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# Unit 6: Incident Communications Systems

STUDENT 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.

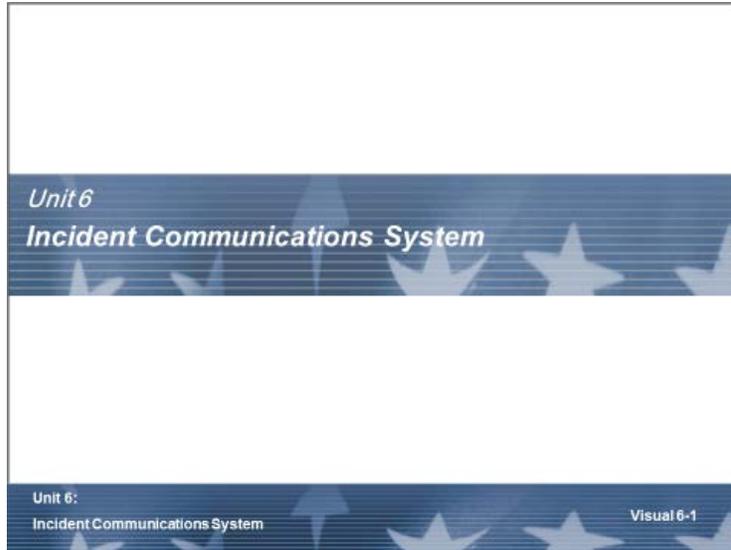
<b>Topic</b>	<b>Time</b>
Lesson	1 hour, 30 minutes
Exercise 6	45 minutes
<b>Total Time</b>	<b>2 hours, 15 minutes</b>

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**Topic**

Unit Title Slide

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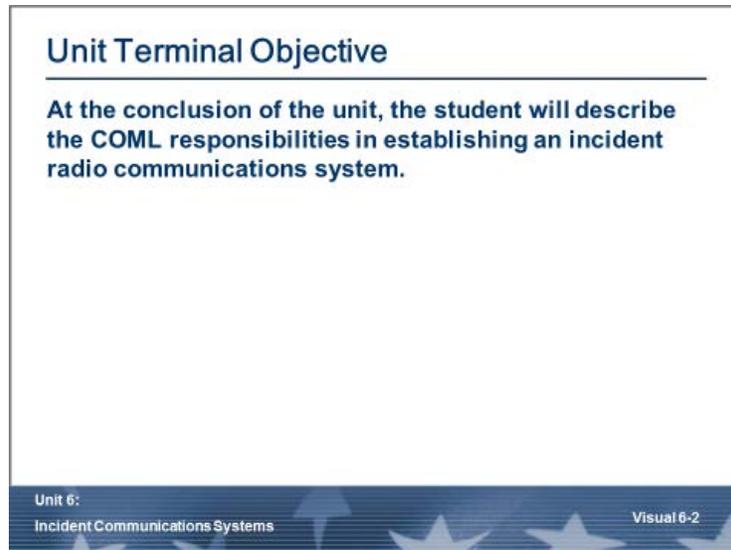


**Key Points**

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**Topic** Unit Terminal Objective

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## Key Points

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### Unit Terminal Objective

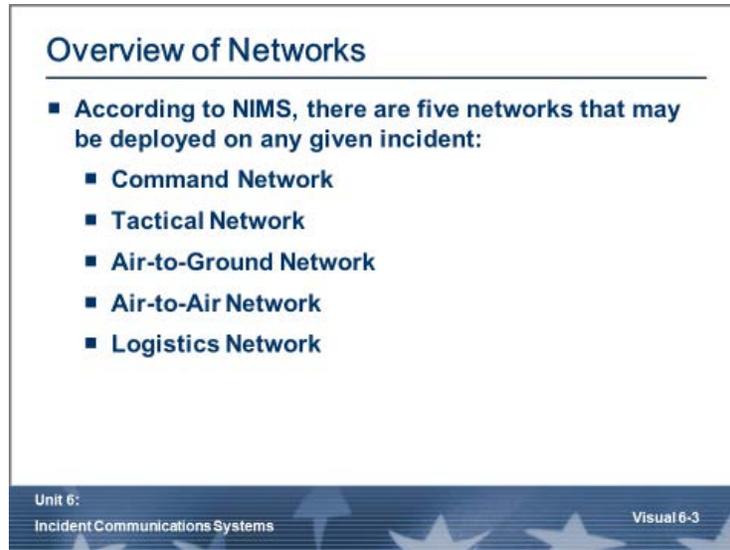
At the conclusion of the unit, the student will describe the Communications Unit Leader's responsibilities in establishing an incident radio communications system.

### 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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**Key Points**

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

- Command Network may be used by 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, but 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

**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**

Unit 6:  
Incident Communications Systems

Visual 6-4

**Key Points**

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- 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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Incident Communications Systems

Visual 6-5

**Key Points**

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There may be several tactical networks at the Division (geographic)/Group (function) level that may use mobile communications units at the incident to patch tactical networks.

Usually they are the most challenging to design because they have to consider all tactical requirements.

Tactical networks may require mobile communications units to follow tactical units or to provide patches. They should not be patched together, except as a last resort, because operational needs require consistency in radio systems to avoid problems.

**Topic**      Tactical Interoperability

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### Tactical Interoperability

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<ul style="list-style-type: none"><li>■ Fire</li><li>■ Law Enforcement</li><li>■ Emergency Medical Services</li><li>■ Hospitals</li><li>■ Emergency Management</li><li>■ Explosive Ordnance Disposal</li><li>■ HAZMAT</li><li>■ Urban Area Search and Rescue Teams (USAR)</li><li>■ Transportation (Public and Private)</li><li>■ Utilities</li></ul>	<ul style="list-style-type: none"><li>■ Public Works</li><li>■ Public Health</li><li>■ Military</li><li>■ DHS</li><li>■ Schools</li><li>■ Environmental Health</li><li>■ Medical Examiner</li><li>■ Radiological Support</li><li>■ Nongovernmental Organizations (NGOs) such as the Red Cross</li></ul>
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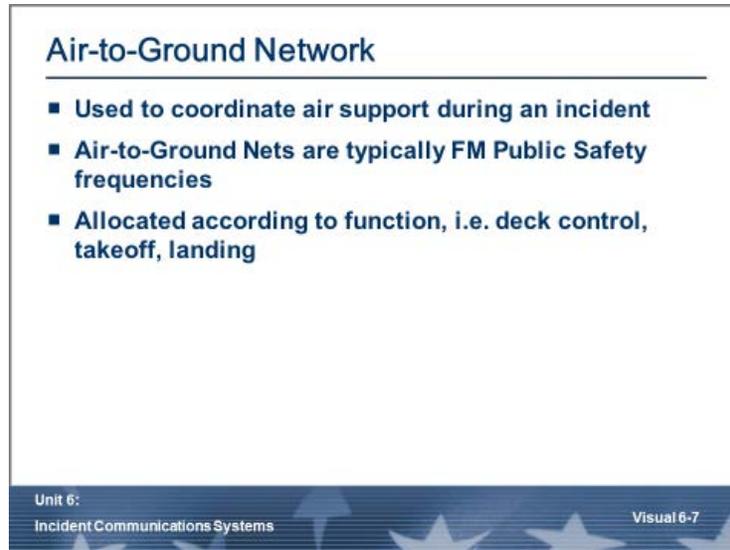
Unit 6:  
Incident Communications SystemsVisual 6-6

**Key Points**

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**Topic** Air-to-Ground Networks

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**Key Points**

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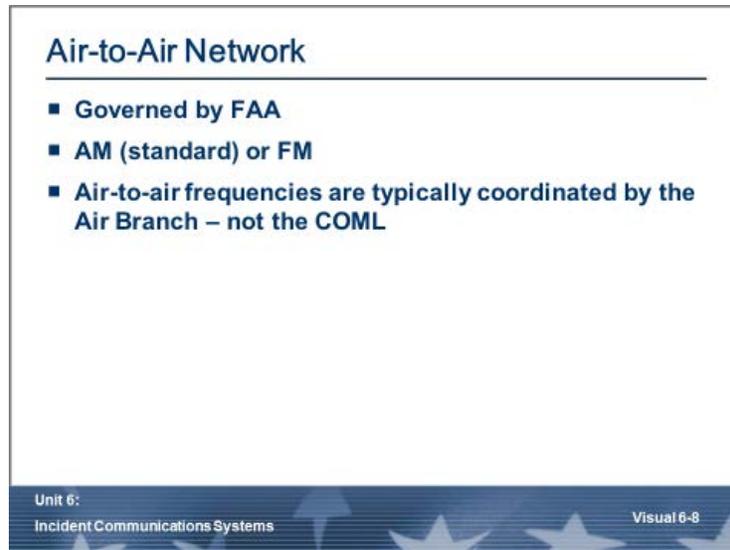
An air-to-ground network is used to coordinate air support during an incident.

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.

**Topic** Air-to-Air Network

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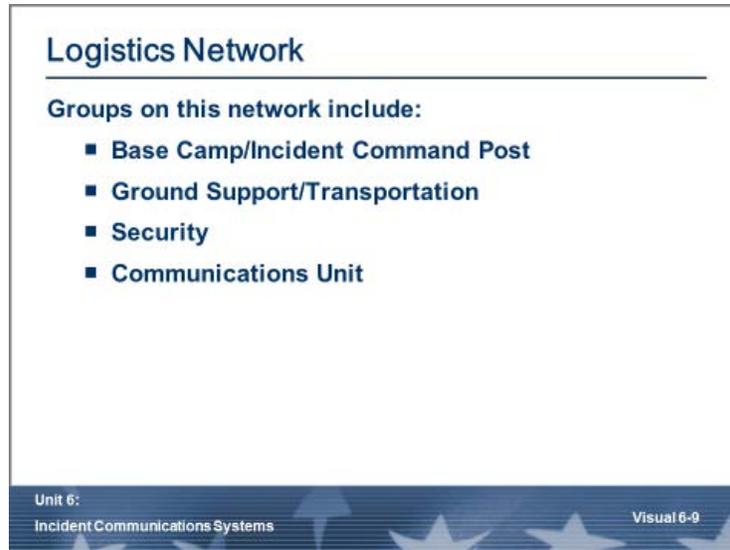
**Key Points**

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

**Topic** Logistics Network

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### Key Points

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The logistics network can be a critical component to incident management and its importance 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.

**Topic** Initial Priorities

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**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?**

Unit 6:  
Incident Communications Systems

Visual 6-10

**Key Points**

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The COML will have a number of priorities that require attention:

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

Because of concurrent priorities, the Logistics Chief or Incident Commander may need to establish the order of priorities.

Constant communications must be kept with the Communications POC, especially if the area is unfamiliar.

**Topic**            Designing Command Radio System

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**Designing Radio Systems**

- 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 Systems

Visual 6-11

**Key Points**

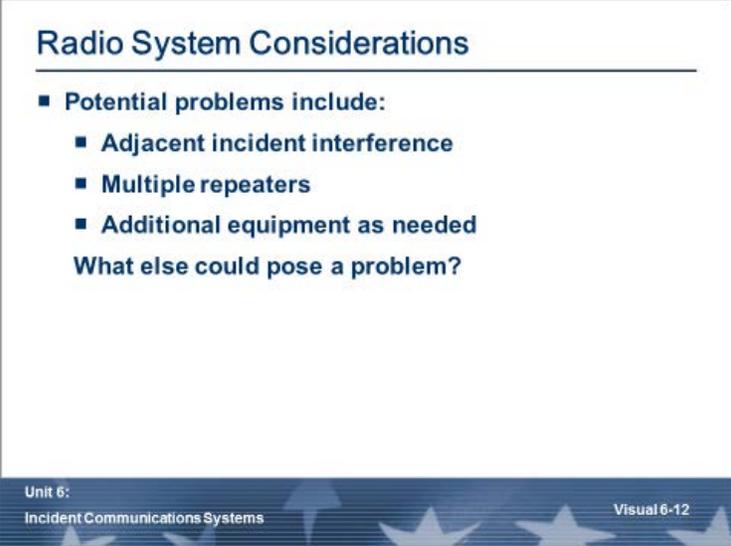
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When analyzing coverage, the Communications Unit Leader must consider:

- 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

**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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Incident Communications Systems

Visual 6-12

**Key Points**

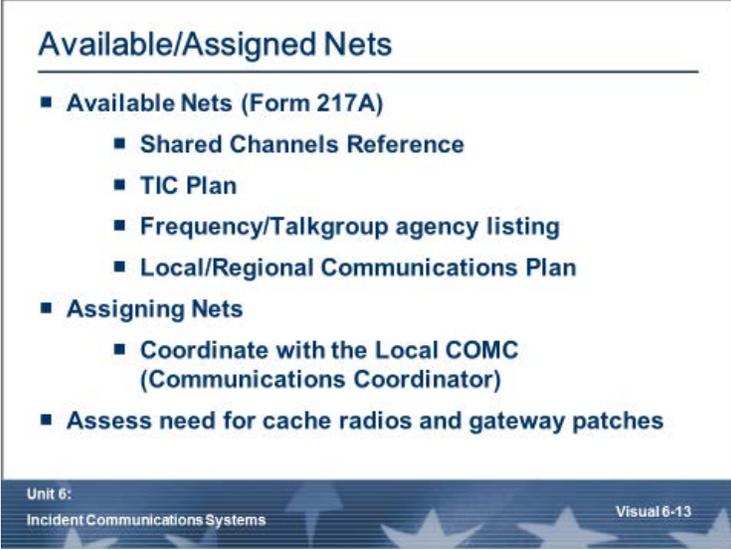
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On large and complex incidents, the Communications Unit Leader may be dealing with:

- Adjacent incident interference
  - Interference with normal daily response radio traffic (e.g., Northridge earthquake; Atlanta tornado; Ft. Worth tornado) can be a complication
- 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

Topic Available/Assigned Nets

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**Available/Assigned Nets**

- Available Nets (Form 217A)
  - Shared Channels Reference
  - TIC Plan
  - Frequency/Talkgroup agency listing
  - Local/Regional Communications Plan
- Assigning Nets
  - Coordinate with the Local COMC (Communications Coordinator)
- Assess need for cache radios and gateway patches

Unit 6:  
Incident Communications Systems

Visual 6-13

### Key Points

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Form 217A, TIC Plan, or local or regional Communications Plan.

Coordinate with the local Communications Coordinator, if designated.

**Topic****Implementing Communications Solutions**

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**Implementing Communications Solutions**

- Use a shared system?
- Use shared channels?
- Activate a radio cache?
- Order a gateway?
- Utilize a mobile communications unit?
- Set up repeaters and portable towers?
- Document the plan with the ICS Form 205

Unit 6:  
Incident Communications Systems

Visual 6-14

**Key Points**

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**Topic** Initial Order—Personnel

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**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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Incident Communications Systems

Visual 6-15

**Key Points**

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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 Communications Unit Leader plans to create outposts or expects 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

**Key Points**

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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 predictions are typically based on 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

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### Initial Order Procedure

- **General Message Form (ICS Form 213)**
  - Yellow and pink submitted to recipient
  - White retained by sender
  - Pink returned to sender when reply issued
- Distribute copies as appropriate
- Provide as much information as possible
  - Give specific delivery time, date and location. Do not use “ASAP”.
- Route through established ordering channels (often the LSC or SPUL)

Unit 6:  
Incident Communications Systems Visual 6-17

**Key Points**

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Use the General Message Form (ICS 213) to order supplies, making sure to include quantities and descriptions as well as position codes. Orders should be routed through the established channels, generally the Logistics Section Chief or Supply Unit Leader.

When filling out the ICS 213, be specific and include details. Fill out all blocks on the form. Make delivery times practical (“ASAP” is not acceptable). Be specific when ordering quantities (packages versus pallets). Personnel requests should anticipate practical travel times.

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

- Determine required coverage area
- Locate equipment sites
- Provide for equipment security
- Avoid interference issues
- Apply local and regional SOPs
- Adhere to mutual aid agreements

Unit 6:  
Incident Communications Systems

Visual 6-18

**Key Points**

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**Topic** Swap/Cache Radios

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**Swap/Cache Radios**

- Provide radio cache programming coordination and validation
- Accountability



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Incident Communications Systems

Visual 6-19

**Key Points**

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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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1. KIND OF PROPERTY BK RADIO	2. CACHE/UNIT NAME K186	3. I.D. NO. 07
4. SIZE/CAPACITY		
1 - "AA" CLAWHELL		
1 - REMOTE SPEAK MIC		
1 - LEATHER CASE/HEAT		
<b>ASSIGNMENT RECORD</b>		
5. DATE/TIME 08-19-06	6. OPERATIONAL PERIOD 0600 TO 1800	
7. NAME JON DDE		
8. HOME BASE CITY OF CONCORD PD		
9. INCIDENT ASSIGNMENT STREET DIVISION		
10. RETURNED DATE/TIME	11. TRANSFERRED TO	
5. DATE/TIME	6. OPERATIONAL PERIOD	
7. NAME		
8. HOME BASE		

Unit 6:  
Incident Communications Systems
Visual 6-20

## Key Points

They may seem simple, but they don't take batteries and they don't break.

It is highly recommended to avoid using abbreviations on T-Cards if possible.

If it cannot be avoided, keep an abbreviations list available for review as personnel change from one operational period to another.

**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

### Key Points

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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.

**Topic** Solutions for Telephone and Data**Key Points**

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.

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 to 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

Topic Technology Services

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### Technology Services

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



Unit 6:  
Incident Communications Systems

Visual 6-23

### Key Points

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Consider vulnerability of any system you order. Make sure it will all work together when ordering.

Is VoIP 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

**Declared Emergency Coordination**

- **Federal Coordination:**
  - **JFO: Joint Field Offices**
  - **ESF2: National Communications Systems**
  - **DEC: FEMA Disaster Emergency Communications Division**
    - **MERS: Mobile Emergency Response Systems**
- **State/Local Coordination:**
  - **EMA: State/Local Emergency Management Agencies**
  - **EOC: Emergency Operations Centers**
  - **Communications Coordinator**

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Incident Communications Systems

Visual 6-24

**Key Points**

- 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

**Topic** Other Jurisdictional Communications Assets

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**Key Points**

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Other jurisdictional communications assets to coordinate with include:

- 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

**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)

Unit 6:  
Incident Communications Systems

Visual 6-26

**Key Points**

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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.

**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

### 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



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Visual 6-28

**Key Points****Government Emergency Telecommunications Service (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.

- 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
  - All COMM Unit staff should have GETS Cards

**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 the 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:**

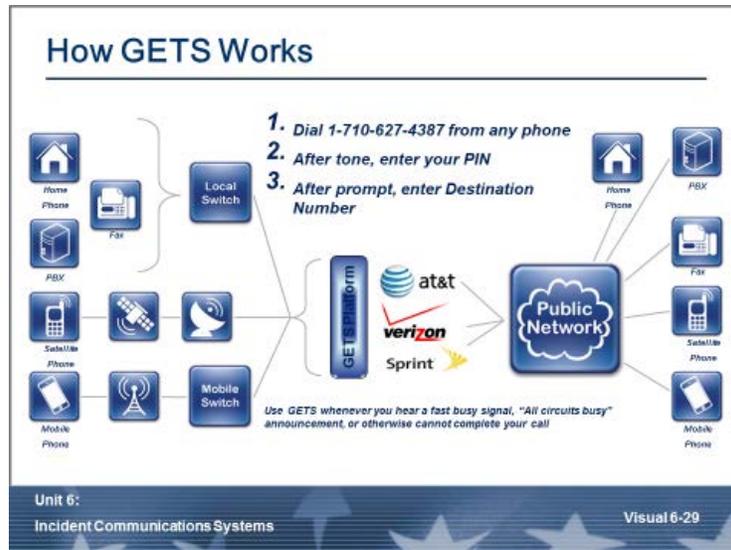
**Website**        <http://gets.ncs.gov/>

**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)

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

## Topic GETS (cont'd)



## Key Points

- 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

### Key Points

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- 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 Communications 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 geographic 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

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

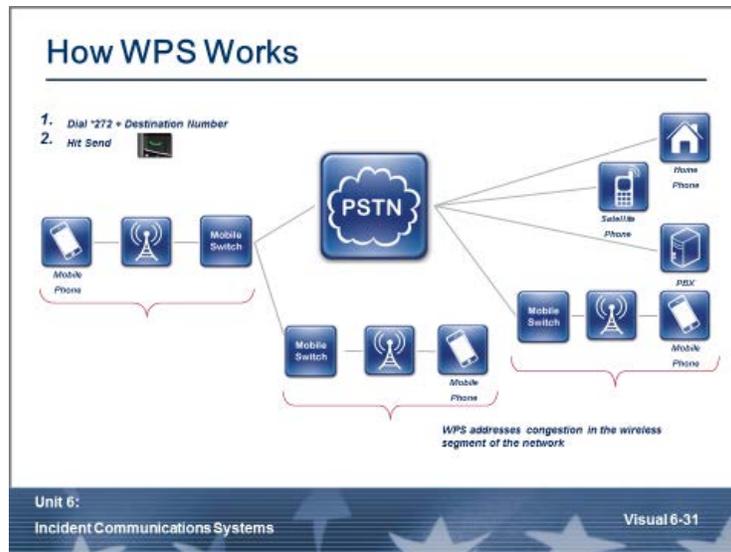
### WPS operations and administration support:

**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)

## Topic WPS (cont'd)

**Key Points**

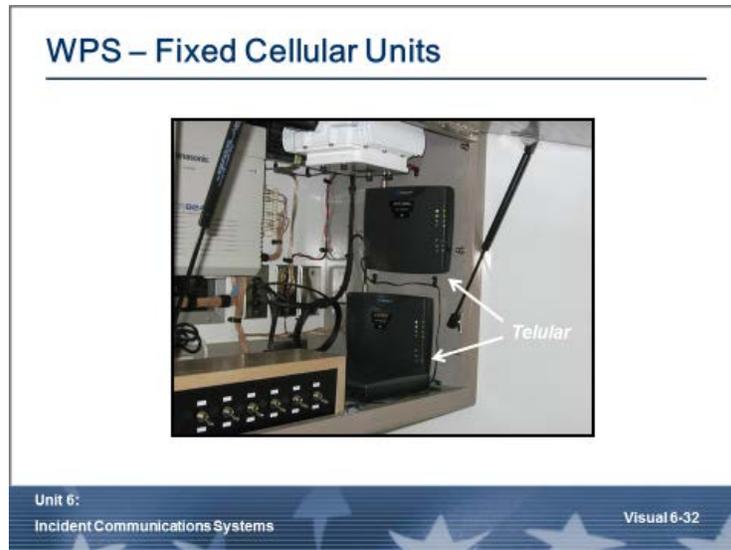
Discuss how WPS Works.

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.

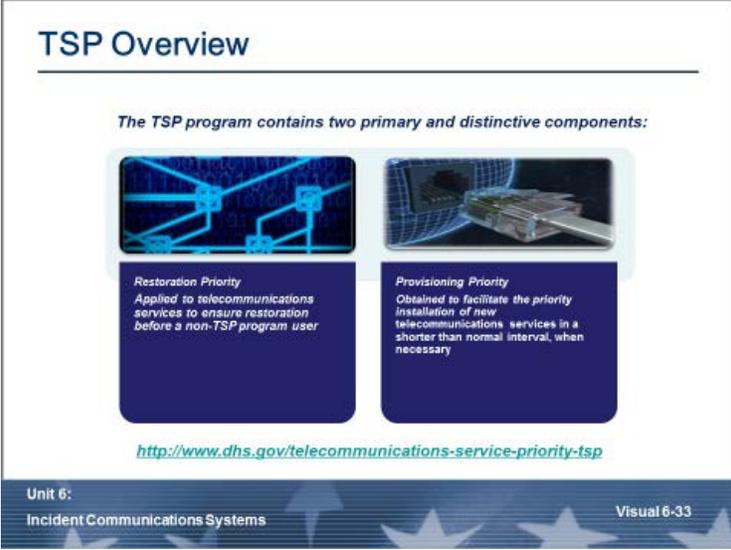
**Topic** WPS – Fixed Cellular Units**Key Points**

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)

**TSP Overview**

The TSP program contains two primary and distinctive components:

 <p><b>Restoration Priority</b> Applied to telecommunications services to ensure restoration before a non-TSP program user</p>	 <p><b>Provisioning Priority</b> Obtained to facilitate the priority installation of new telecommunications services in a shorter than normal interval, when necessary</p>
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<http://www.dhs.gov/telecommunications-service-priority-tsp>

Unit 6:  
Incident Communications Systems

Visual 6-33

**Key Points**

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."

**TSP operations and administration support:**

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

**For Emergency and Essential  
Provisioning Requests:**

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)

**Fax**

703-235-5806. For secure fax number, call  
703-235-5080

**Email**

[tsp@dhs.gov](mailto:tsp@dhs.gov)

**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

**Key Points**

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**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

**Key Points**

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## 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

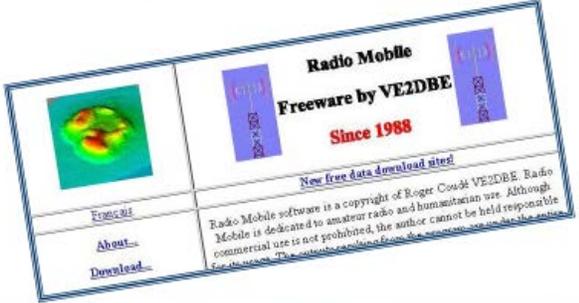
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Key Points

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Other Resources

Radio propagation software  
<http://www.cplus.org/rmw/english1.html>



Unit 6:  
Incident Communications Systems

Visual 6-37

## Key Points

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)

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**Other Resources (cont'd)**

- **Radio Propagation Example**

Mt. Ararat - 90 Feet AGL - 1 Watt Portable - Uplink

Signal - No Line Obstacles  
No Line Obstacles  
Obstacles

Unit 6:  
Incident Communications Systems

Visual 6-38

Key Points

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

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**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

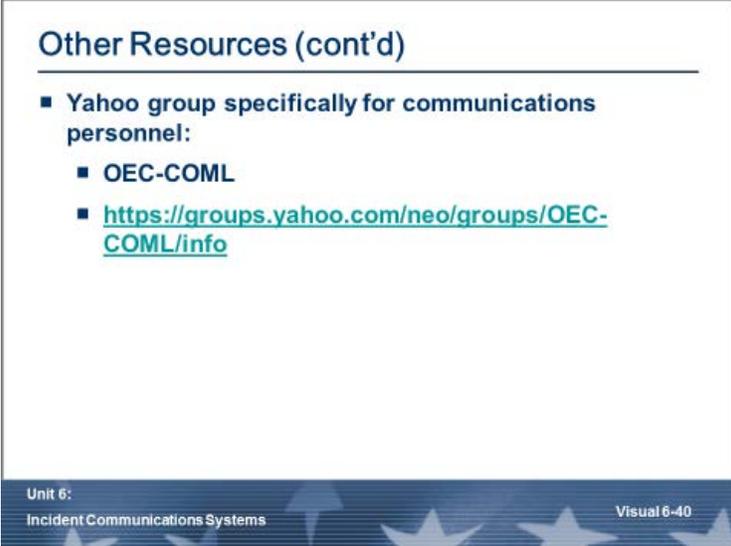
Visual 6-39

**Key Points**

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Topic Other Resources (cont'd)

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**Other Resources (cont'd)**

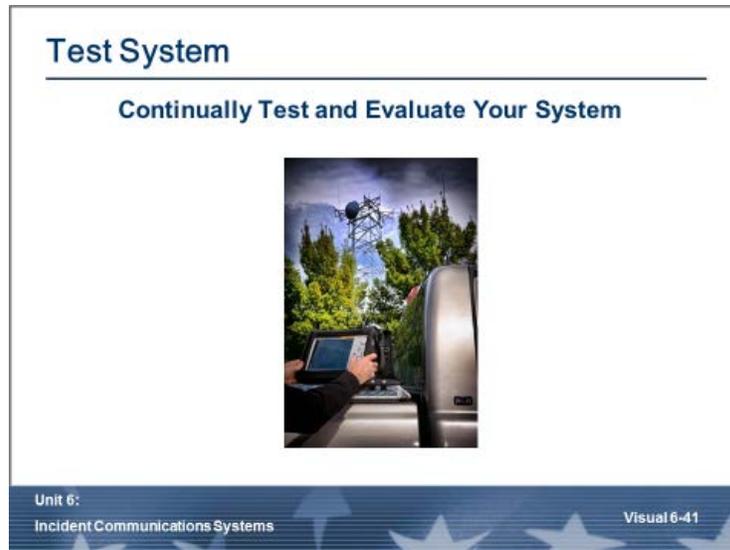
- Yahoo group specifically for communications personnel:
  - OEC-COML
  - <https://groups.yahoo.com/neo/groups/OEC-COML/info>

Unit 6:  
Incident Communications Systems

Visual 6-40

**Key Points**

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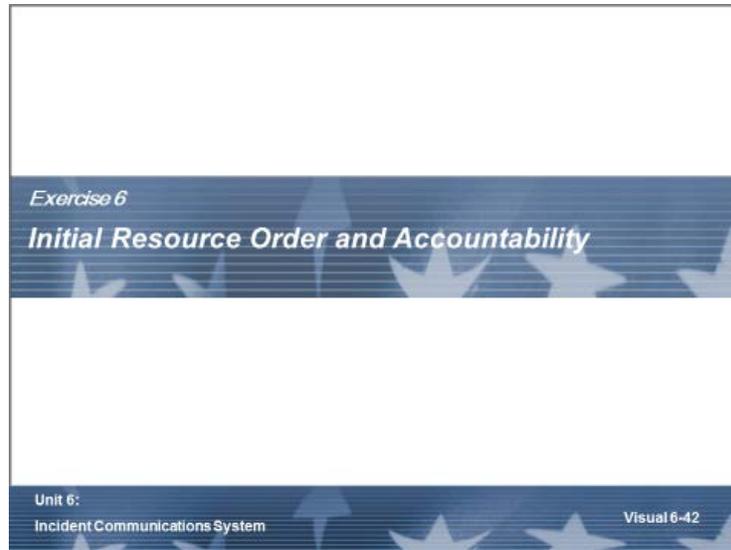
### Key Points

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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.

**Topic**Exercise 6: Initial Resource Order and Accountability

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**Key Points**

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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 students 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.

**Topic** Objectives Review

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### Objectives Review

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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

**Key Points**

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**Unit Terminal Objectives**

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.

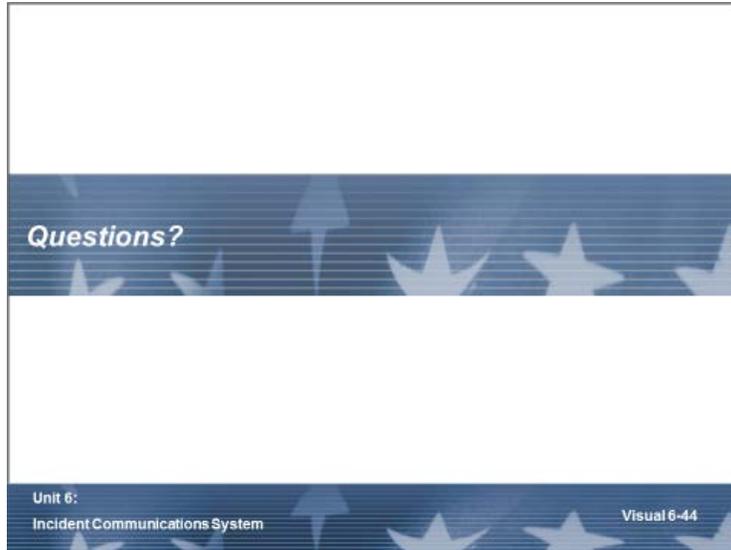
**Unit Enabling Objectives**

- Describe the COML'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?

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**Key Points**

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