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# Unit 6: Incident Communications Systems

INSTRUCTOR GUIDE

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**Objectives**

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By the end of this unit, students will be able to:

- Describe the Communications Unit Leader responsibilities in establishing an incident radio communications system
- Describe use of command and tactical nets
- Identify requirements for establishing an incident radio communications system
- Describe specific communication information gathered
- Evaluate needs and order supplies, materials, and personnel to keep unit operating

**Methodology**

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This unit uses lecture, discussion based activities, and exercises.

Knowledge of unit content will be evaluated through administration of the final exam (to be administered upon completion of the course). Instructors will evaluate students' initial understanding through facilitation of exercise 6.

The purpose of exercise 6 is to provide the participants with an opportunity to order supplies, personnel, and equipment on the ICS Form 213 - General Message. This exercise will also provide the participants with an opportunity to identify the pros and cons of specific tracking systems for accountability purposes during an incident. This exercise is scheduled to last approximately 45 minutes, including small group discussions and presentation of group findings.

The purpose of this unit is to provide students with an understanding of the Communication Unit Leader's responsibility for developing an incident radio communications plan for interoperable communications on an incident or event as well as the communications system to implement the plan.

**Time Plan**

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A suggested time plan for this unit is shown below. More or less time may be required, based on the experience level of the group.

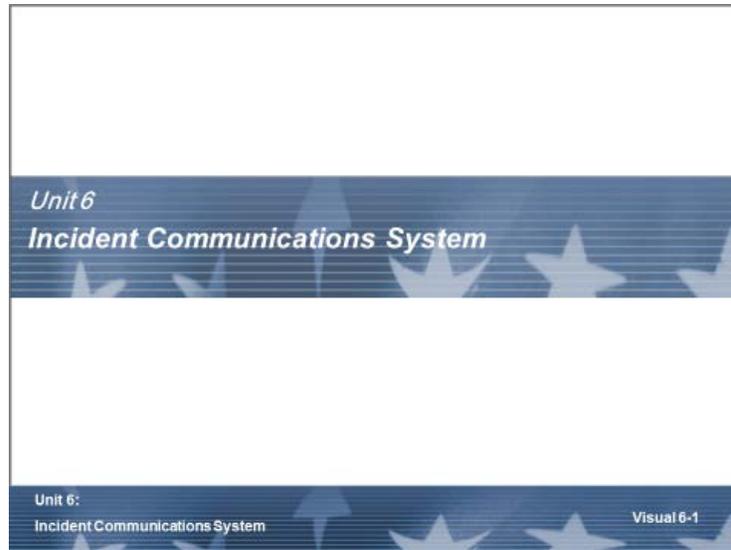
<b>Topic</b>	<b>Time</b>
Lesson	1 hour, 30 minutes
Exercise 6	45 minutes
<b>Total Time</b>	<b>2 hours, 15 minutes</b>

**Reference Materials**

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- Projector & other equipment as necessary for PowerPoint presentation
- Easel pad
- Marking pens
- Laminated blank ICS Form 213 – General Message Form (3x5 feet)
- Dry erase pens
- ICS Form 213 - General Message Forms (3-ply)
- Exercise 6: Initial Resource Order and Accountability
- Handout 6-1: Accountability Tracking Systems

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### Explain the Following Key Points

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Announce the unit and move quickly to the next slide.

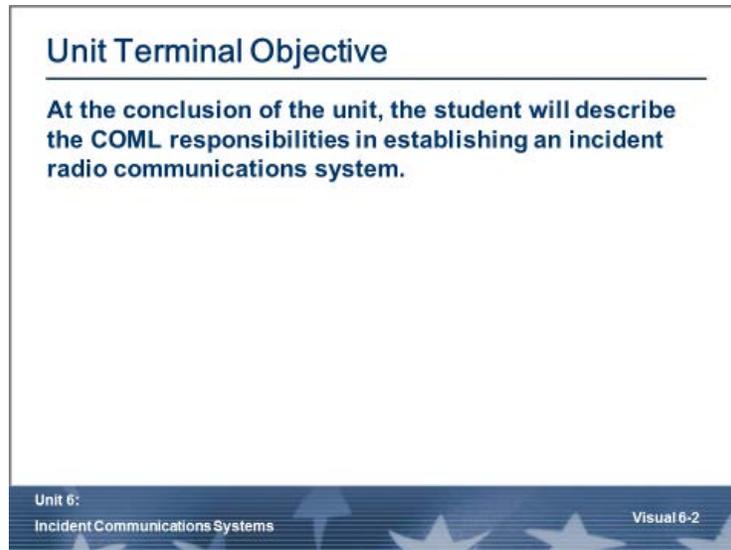
This unit focuses on the Communication Unit Leader's responsibility for developing an incident radio communications plan for interoperable communications on an incident or event as well as the communications system to implement the plan.

### Scope Statement

This unit is designed to provide the student information regarding the Communication Unit Leader's responsibility for developing an incident radio communications plan for interoperable communications on an incident or event as well as the communications system to implement the plan.

**Topic** Unit Terminal Objective

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**Explain the Following Key Points**

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Introduce and explain the Unit Terminal Objective to the class.

**Unit Terminal Objective**

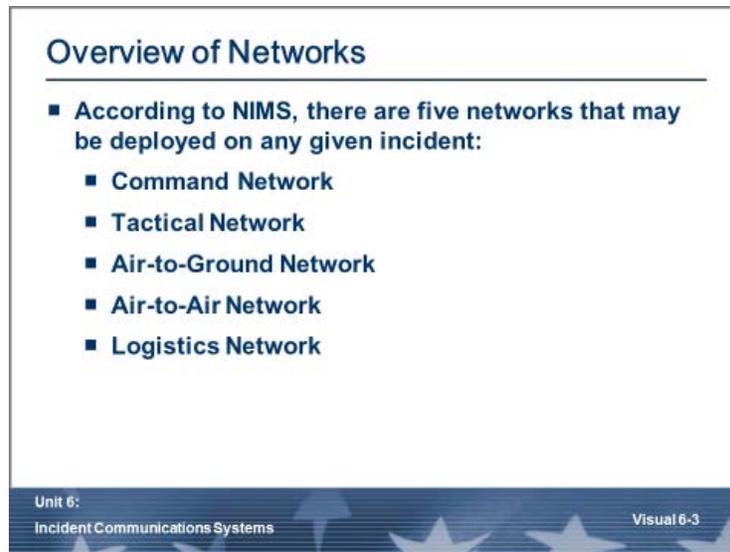
At the conclusion of the unit, the student will describe the Communications Unit Leader's responsibilities in establishing an incident radio communications system.

**Unit Enabling Objectives**

- Describe use of command and tactical nets
- Identify requirements for establishing an incident radio communications system
- Describe specific communication information gathered
- Evaluate needs and order supplies, materials, and personnel to keep unit operating

**Topic** Overview of Networks

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**Explain the Following Key Points**

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Establish the five kinds of communications networks.

According to NIMS, there are five networks that may be deployed on any given incident:

- Command Network may be used by the Command and General (C&G) Staff
  - More often, it is a coordination channel for the Operations Section
- Tactical Networks are used by the Operations Section to execute incident response
- Air-to-Ground Network is used to coordinate air support
- Air-to-Air Network is used to communicate between aircraft
  - It is typically not within the purview of the Communications Unit Leader because it is coordinated by the Air Branch
- Logistics Network (sometimes known as the Support Network) is used by the Logistics Section to coordinate functions such as supply and data transmission

Each of these will be covered in more depth throughout the rest of the unit.

**Topic** Command Networks

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### Command Network

- **Command Network may be used by C&G Staff**
  - **More often, it is a coordination channel for the Operations Section**
  - **Usually only one command network is used during an incident**
- **May be patched via a gateway when personnel are on disparate radio systems**
- **Cache radios can be programmed for C&G Staff use**
- **Used as a link between the incident and the Dispatch Center**

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Visual 6-4

**Explain the Following Key Points**

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Expand on the command network.

Usually only one command network is used by the C&G Staff during an incident. This is usually less technically challenging than the tactical network, given that the C&G Staff tends to remain in the same area around the ICP.

The Command Net may be a coordination net for Operations and not C&G Staff.

The command network may be patched via a gateway when personnel are on disparate radio systems, and cache radios can be programmed for its use. For instance, if the Operations Section Chief is on a system commonly used by firefighters, and the Planning Section Chief is on an EMT-favored radio system, cache radios may be able to ensure consistency.

This network is used as a link between the incident and the Dispatch Center, enabling communication between the C&G staff and the other incident networks (in addition to its other uses).

- Cache radios or gateways may be desirable to overcome disparate systems
- Usually only one Command Net is used during an incident by the C&G staff
- The positions down to Division/Group Supervisors will likely need two radios, one on the Command Channel and one for tactical use
- Scanning may be a possibility, but it is a poor solution
- It may be patched via a gateway when personnel are on disparate radio systems
- Cache radios or radios can be programmed for Command and General Staff use

- This frequency/talkgroup is also used as a link between the incident and the Dispatch Center

**Topic** Tactical Networks

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**Tactical Networks**

- There may be several tactical networks at the Division/Group level
- Use caution when patching Tactical Networks; monitor them carefully

What are some examples of tactical networks?

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Visual 6-5

**Explain the Following Key Points**

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Expand on tactical networks.

Depending on size and structure of the incident response, there may be several tactical networks at the Division (geographic) or Group (function) level.

Tactical networks are usually the most challenging networks to design, as they must enable operations, and are usually designed around tactical requirements. They may require the use of mobile communications units to follow tactical units to patch tactical networks.

Tactical networks involving personnel on incompatible radio systems should not be patched together, except as a last resort; operational needs usually require consistency in radio systems to avoid problems.

**Suggested Discussion Question**

What are some examples of tactical networks?

**Potential Student Answers**

- Perimeter control
- Marine
- Law enforcement
- HAZMAT
- Search and Rescue

Topic Tactical Interoperability

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### Explain the Following Key Points

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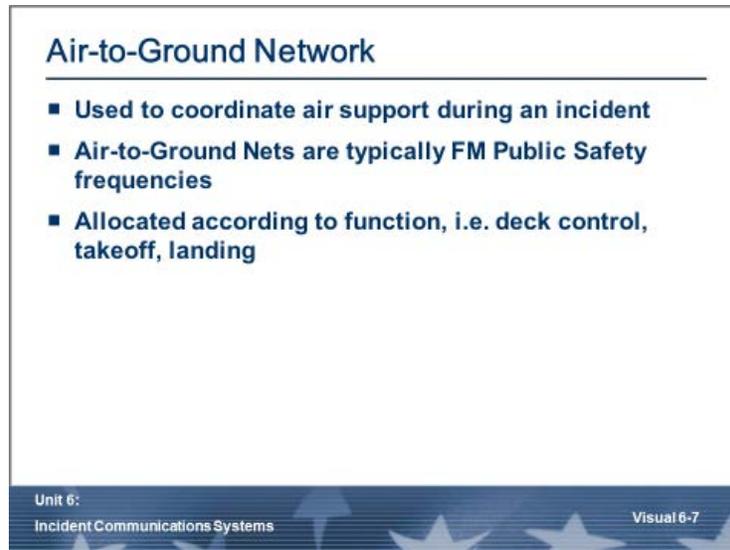
Identify the diversity and variety of agencies and organizations that may need tactical interoperability.

### Suggested Discussion Question

How many different agencies can you think of that may need tactical interoperability?

**Topic** Air-to-Ground Networks

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**Explain the Following Key Points**

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Expand on the air-to-ground network.

An air-to-ground network is used to coordinate air support during an incident. This usually involves a number of frequencies and modulations dedicated to specific functions such as deck frequencies, or takeoff and landing control.

Caution should be used in assigning air-to-ground frequencies. Not all frequencies are suitable for high-altitude use.

**Suggested Discussion Question**

What frequencies or modulations does air-to-ground include?

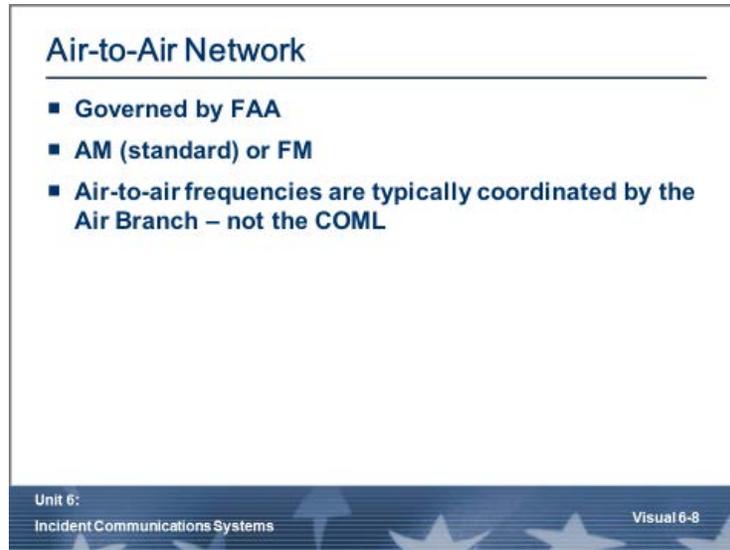
**Potential Student Answers**

- Air-to-ground (FM)
- Deck (AM or FM)
- Takeoff and landing control (TOLC)
- Incident flight following (AM)
- National flight following (168.6500N)
- Air Guard (168.6250N)

## Topic

Air-to-Air Network

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**Explain the Following Key Points**

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Expand upon the air-to-air network.

Air-to-air channels may not be used by ground-based resources.

The FAA does not allocate frequencies for people or incident teams to self-assign. The FAA maintains strict control over those frequencies in order to avoid interference that may cause an aircraft safety hazard.

As a result, the COML cannot assign air-to-air frequencies. Instead, they must be ordered from the FAA. An ordering point at a local EOC will generally have contact information for the appropriate personnel at the FAA.

If an incident is complex enough to require Air-to-Air, it is recommended the COML have someone on staff who is familiar with air-to-air technologies and programs.

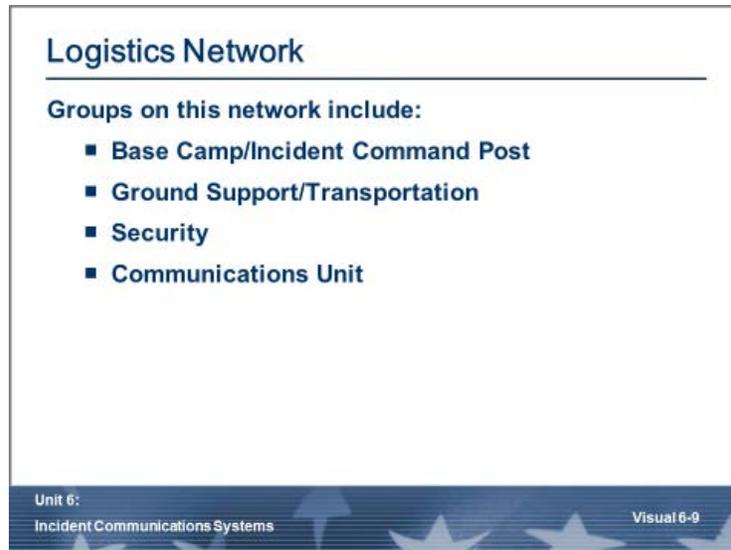
Example of incidents requiring an air-to-air network include large searches, either search-and-rescue or law enforcement, or Katrina SAR.

**Suggested Discussion Question**

Does anyone have experiences with air-to-air networks?

**Topic** Logistics Network

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### Explain the Following Key Points

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Expand upon the Logistics Network.

The Logistics Network can be a critical component to incident management and should not be minimized. Essential support to the incident is predicated on logistical efficiency.

The Logistics Section may be geographically stable, and many units within the Section do not require as many radio systems assets. More often, these units require phone, fax, and Internet data links.

Based on the nature of the incident, the Logistics Net may be a large network. Groups on this network will include camps, security, staging, and transportation channels.

**Initial Priorities**

- **Keep constant communications with the Communications POC**
- **The Communications Unit supports all aspects of incident management**
- **Priorities may not follow traditional expectations**

**Is there something you can do to enhance existing systems while a definitive solution is being implemented?**

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Visual 6-10

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### Explain the Following Key Points

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Emphasize the Communications Unit Leader's initial priorities.

Upon arriving at an incident, the Communications Unit Leader will have a number of priorities that require attention. As the situation develops, the Communications Unit Leader must keep constant communication with the Communications Point of Contact, especially if the Communications Unit Leader is unfamiliar with the area.

Operations usually gets priority, and their needs will usually be handled as the Incident Communications Plan is being constructed. However, incident needs may dictate other priorities. When faced with concurrent priorities, ask either the Logistics Section Chief or Incident Commander to help set the priority list.

Incident priorities may not follow traditional paths. If the operational radio networks are sufficient, other priorities may supersede (i.e., telephone banks to facilitate evacuations).

**Topic**            Designing Command Radio System

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### Designing Radio Systems

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- **Analyze radio needs**
  - **What is in place now? Will it suffice?**
  - **If not, perform an analysis to include:**
    - **GIS**
    - **Radio coverage software**
    - **Topographic maps/software**
    - **Physically survey terrain by ground/air**
    - **Local technician(s) and resource advisors**

**What variables and circumstances must be considered by the COML?**

Unit 6:  
Incident Communications SystemsVisual 6-11

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**Explain the Following Key Points**

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Introduce considerations and resources to use when designing the command network.

The first step to creating the command network is analyzing the situation and geography to determine where repeater sites will be necessary.

When analyzing coverage, the Communications Unit Leader must consider:

- Terrain
- Incident size
- Available equipment
- Incident coverage
- Timing
- ICP/ICC locations
- Camp locations (remote)
- Roads
- Travel routes
- Accessibility
- Helibase location
- Aircraft
- Staging areas
- Incident size and expected growth

- Incident objectives
- Operational boundaries
- Assigned resource communication capabilities

There are a number of resources available for analyzing the situation, such as Geographic Information Services (GIS), a software package that provides information on terrain and geographic features for a given area and radio coverage software, which uses a more radio-wave-centric approach to determining coverage, as well as topographic software or maps.

The Communications Unit Leader can physically perform the survey, although this can be expensive, labor-intensive, and time-consuming.

The Communications Unit Leader may consult local technicians and advisors for input on the area.

### **Suggested Discussion Question**

What are some other ways to obtain this information?

**Topic** Radio System Considerations

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**Radio System Considerations**

- **Potential problems include:**
  - **Adjacent incident interference**
  - **Multiple repeaters**
  - **Additional equipment as needed**

**What else could pose a problem?**

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Visual 6-12

**Explain the Following Key Points**

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Introduce considerations and resources when designing the Command Net.

When designing the Command Net, the Communications Unit Leader must be concerned with several potential problems, such as interference from an adjacent incident. Interference with normal daily response radio traffic (e.g., Northridge earthquake, Atlanta tornado, and Ft. Worth tornado) can be a complication (resolving this interference will be addressed later).

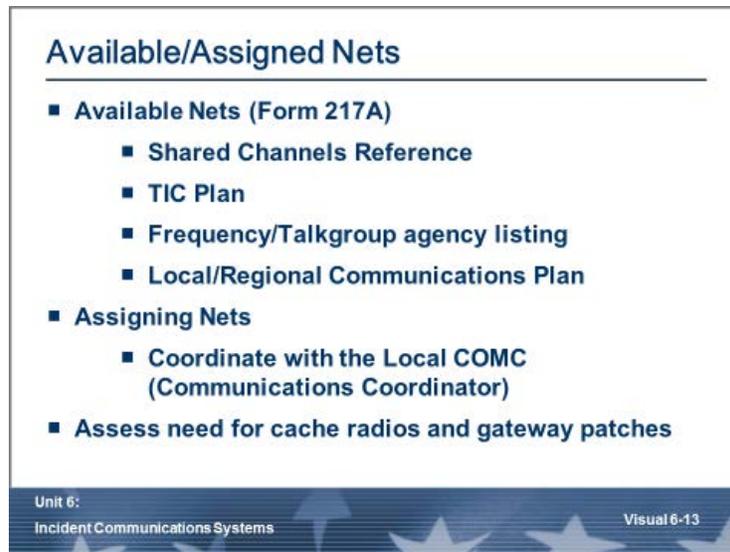
The necessity of establishing multiple repeater sites can be problematic, as they will prolong the wait for the Command Network and pose potential interoperability issues.

Additional equipment may be needed: More complexity means more need for equipment. Repeaters, links, additional cache radios, etc. are required as an incident's communications scale in complexity.

The Communications Unit Leader must continually consult with the incident leadership and immediately order anything they request, including auxiliary communications services, even if this may pose a burden on the rest of the system.

Topic Available/Assigned Nets

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### Explain the Following Key Points

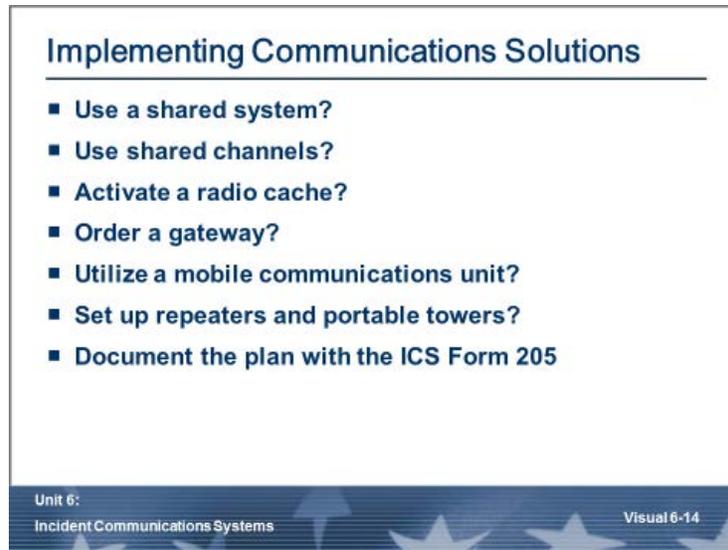
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Introduce Form 217A - Communications Resource Availability Worksheet and its relevance to the Communications Unit Leader.

Form 217A is a spectrum inventory. Properly done, it can save the Communications Unit Leader time and minimize the possibility of mistakes on the ICS-205 – Incident Communications Plan.

### Suggested Discussion Question

What resources are used to determine available nets?

**Explain the Following Key Points**

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Introduce the Communications Unit Leader student to important considerations when implementing communications solutions.

## Topic Initial Order—Personnel

**Initial Order – Personnel**

- Order by assignment and Incident Command System (ICS) position
  - INCM: Incident Communications Center Manager
  - COMT: Incident Communications Technician
  - RADO: Radio Operator
  - THSP: Technical Specialist
- Qualifications?



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Visual 6-15

**Explain the Following Key Points**

Prepare students to make their initial order of personnel.

- The initial order of personnel should consist of those individuals necessary to create the backbone of the planned communications system, even if that system has yet to be explicitly designed
- An ICC may not be utilized
  - If it is put into the plan, appropriate staffing must be ordered
- If the Communications Unit Leader expects the ICC to grow, or other communications outposts are necessary from the outset, then the Communications Unit Leader must also order an Incident Communication Manager to maintain span of control
- If any technical problems present themselves, the Communications Unit Leader should not hesitate to place Technical Specialists on the initial order as needed

Assess the personnel requirements according to the duration and complexity:

- RADO and COMT are almost always the first ordered; most incidents require them.
- INCM is in the initial order if the COML plans to create outposts or has span-of-control issues.
- Technical Specialists are usually any local individuals the Communications Unit needs, but will not fit under any other title.

**Topic** Initial Order—Supplies

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### Initial Order – Supplies

- Determine supply needs according to:
  - Tactical resource orders
  - Projected number of incident facilities
  - Projected growth of incident
- When placing initial supply order, plan for approximately three days.
- Battery needs are a particular concern
  - May need to order 2 changes of batteries per radio, per operational period.

Unit 6: Incident Communications Systems Visual 6-16

**Explain the Following Key Points**

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Prepare students to make their initial order of supplies.

The initial order of supplies should be calculated on a number of factors, not all of them well-known. The initial order will take time to arrive, and any second order will often have to wait until the first order arrives. As a result, the initial order should tend towards inclusion and projection.

The Communications Unit Leader must develop an idea of what kind of growth the incident will experience, particularly with regard to the number of camps and estimated crew orders.

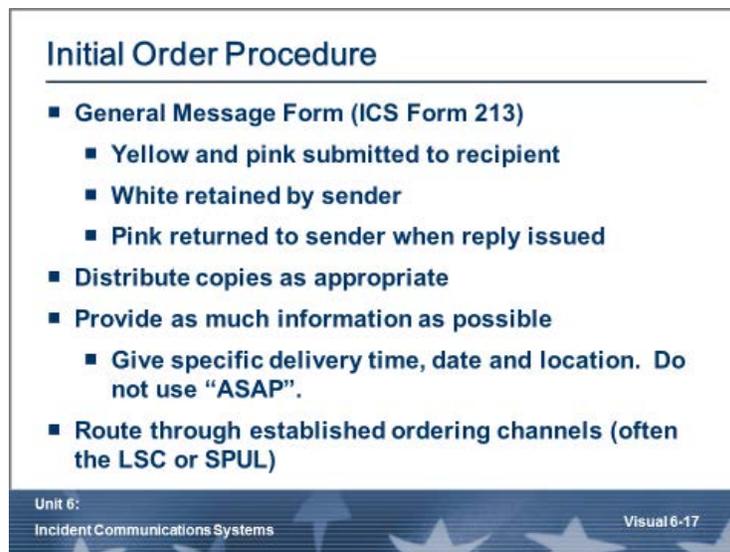
When placing an initial order, it's important to determine supply needs based on tactical resource orders, the projected number of incident facilities, and the projected growth of the incident. Each of these variables can influence the communications resources needed.

The initial supply order should aim to sustain communications operations for three days. If the radios used on the incident do not have multiple batteries, then you need to order a sufficient number of rechargeable batteries and chargers to handle the number of radios assigned to the incident and a means to power them. This includes power strips, sufficient outlets, and amperage to support the chargers.

If AA batteries are employed for clamshell use, warehouse stores (such as Wal-Mart or Costco) have supply chains sufficient for incident support.

Batteries:

Battery life is typically about 5% transmit, 5% receive and 90% standby times. For more information on portable radio batteries, a good resource is [www.batteryuniversity.com](http://www.batteryuniversity.com).

**Topic** Initial Order Procedure**Explain the Following Key Points**

Introduce procedure for placing the initial order and introduce students to the ICS Form 213 – General Message Form.

- When placing the order to the Supply Unit or to the Ordering Manager (ORDM), use the ICS Form 213 – General Message Form with all appropriate copies disbursed
- Position codes should be used for personnel, and detailed quantities and descriptions should be included to prevent any chance of receiving the wrong equipment
- Other details must also be included, such as ETA, ETD, deliver to, or method of delivery
  - “ASAP” is not acceptable
  - Orders should always move through established channels
  - Be specific when ordering quantities (packages versus pallets)
  - Personnel requests should anticipate practical travel times
- To disburse copies of the ICS Form 213 correctly, yellow and pink are submitted to the recipient, white is retained by the sender, and then pink is returned to the sender when a reply is issued
- Organize copies of the ICS Form 213 by date and time

Emphasize how important it is to follow the ordering process and route requests through established ordering channels. This is critical for eliminating instances of duplicate ordering and ensuring payment for purchases, supplies, and services.

- What do you want?

- When do you want it?
- Where do you want it?

**Topic** Order and Manage Use of Temporary System Equipment

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**Explain the Following Key Points**

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Present considerations for putting the system in place.

It is not the job of the Communications Unit Leader to install equipment. The Communications Unit Leader must provide for the installation of equipment and/or systems.

Security and interference must be considered. Coordination with the COMT is essential.

Local plans, SOPs, and mutual aid agreements are based on local knowledge and experience. Do not disregard these when implementing systems.

**Topic** Swap/Cache Radios

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### Swap/Cache Radios

- Provide radio cache programming coordination and validation
- Accountability



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Visual 6-19

**Explain the Following Key Points**

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Provide information regarding Communications Unit Leader responsibilities with regards to swapping and utilizing cache radios.

Refer to T-Card in Forms section of the Student Workbook.

If necessary, provide for radio cache programming. Provide for accountability of issued equipment.

**Accountability**

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Visual 6-20

### Explain the Following Key Points

Show a manual method of providing accountability.

Refer to Handout 6-1: Accountability Tracking Systems.

“T” cards are a method to track resources. Positive identification is necessary to recover assets post-incident. It is perfectly reasonable to ask for identification such as a driver’s license.

Do not abbreviate agency names or personnel names, as those abbreviations may be unfamiliar to those who check the equipment back in. If it cannot be avoided, keep an abbreviations list available for review as personnel change from one operational period to another.

Make sure it is legible and at a minimum you have: name, complete agency name, and some contact information (cell phone preferable). Regardless of electronic systems and databases, it is recommended to keep a paper accountability system in place (i.e., T-Cards).

Topic Consider Commercial Services

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### Consider Commercial Services

- Radio Systems
- Telephones
- Satellite
- Contract Technicians



Unit 6:  
Incident Communications Systems

Visual 6-21

### Explain the Following Key Points

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Present alternatives that a Communications Unit Leader may have available and considerations in obtaining these resources.

Sparse resources may dictate utilizing non-typical resources. Utility companies often operate large, robust radio networks. Commercial satellite providers may offer solutions, as well as local telephone and data companies.

- This is where your MOB Guide fills a role
- Define your ordering point in your MOB Guide
- Before the incident, know your authority to order and obligate fiscally

A Contract Radio Technician may be required in some situations. Tower climbing requires OSHA training. If you anticipate the deployment of a system that requires tower climbing, a qualified contractor should be identified in pre-planning (MOB Guide). Cellular providers may be of assistance in locating tower riggers.

### Suggested Discussions

- Can commercial services fill a need?
- Do you have an established contract to fill emergency requests?
- Which of these services do you need on this incident?



### Explain the Following Key Points

Present the opportunity to discuss telephone service.

- Consider vulnerability of cell service for emergency operations
  - Remember cell is still coming out into the landline telephone network at some point
- Wireless carriers may be able to provide Cellular on Wheels (COWS), Cell on Light Trucks (COLT), and other cellular and wireless resources
- How do you get landline telephone services?
  - What options exist in your community?
  - Do you have the right telephone numbers for the local phone company?
  - How do you get the government account rep?
- If the landline network is down, what other options are available (e.g., satellite, VoIP lines, etc.)?

Before requesting resources from wireless carriers, be clear on what it is you are trying to accomplish. All carriers are not the same in terms of coverage, quality, and reliability in any given area. No one system will provide service to all users. Clearly identify and get approval for any associated costs in advance. These resources may take considerable time to deploy and they may have deployment costs attached. Be sure you have written approval before requesting these resources.

- Verizon Significant Events Center (800) 981-9558
- Sprint-NEXTEL Emergency Contact (888) 639-0020

- AT&T National Communications System—National Coordinating Center (703) 235-5080

Pre-planning is key to the access of critical personnel from telephone providers in an incident.

**Suggested Discussion Questions**

- What are your requirements for plain old telephone service (POTS)?
- What are your requirements for cell service or satellite service?

**Topic** Technology Services

### Technology Services

- Do you need data devices?
- Internet connectivity?
- Establish LAN and WAN?
- Can you provide VoIP?



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Visual 6-23

**Explain the Following Key Points**

Present information regarding data services.

A “data connection” does not inherently imply reliability. Qualify that connections are suitable for public safety grade communications.

Many pieces of equipment were purchased under grant funds, and in many cases, recurrent services for service and maintenance was not covered. This resulted in the equipment being left unserviced and/or maintained so that it has become useless. If this is the case in your agency, check grant guidance as this problem has been recognized and it has been indicated that changes to this are in the works for funding for this purpose.

**Suggested Question**

There will likely be a need for data service—how can it be provided?

**Potential Answers**

Wireless carriers, Satellite providers, landline data circuits, other ideas?

**Suggested Discussion Questions**

A VoIP phone system, not just the lines—is this idea you wish to pursue or is it too vulnerable? Discuss the pros and cons.

Is this technology something that you want or need for your incident?

It is very important to keep your eyes open and stay current about what is available. Are tools resilient and still applicable to the current day?

**Topic** Declared Emergency Coordination**Explain the Following Key Points**

Present information regarding coordination during declared emergencies.

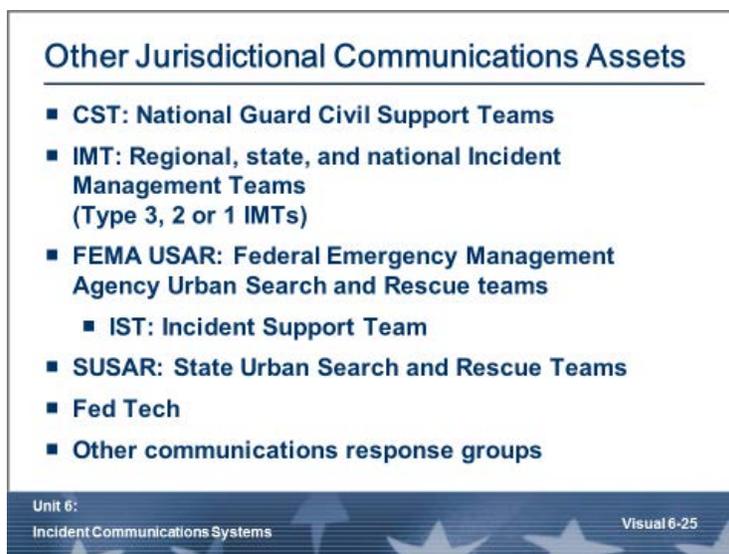
- Joint Field Offices (JFOs) generally are for the coordination of Federal responders
- Emergency Support Function 2 (ESF2): National Communications System (NCS)
- FEMA's Disaster Emergency Communications (DEC) provides tactical disaster emergency communications capabilities to support all-hazards disaster response and national security response requirements
  - Mobile Emergency Response Systems (MERS): FEMA's communications response that supports Federal, State and local responders—not disaster victims
- Emergency Management Agencies (EMA) will typically coordinate local disaster response and will be the interface to State and Federal resources
- Emergency Operations Centers (EOC) are a component of the Multiple Agency Coordination System (MACS) within NIMS; they also perform multidiscipline coordination

**Suggested Discussion**

How is communications established and coordinated with these support centers or groups?

**Topic** Other Jurisdictional Communications Assets

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**Explain the Following Key Points**

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Introduce students to a variety of jurisdiction communications assets that may be available to them.

Other Jurisdictional Communications Assets to coordinate with:

- National Guard Civil Support Teams (CSTs)
  - Many now deploy with a well-equipped communication package; check with your local team on their capabilities
- Department of Defense (DOD)
- Tactical Emergency Response Teams (TERTs)
- Regional, State, and national Incident Management Teams (Type 3, 2, or 1 IMTs)
- Federal Emergency Management Agency Urban Search and Rescue Teams (FEMA USAR Teams)
  - The teams deploy with a robust communication capability and a Communication Specialist
- State Urban Search and Rescue Teams
- Fed Tech
  - Ad-hoc group of Federal and local technical assets that track interference
- Other jurisdictional communication response groups
  - Group discussion on working with other response groups

**Suggested Discussion Question**

What other jurisdictional communications assets has the group dealt with?

**Topic** Priority Telecommunications Services
 

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### Priority Telecommunications Services

***Priority Telecommunications Services programs provide public safety and national security users the ability to communicate on telecommunications networks during times of congestion.***

- 
• Government Emergency Telecommunications Service (GETS)
- 
• Wireless Priority Service (WPS)
- 
• Telecommunications Service Priority (TSP)

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Visual 6-26

**Explain the Following Key Points**


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Introduce students to Priority Telecommunications Services.

Priority Telecommunications Services enhance the existing commercial infrastructure with priority features for public safety or national security personnel to improve their chances of completing a call when wireline and cellular telephone usage is high resulting in calls not getting through.

GETS provides priority over wireline telephones; WPS does the same over cellular networks with all major carriers, and TSP gives priority treatment to circuit repairs and installations

Government Emergency Telecommunications Services (GETS):

- Enables users to have end-to-end priority on their land-lines
- Historically offers well over a 90 percent call completion during congestion

Wireless Priority Service (WPS):

- Enhances call completion on the wireless network
- Historically offers up to a 90 percent call completion during congestion

Telecommunications Service Priority (TSP):

- Authorizes organizations to receive priority for the repair and installation (also referred to as restoration and provisioning) of critical voice and data circuits that support National Security and Emergency Preparedness (NS/EP) communications.

## Topic Priority Telecommunications Services (cont'd)

**Priority Telecommunications Services (cont'd)**

- **Government Emergency Telecommunications Service (GETS)**
  - Priority access to the public wireline network
  - GETS is supported by all major service providers 
- **Wireless Priority Service (WPS)**
  - Priority access to the public wireless network
  - WPS is available through AT&T, Edge Wireless, Southern LINC, Sprint/Nextel, T-Mobile, Verizon 
- **Telecommunications Service Priority (TSP)**
  - Establishes priority for restoration/provisioning of NS/EP circuits
  - Supported by an FCC regulatory mandate 

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Visual 6-27

**Explain the Following Key Points**

Often times, it is necessary to either prioritize the provisioning of new communications services or prioritize the restoration of services that have been damaged or otherwise are not functioning. This is especially true in disaster situations when numerous outages may occur at once or systems become overloaded by demand. This topic introduces three major priority service programs that have been established by the Federal government in order to provide prioritized system access for designated users or to allow for prioritized installation/restoration of services.

The Federal government administers these priority communications services that are provided by the wireline and wireless telecommunications carriers and are necessary to promote the nation's security and emergency preparedness (NS/EP) functions.

## Topic Government Emergency Telecommunications Service (GETS)

**Government Emergency Telecommunications Service (GETS)**

- GETS is a no cost calling card that provides priority for outbound calls to all regular telephone numbers
- GETS uses the capacity of the public network, it is not a separate system
- Caveats:
  - GETS will not work without a dial tone
  - May experience soundless delays while queuing
  - GETS does not mitigate cellular congestion
  - GETS cannot be used for toll free numbers



Unit 6:  
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Visual 6-28

### Explain the Following Key Points

Introduce students to GETS.

Because access to the public communications network is degraded in times of crisis, the National Communications System programs ensure priority access for critical users.

### Government Emergency Telecommunications Service (GETS)

- Priority access to the public wireline network
  - GETS uses the capacity of the public network; it is not a separate system
- GETS is supported by all major service providers
- GETS is a no-cost calling card that provides priority for outbound calls to all regular telephone numbers

### Important to Know

- GETS will not work without dial tone
- May experience soundless delays while queuing
- GETS does not mitigate cellular congestion
- GETS cannot be used for toll-free numbers
- Need to test GETS occasionally
- Identify point of contact for GETS
- Useful over satellite phones
- For MOB Guide, find out who in your agency has GETS and WPS cards

GETS operations and administration support:

**Website**            <http://gets.ncs.gov/>

**E-Mail:**            [gets@dhs.gov](mailto:gets@dhs.gov)  
To apply for or to manage your GETS account:  
[gwids@saic.com](mailto:gwids@saic.com)

**Telephone:**        **1-866-NCS-CALL** (1-866-627-2255)

All Communication Unit staff should have GETS Cards.

GETS: Government Emergency Telecommunications Service  
(<http://www.dhs.gov/government-emergency-telecommunications-service-gets>)

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**Topic** GETS (cont'd)
 

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**Explain the Following Key Points**


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Discuss how GETS Works.

- The GETS program has been in existence since 1994. DHS has worked closely with telecommunications carriers to develop this program, which enables AT&T, Verizon and Sprint long distance networks and over 85% of the Local Exchange Carrier switches across the country to recognize a GETS call and give it priority treatment from origination to destination.

Key features:

- GETS calls will wait or queue for a resource to be available to set up the call.
- GETS calls will try another long distance carrier if one is busy.
- GETS calls not subjected to carriers' call restrictions like the general public when the network is congested.
- GETS calls will have priority routing to a dialed cell phone if on a WPS carrier \*Note: no priority from a cell phone until the call reaches the Public Switched Telephone Network (PSTN).
- Although there are no priority features on the satellite segment of a satellite phone call, GETS will work when the call transitions to the PSTN.

Typical problems with GETS

- Calls from a hotel, office PBX, or pay phone may not have programmed 710 as an available area code – solution – use the back of the card for alternate GETS access numbers.

- Silence on the line – solution – do not hang up, call is queuing for resources.
- Will not connect to a toll-free number – Future version of AT&T and Verizon GETS will have toll free dialing, but until then, you must find the “assigned” number to common toll free numbers.
- Misdialing the 12 digit PIN – solution – program it as a speed dial on desk and cellular phone.
- No dial tone – no solution – GETS needs dial tone to work.

**Topic**                      Wireless Priority Service (WPS)

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### Wireless Priority Service (WPS)

- WPS provides priority for emergency calls made from cell phones including PDAs
- WPS feature is added on a per-phone basis for Alltel, AT&T, Cellular South, Edge Wireless, SouthernLINC, Sprint Nextel, Sprint PCS, T-Mobile, and Verizon Wireless
- Caveats:
  - WPS will not work without a signal
  - Users may experience waits up to 28 seconds
  - WPS may not work when roaming
  - 9-1-1 loses geo locator



\*272 +  
Destination  
number

Unit 6:  
Incident Communications Systems
Visual 6-30

### Explain the Following Key Points

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Introduce students to the Wireless Priority Service.

(<https://www.dhs.gov/wireless-priority-service-wps>)

#### WPS operations and administration support:

**Website**                      [www.wps.ncs.gov](http://www.wps.ncs.gov)

**E-Mail:**                      [wps@dhs.gov](mailto:wps@dhs.gov)

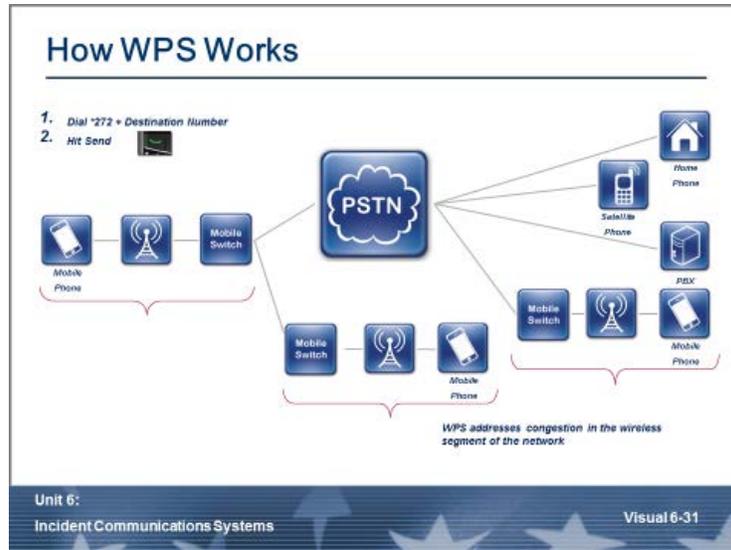
**Telephone:**                **1-866-NCS-CALL** (1-866-627-2255)  
**1-703-676-CALL** (2255)

- Priority access to the public wireless network. WPS provides priority for emergency calls made from cell phones, including PDAs.
- WPS feature is added on a per-phone basis for Alltel, AT&T, Cellular South, Edge Wireless, SouthernLINC, Sprint Nextel, Sprint PCS, T-Mobile, and Verizon Wireless.
- Be sure WPS is assigned to fixed cellular units (Telular).
- WPS is an essential tool for COMM Unit personnel.

#### Important to Know

- WPS will not work without a signal.
- Users may experience waits up to 28 seconds.
- WPS may not work when roaming.
- 9-1-1 loses geo locator.

- WPS typically has a monthly fee per phone not to exceed \$4.50 and is not available in all carriers.
- Utilizes the same point of contact that GETS does.



### Explain the Following Key Points

Discuss how WPS Works.

WPS started in 2004. WPS provides priority voice access to the cellular networks when abnormal call volumes exist, providing enhanced call completion for key NS/EP users, including critical Public Safety personnel. WPS is available with both CDMA and GSM carriers: AT&T Mobility, Sprint, T-mobile, Verizon Wireless, Cellcom, C Spire, GCI, and SouthernLINC.

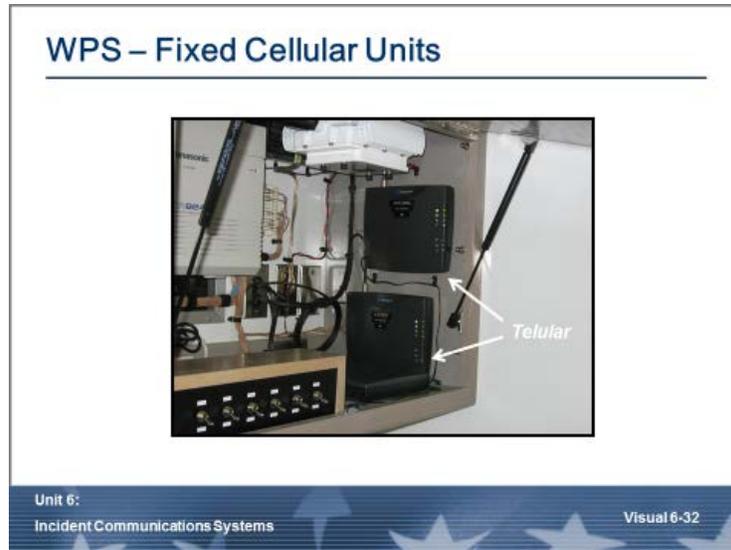
Key features:

- WPS calls will queue for the next available radio channel
- CDMA WPS calls will receive priority on the signaling channel that sets up the call
- WPS calls do receive most GETS features when the call traverses the Public Switch Telephone Network; however use of WPS + GETS together will ensure all features are available

Typical problems with WPS:

- When upgrading/purchasing a phone and the WPS feature doesn't transfer – solution – check for WPS immediately to ensure feature transferred. If WPS has not transferred, call your wireless provider
- User hits the SEND key after \*272 but before entering the destination number. (Should enter \*272 + Destination Number + SEND).
- Silence on the line – solution – do not hang up for 30 seconds, call is queuing for resources.

- Can't use \*272 with contact list – solution – pre-program a second entry number for official calls that previews the call with \*272.
- No signal – no solution – WPS needs a signal to work.
- Cannot dial 911 – WPS will not forward geo data to PSAP.

**Topic** WPS – Fixed Cellular Units**Explain the Following Key Points**

Provide a visual representation of a fixed cellular unit.

This image shows cellular fixed wireless devices in a mobile communications vehicle. Verizon and AT&T units are shown.

Fixed device emulates POTS line on cellular network.

Often found in Emergency Operations Centers (EOCs), Communications Centers, and Command Vehicles.

Should have Wireless Priority Service (WPS) on line(s).

**Topic** Telecommunications Service Priority (TSP)**Explain the Following Key Points**

Introduce Telecommunications Service Priority (TSP) to students.

**TSP operations and administration support:**

In 1988, the Federal Communications Commission issued a Report and Order (FCC 88-341) establishing the TSP Program as the regulatory, administrative, and operational framework for priority provisioning and restoration of qualified NS/EP telecommunications services.

Please contact the TSP Program Office staff with questions regarding the TSP Program between 8 a.m. and 6 p.m. (EST), Monday through Friday.

**For Restoration Requests:**

NCS Help Desk, between 8 a.m. and 6 p.m.  
Eastern time, Monday thru Friday:  
866-NCS-CALL (866-627-2255) or 703-676-2255

TSP Program Office Staff, between 8 a.m. and 4:30 p.m. Eastern time, Monday thru Friday:  
703-235-5359

<b>For Emergency and Essential Provisioning Requests:</b>	TSP Program Office Staff, between 8 a.m. and 4:30 p.m. Eastern time, Monday thru Friday: 703-235-5359 After normal working hours: 703-235-5080 (ask for the TSP Duty Coordinator)
<b>Fax</b>	703-235-5806. For secure fax number, call 703-235-5080
<b>Email</b>	<a href="mailto:tsp@dhs.gov">tsp@dhs.gov</a>

The TSP program consists of two components: Restoration and Provisioning.

Supported by an FCC regulatory mandate, TSP establishes priority for restoration/provisioning of NS/EP circuits. TSP restoration priorities are applied to new or existing telecommunication services to ensure they are restored by telecommunications vendors before a non-TSP program user.

Note that TSP restoration assignments must be requested and assigned before a service outage occurs. In other words, a user cannot request restoration assignments for critical circuits after a natural or technical disaster strikes.

TSP provisioning priorities facilitate the priority installation of new telecommunication services by vendors in a shorter than normal time interval. However, this service cannot be used to compensate for inadequate planning on the part of the user.

With the exception of EMERGENCY provisioning orders, restoration orders are processed before new service provisioning orders. In all cases the service order is expedited according to the service vendor's "Best Effort."

**Topic** Candidate Organizations

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Cities/Counties/States/Districts	Hospitals/Medical Services
Office of Emergency Management	Public Health
Police/Sheriff/Fire	Transit Agencies
Water, Gas, Power	Ports/Airports
Telecom	Search and Rescue
Public Works	School and College Districts
Irrigation Districts/Flood Control	Volunteer Agencies
Agencies included in Emergency Management Plans	Critical Infrastructure Suppliers
Financial Institutions	National Guard

Unit 6:  
Incident Communications Systems

Visual 6-34

**Explain the Following Key Points**

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Discuss candidate organizations.

This is a reference list of typical organizations that can use Priority Services.

**Topic** Candidate Locations/Functions

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**Candidate Locations/Functions**

Operations Centers	Police/Fire/EMS Dispatch
Back-up EOC	City/County Yards
Command Vehicles	Remote Offices
PSAPs (911 Center)	Power/Pump Stations
Computer/IT Center	Shelters

Unit 6:  
Incident Communications Systems

Visual 6-35

**Explain the Following Key Points**

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Continue discussions on candidate locations/functions.

**Topic**Additional Information

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### Additional Information

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For more information visit:

<http://www.dhs.gov/gets>

<http://www.dhs.gov/wps>

<http://www.dhs.gov/tsp>

For assistance setting up accounts:

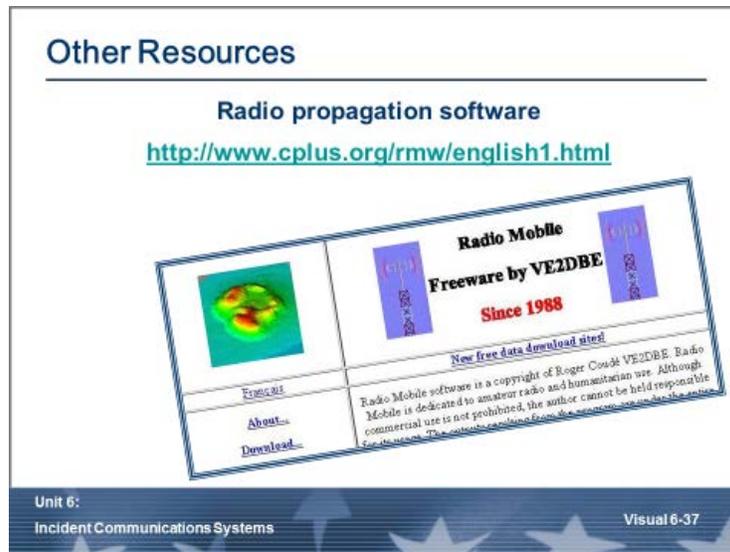
**DHS Priority Telecommunications Service Center**  
**1-866-627-2255**  
**Monday - Friday, 8 AM to 6 PM Eastern Time**  
**Follow voice prompts for each service**

Unit 6:  
Incident Communications Systems

Visual 6-36

**Explain the Following Key Points**

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### Explain the Following Key Points

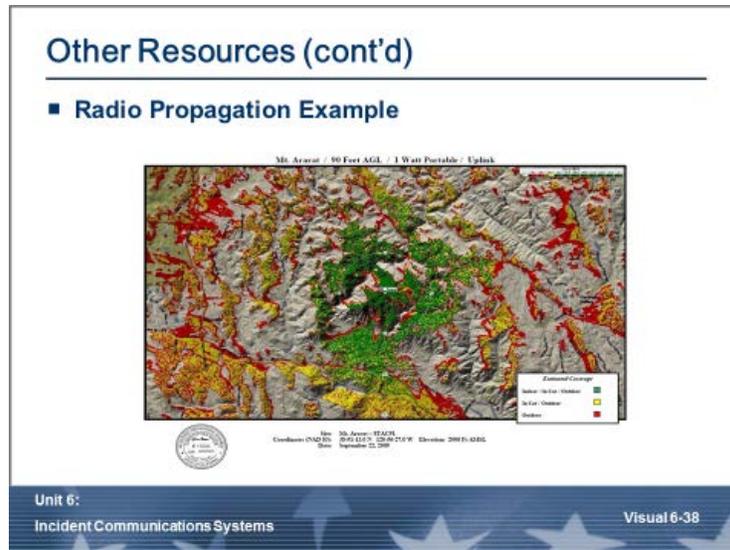
Present information regarding radio propagation software.

The learning curve for the proper utilization of these packages is steep. It may give an approximation of coverage, but it never replaces field testing. Low-cost or shareware programs are unlikely to produce usable results in a field environment.

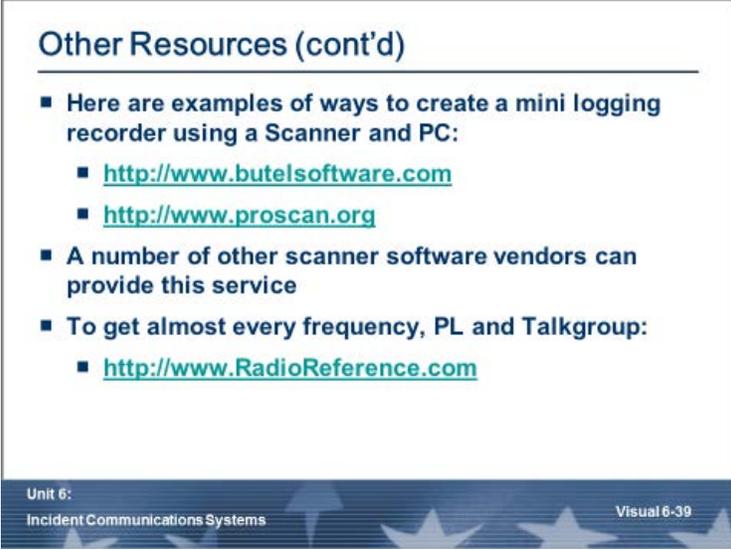
Propagation software may provide an approximation of coverage, but shouldn't be used for hard planning data.

Systems should be physically tested and not deployed solely on the basis of propagation software.

## Topic Other Resources (cont'd)

**Explain the Following Key Points**

Provide a visual example of a radio propagation map.

**Topic** Other Resources (cont'd)

**Other Resources (cont'd)**

- Here are examples of ways to create a mini logging recorder using a Scanner and PC:
  - <http://www.butelsoftware.com>
  - <http://www.proscan.org>
- A number of other scanner software vendors can provide this service
- To get almost every frequency, PL and Talkgroup:
  - <http://www.RadioReference.com>

Unit 6:  
Incident Communications Systems

Visual 6-39

**Explain the Following Key Points**

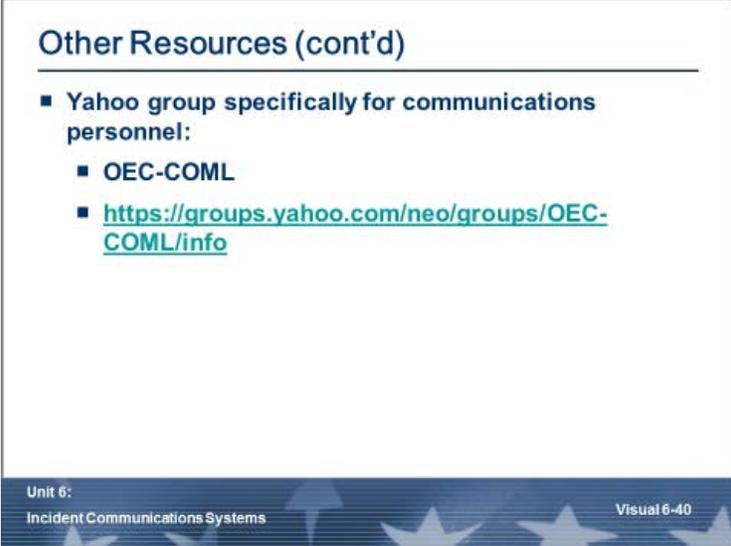
Continue presenting additional resources.

In absence of a logging recorder, a makeshift logger can be created with a personal computer and a scanner. These are two links for software.

RadioReference.com is not an official source. It may provide a snapshot of frequency use in an area. It should not be used for incident planning.

Topic Other Resources (cont'd)

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**Other Resources (cont'd)**

- Yahoo group specifically for communications personnel:
  - OEC-COML
  - <https://groups.yahoo.com/neo/groups/OEC-COML/info>

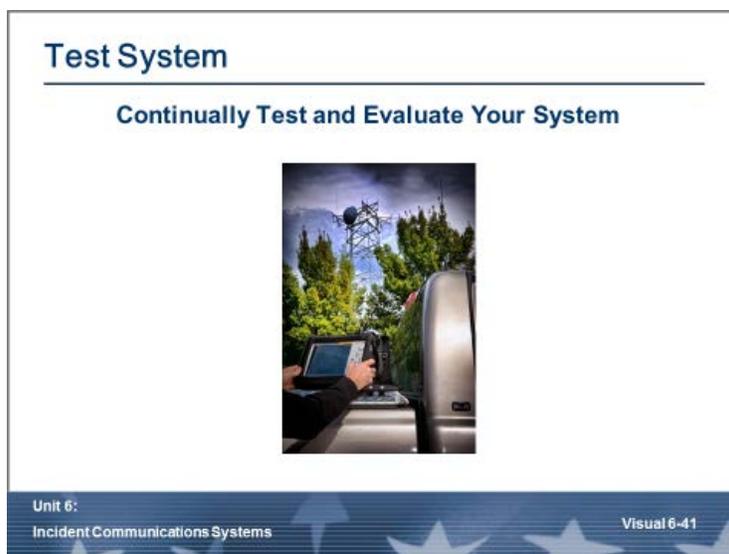
Unit 6:  
Incident Communications Systems

Visual 6-40

### Explain the Following Key Points

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Provide students with access information to OEC-Communications Unit Leader Yahoo group.



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### Explain the Following Key Points

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Remind the Communications Unit Leader that continual testing is required.

With complex systems, constant monitoring is required to ensure the system has not been degraded and to make improvements. Query your performance with actual users in the field.

There is no substitute for asking responders if the systems are meeting their needs. Reengineer if necessary or add equipment to fill in gaps. Try to meet their needs as best you can.

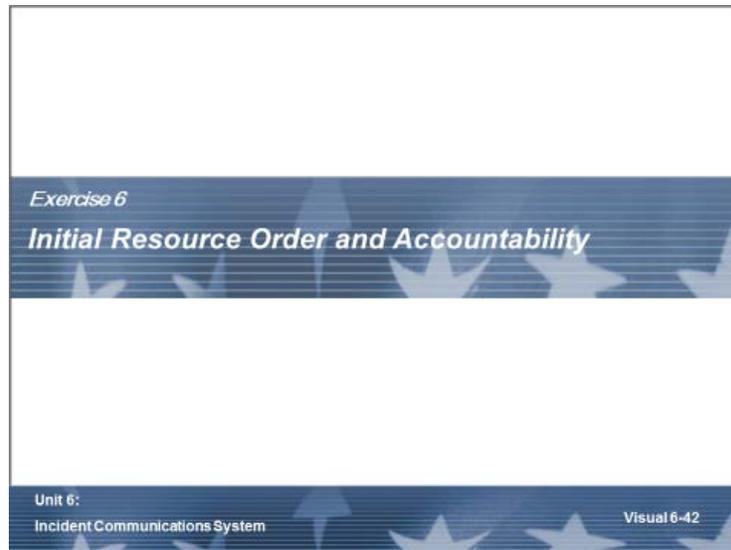
Just keying up the radio and hearing the repeater drop is not a test. Systems must be tested in the area of operations and preferably with field personnel.

Test and retest frequently. Monitor performance based on responder input. Stay ahead of the curve.

## Topic

Exercise 6: Initial Resource Order and Accountability

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**Explain the Following Key Points**

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**Retrieve Exercise 6 from the Instructor Guide located beneath the Unit 6 exercise tab before proceeding.**

Refer to Exercise 6: Initial Order and Accountability.

The purpose of the exercise is to provide the participants with an opportunity to order supplies, personnel, and equipment on the ICS Form 213 – General Message. This exercise will also provide the participants with an opportunity to identify the pros and cons of specific tracking systems for accountability purposes during an incident. This exercise is scheduled to last approximately 45 minutes, including small group discussions and presentation of group findings.

A presentation slide titled "Objectives Review" with a list of five objectives. The slide has a blue header and footer. The footer contains the text "Unit 6: Incident Communications Systems" on the left and "Visual 6-43" on the right.

**Objectives Review**

1. *Describe the COML's responsibilities in establishing an incident radio communications system.*
2. *Describe use of command and tactical nets.*
3. *What are the requirements for establishing an incident radio communications system?*
4. *Describe specific communication information gathered.*
5. *Describe considerations for evaluating needs and ordering supplies, materials, and personnel to keep unit operating.*

Unit 6:  
Incident Communications Systems

Visual 6-43

### Explain the Following Key Points

Review the Enabling Objectives for this unit to ensure that the class has obtained the knowledge necessary to successfully meet the Unit Terminal Objective.

Pose the Unit Enabling Objectives as questions. Ask the group to give a brief example/short explanation to answer each question. Try to call on a different student for each objective.

This is not intended to be an inclusive discussion of all material covered in Unit 6, but rather a quick and engaging way to wrap up the unit, and reconnect the students to the material before moving on to Unit 7.

Ask the students to write down the top three to five things they learned in this unit on their ICS Form 214.

Leave the Objectives Review slide up so that students can think about what they learned in relation to the objectives.

At the end of the day collect their ICS Form 214s. This will help identify what the students have learned and what areas may be especially important to highlight throughout the rest of the course.

This activity should be done at the end of each unit.

### Unit Terminal Objective

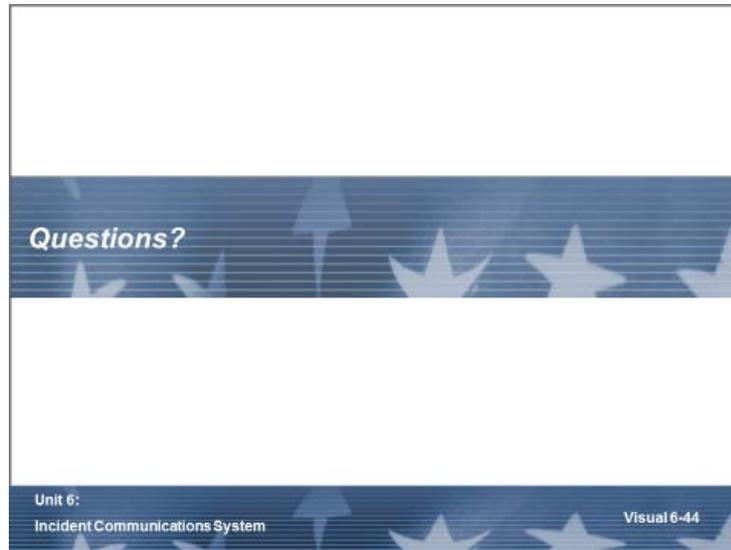
At the conclusion of the unit, the student will describe the Communications Unit Leader responsibilities in establishing an incident radio communications system. The student will also be able to describe the actions and considerations necessary to mobilize for an incident and gain situational awareness.

**Unit Enabling Objectives**

- Describe the Communication Unit Leader's responsibilities in establishing an incident radio communications system
- Identify Communications Unit Leader incident information sources
- Describe use of command and tactical nets
- Identify requirements for establishing an incident radio communications system
- Identify and describe necessary actions to ensure readiness for assignment
- Describe the information gathered from the initial meetings, briefings, and documents
- Describe specific communication information gathered
- Evaluate needs and order supplies, materials, and personnel to keep unit operating

Topic

Questions?

**Explain the Following Key Points**

Provide students an opportunity to ask questions and seek clarification on presented material in this unit.

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