC, Group 1 EOC, METOC, or DTRA Ops Center	DTRA	Standalone or networked laptop plus call in capability with NLMOC, DTRA, & JTF-CS. Requires ArcView software package to run ($4.5k license)	DTRA (free for CATS)
CAMEO	Incident site management of HAZMAT emergencies	Incident Command Staff	EPA & state/local EPA/HAZMAT reps	Standalone or networked laptop	EPA (free)
ALOHA	Incident site downwind hazard prediction	Incident Command Staff	EPA & state/local EPA/HAZMAT reps	Standalone or networked laptop	EPA (free)
NARAC	Detailed downwind hazard prediction	Naval Nuclear Propulsion Program & Nuclear Weapons Programs	National Atmospheric Release Advisory Center	Networked system with dedicated access to NARAC	NARAC
SEE	Exercise, modeling, & simulation tool	Training & Exercise Staff	DTRA	Standalone or networked laptops/workstations	DTRA (free)
Legend	HPAC = Hazard Prediction and Assessment Capability CATS = Consequence Assessment Tool Set – Joint Assessment of Catastrophic Events CAMEO = Computer-Aided Management of Emergency Operations ALOHA = Area Locations of Hazardous Atmospheres NARAC = National Atmospheric Release Advisory Center SEE = Synthetic Exercise Environment				

4

Computing Oil Spill Size/Volume

- Oil spills often form a thin, multi-colored layer over a given area.
- To estimate volume:
  - Estimate/measure the area it covers
  - Estimate the average thickness over the spill area
  - Multiply the area times the thickness to get the volume

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Estimate/Measure the Area

- Aerial or satellite observation is often helpful
- With imagery, simply trace a line around visible edges of slick and compute the area
- Without imagery, use reported length & width to form a rectangle and compute the area

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Unit 10 – Spill Modelling & Estimation

Estimate/Measure the Thickness

- With aerial or visual observation, the color of a spill is helpful in approximating thickness
- With satellite imagery, color is not visible. Instead, an estimation of minimum average thickness must be estimated
- One micron = one millionth of a meter

 7 EMSI

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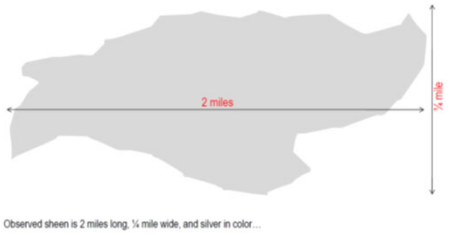
Sheen Dimension Calculation Process



Observed sheen is 2 miles long, ¼ mile wide, and silver in color…

 8 EMSI

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Gallons Per Square Mile

What color is the spill?

TABLE 10A SPILL ESTIMATION CHART	
DEFINITION	GALLONS OF OIL PER SQUARE MILE
Barely visible	25
Silvery	50
Slightly colored	100
Brightly colored	200
Dull	666
Dark	1332

 9 EMSI

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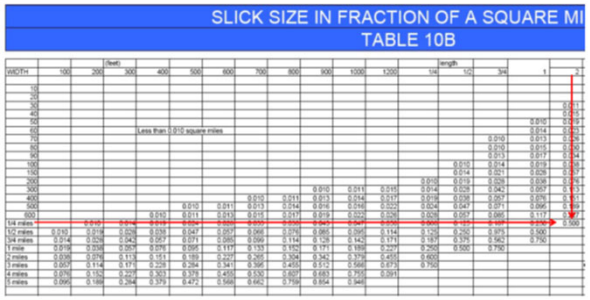
Unit 10 – Spill Modelling & Estimation

Slick Size in Fraction of Square Mile

What size was the spill area?



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Quantity Determination in Gallons

Multiply two values to obtain quantity

From Spill Estimation Chart: "Silvery" sheen = 50 gallons oil per square mile

From Slick Size Table: 2 miles long x ¼ mile wide = 0.500 square miles

50 gal/square mile x 0.500 square miles = 25 gallons

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NOAA Oil Identification Job Aid

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Unit 10 – Spill Modelling & Estimation

NOAA Oil Identification Job Aid

GLOSSARY OF STANDARD OIL SPILL OBSERVATION TERMS 6

OIL COLOR AND APPEARANCE TERMS:

Sheen: Sheen is a very thin layer of oil (less than 0.0002 inches or 0.005 mm) floating on the water surface and is the most common form of oil seen in the later stages of a spill. According to their thickness, sheens vary in color from **rainbows**, for the thicker layers, to **silver/gray** for thinner layers, to almost transparent for the thinnest layers.

Metallic: The next distinct oil color, thicker than **rainbow**, that tends to reflect the color of the sky, but with some element of oil color, often between a light gray and a dull brown. **Metallic** is a "mirror to the sky."

Transitional Dark (or True) color: The next distinct oil on water layer thickness after **metallic**, that tends to reflect a **transitional dark** or **true** oil color. At the "Transitional" stage most of the oil will be just thick enough to look like its natural color (typically a few thousandths of an inch, or few hundredths of a millimeter), and yet thin enough in places to appear somewhat patchy.

Dark (or True) Color: Represents a continuous true oil color (i.e., its natural color), commonly occurring at thicknesses of at least a hundredth of an inch (or, a little over a tenth of a millimeter). Oil thickness at this "Dark" stage (especially in a calm and/or contained state) could range over several orders of magnitude. At sea, however, after reaching an equilibrium condition, most oils would not achieve an average thickness beyond a few millimeters. Heavy fuel oils and highly weathered or emulsified oils (especially on very cold water) could, of course, reach equilibrium states considerably greater than a few millimeters.

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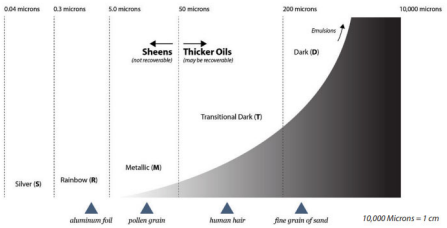
Oil Color and Relative Thickness Values

OIL COLOR/APPEARANCE 12

Oil Code Color and Relative Thickness Values



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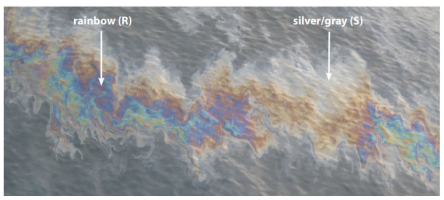
Silver – Rainbow Sheen Appearance

OIL COLOR/APPEARANCE 14

Silver/Gray (S) and Rainbow (R) Sheen Oil Colors

Patches of **silver/gray (S)** and **rainbow (R)** sheens.



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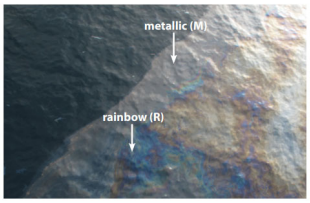
Unit 10 – Spill Modelling & Estimation

Metallic Color Appearance

OIL COLOR/APPEARANCE 16

METALLIC (M) OIL SLICK COLOR/APPEARANCE

Oil layers that look metallic reflect the color of the sky, but with some element of oil color.



Observation altitude:
300 ft.

Platform:
Helo

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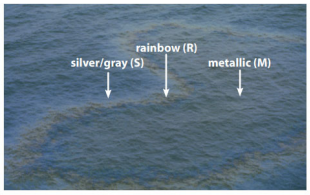
Fresh Diesel Spill Appearance

OIL COLOR/APPEARANCE 18

FRESH DIESEL SLICK

Metallic (M) dull brown slick in center fading to **rainbow (R)** and **silver/gray (S)** along the edges.



Observation altitude:
300 ft.

Platform:
Helo

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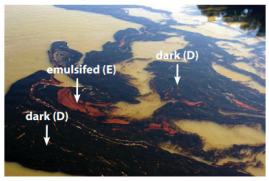
Black & Emulsified Oil Appearance

BLACK DARK (D) OIL ON THE MISSISSIPPI RIVER

Note the small orangish streaks and patches of **emulsified (E)** oil. A true or **dark (D)** oil can have a thickness greater than 200 microns, giving volume estimates a very large range. This has a **no structure (ns)** slick configuration.



OIL COLOR/APPEARANCE 21

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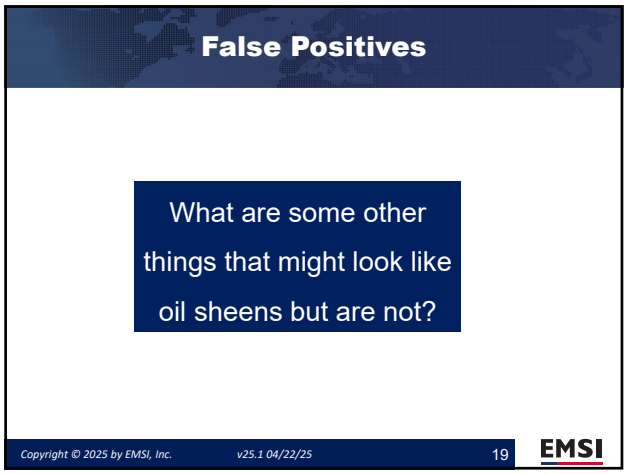
Unit 10 – Spill Modelling & Estimation



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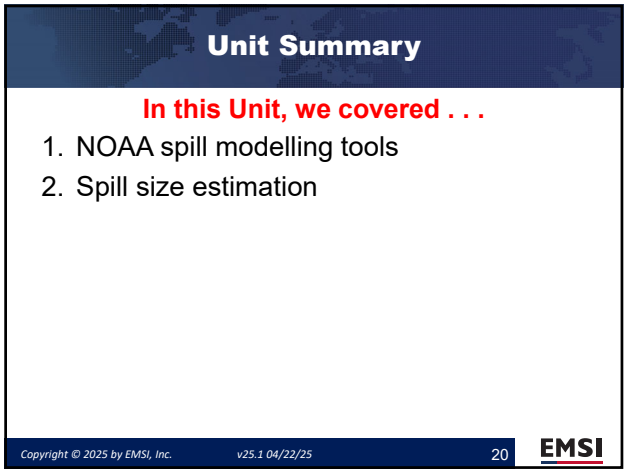
Unit 10 – Spill Modelling & Estimation



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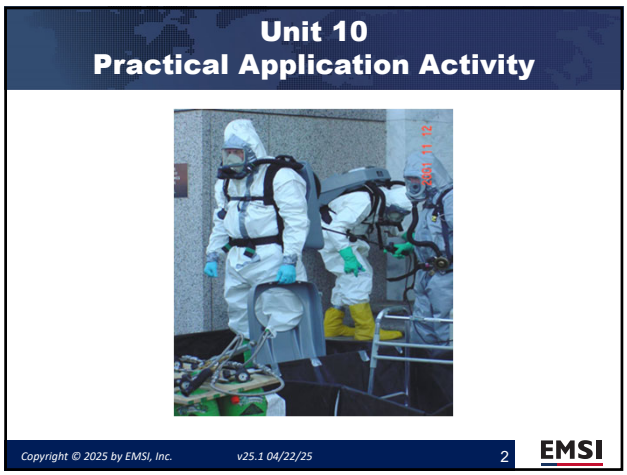
Unit 11 – Practical Application



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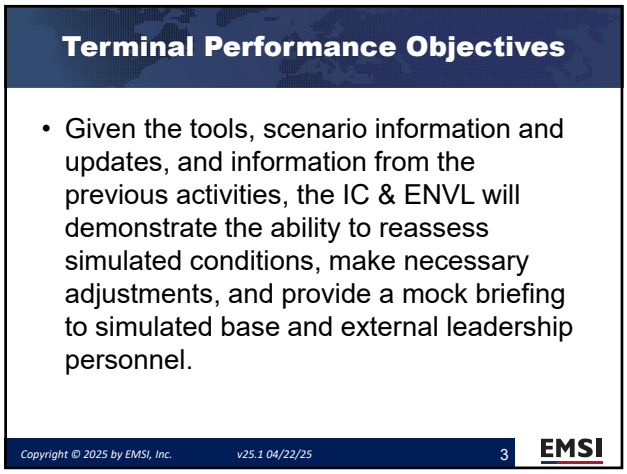

3

Practical Application Activity – Expectations

- Will work in teams
- Continuation of class scenario
- Will respond to injects and scenario updates
- Will use and update prior activity products
- Will conduct briefings
- Counts towards final exam

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Scenario Update

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5

Activity 11.1 Make the Appropriate Adjustments

- Working in teams use the provided scenario update:
  - Respond to injected information
  - Update documents and products
  - Update the chronology of events log
  - Update resource status display
  - Update the ICS-201
- Present your updates with rationale

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Unit 11 – Practical Application

EOC Support and Coordination

What will the EOC be doing at this point?

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Unit 11 – Practical Application

Activity 11.2
EOC and IC Coordination

- Working in teams use the provided scenario update:
  - Respond to injected information
  - Prepare a list of what you would need or get from the EOC
  - Prepare a list of what you would give to the EOC and when or how often
- Present your information

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Organization

Do you need to adjust the organization?

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Activity 11.3: Make the Appropriate Organizational Adjustments

- Working in teams use the provided scenario update:
  - Respond to injected information
  - Update situation displays
  - Update the chronology of events log
  - Adjust the on-scene organization
  - Adjust the other parts of the organization, such as EOC and Environmental Unit
  - Update resource status
- Present your information

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10

Communicating/Documenting Your Direction

How do you communicate new direction to the responders/resources?

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11

Environmental Unit

What should the Environmental Unit be concerned about at this point?

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Activity 11.4: Make the Appropriate Environmental Unit Adjustments

- Working in teams use the provided scenario update:
  - Respond to injected information
  - Outline what the Environmental Unit organization is currently doing in the EOC
  - Define what the IC/ENVL should expect the Regional OSC and the ROC to be doing to assist at this point
  - Describe how agencies can support Environmental Unit activities at this point in the response
- Present your information

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Activity 11.5: Document and Communicate Adjustments

- Working in teams use the provided scenario update:
  - Respond to injected information
  - Update briefing displays and other products
  - Update the chronology of events log
  - Update the Tactical Worksheet
  - Update the ICS-201
- Conduct a briefing as assigned

 v25.1 04/22/25 14 EMSI

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Unit Summary

In this unit, we covered…

1. How to adjust products based on changing incident circumstances
2. Relationship between the EOC and IC/ENVL when conditions change
3. How to document and brief changes

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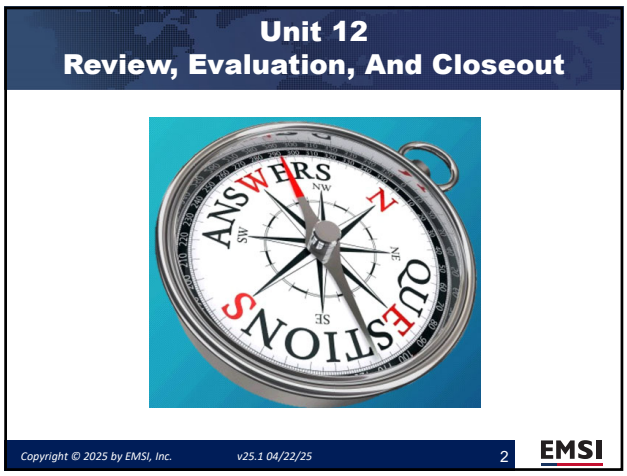
1

Unit 12 – Course Closeout



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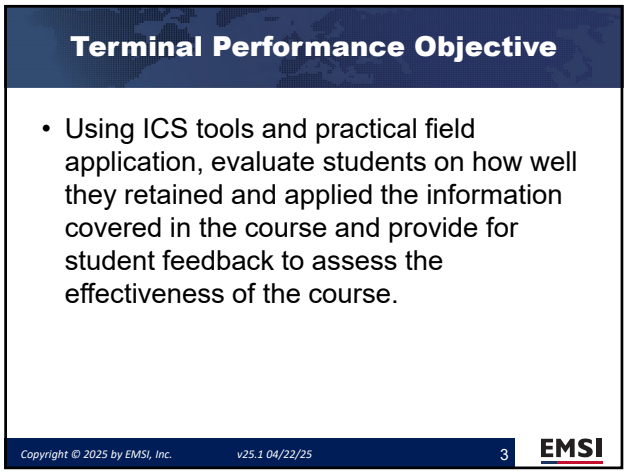

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Final Thought

- The success in managing an incident, especially one that is expanding, is determined by how we respond and organize in the first few hours.
- If we start right, there is a good chance we will stay right through to the conclusion of the incident.

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4

Review Course Objective

- Develop skills and knowledge needed to perform as an Incident Commander and/or an Environmental Unit Leader
- Be able to articulate the roles and responsibilities of an Incident Commander and Environmental Unit Leader as outlined by the regulations, and Navy guidance.

Did we meet your expectations?

 v25.1 04/22/25 5 EMSI

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Course Evaluation

- Process
  - All participants complete the evaluation
  - Results will be sent to course POC
  - Evaluations are used for curriculum and incident planning improvements

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Unit 12 – Course Closeout

Course Evaluation

- Collected and reviewed by curriculum developers and host organizations
- Used for course improvement and updates
- Completed at the end of the course
- Certificates issued after completing evaluation
- Course evaluations are available at http://www.emsics.com/course-evaluations/ or using this QRC

 v25.1 04/22/25 7 EMSI

7

Scenario and Activities "Hot Wash"

What went well with our response to the simulated incident?

What could have gone better?

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Unit Summary

In this Unit, we covered . . .

1. Knowledge retention level of participants
2. Course evaluation
3. Exercise "hot wash"

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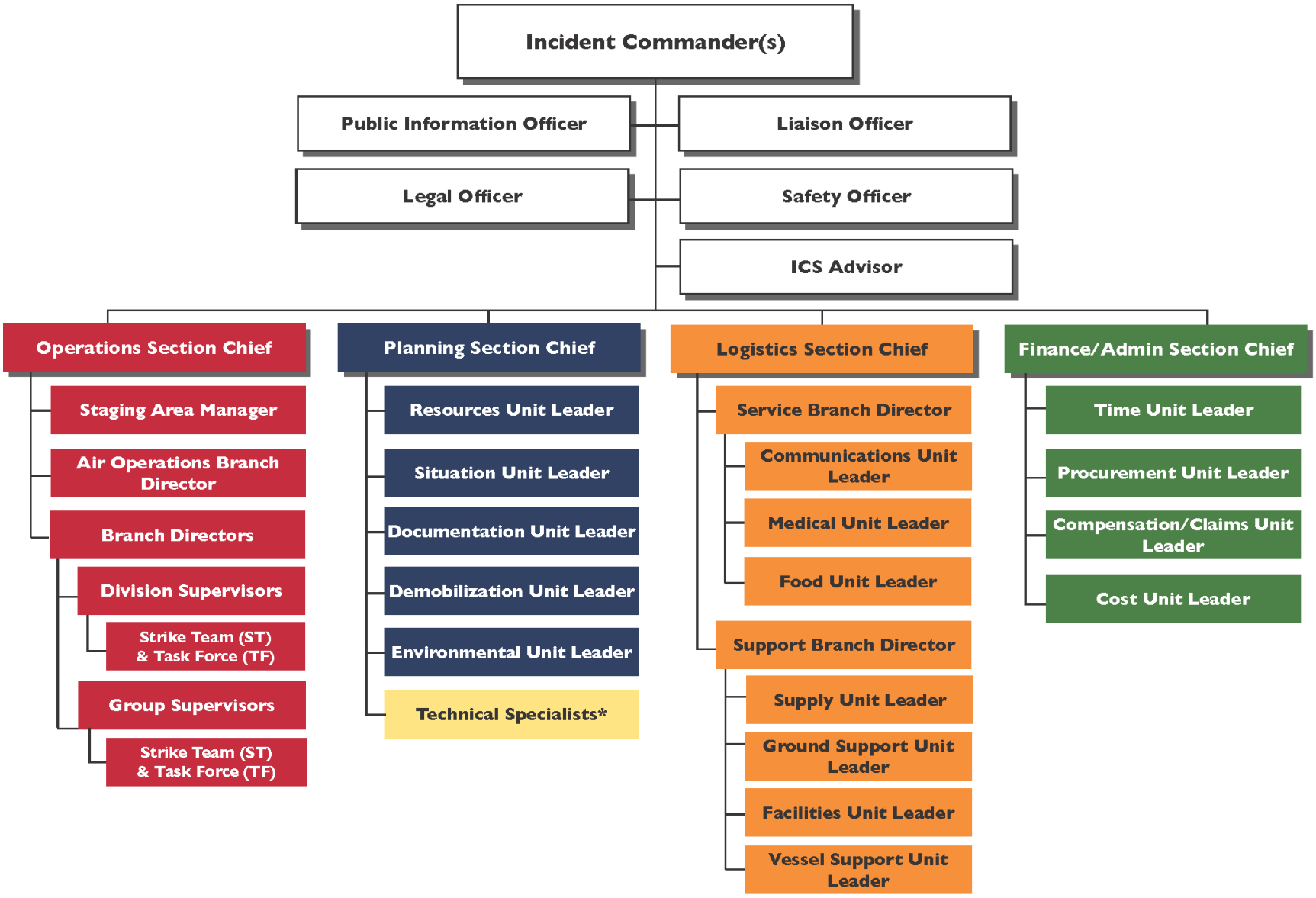
Unit 12 – Course Closeout

EMSI

Incident Command System Organization Chart



Tactics Meeting

Prepare for Planning Meeting

Planning Meeting

Prepare for Tactics Meeting

IAP Preparation and Approval

Strategy Meeting/ Command and General Staff Meeting (if necessary)

Operational Period Briefing

IC/UC Develops/Updates Incident Objectives

Execute Plan and Assess Progress

New Operational Period Begins

Initial UC Meeting (if Unified Command)

Incident Briefing

Agency Administrator Briefing (if appropriate)

Initial Response and Assessment

Notification

Incident

Meeting | Briefing | Action