

Unit 6

Incident Communications Systems

Unit Terminal Objective

At the conclusion of the unit, the student will describe the COML responsibilities in establishing an incident radio communications system.

Overview of Networks

- According to NIMS there are five networks that may be deployed on any given incident:
 - Command Network
 - Tactical Network
 - Air-to-Ground Network
 - Air-to-Air Network
 - Logistics Network

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**

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?

Tactical Interoperability

- Fire
- Law Enforcement
- Emergency Medical Services
- Hospitals
- Emergency Management
- Explosive Ordnance Disposal
- HAZMAT
- Urban Area Search and Rescue Teams (USAR)
- Transportation (Public and Private)
- Utilities
- Public Works
- Public Health
- Military
- DHS
- Schools
- Environmental Health
- Medical Examiner
- Radiological Support
- Nongovernmental Organizations (NGOs) such as the Red Cross

Air-to-Ground Network

- **Used to coordinate air support during an incident.**
- **Air-to-Ground Nets are typically FM Public Safety frequencies.**
- **Allocated according to function, i.e. deck control, takeoff, landing.**

Air-to-Air Network

- **Governed by FAA**
- **AM (standard) or FM**
- **Air-to-air frequencies are typically coordinated by the Air Branch – not the COML**

Logistics Network

Groups on this network include:

- **Base Camp/Incident Command Post**
- **Ground Support/Transportation**
- **Security**
- **Communications Unit**

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?

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?

Radio System Considerations

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

What else could pose a problem?

Available/Assigned Nets

- **Available Nets (ICS 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 radio and gateway patches**

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

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?



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 a particular concern**
 - **May need to order 2 changes of batteries per radio, per operational period.**

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)**

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**

Swap/Cache Radios

- Provide radio cache programming coordination and validation
- Accountability



Accountability

1. KIND OF PROPERTY	2. CACHE/UNIT NAME	3. I.D. NO.
BK RADIO	K186	07
4. SIZE/CAPACITY		
1 - "AA" CLAMHELL		
1 - REMOTE SPKR MIC		
1 - LEATHER CASE w/BELT		
ASSIGNMENT RECORD		
5. DATE/TIME	6. OPERATIONAL PERIOD	
08-19-06	0600 TO 1800	
7. NAME		
John DOE		
8. HOME BASE		
CITY OF Concord PW		
9. INCIDENT ASSIGNMENT		
STREET DIVISION		
10. RETURNED DATE/TIME	OR	11. TRANSFERRED TO
5. DATE/TIME	6. OPERATIONAL PERIOD	
7. NAME		
8. HOME BASE		

Unit 6:

Incident Communications Systems

HO 6-1: Accountability Tracking

Visual 6-21

Consider Commercial Services

- Radio Systems
- Telephones
- Satellite
- Contract Technicians



Solutions for Telephone and Data

- Terrestrial wired and wireless services
- Satellite services



Technology Services

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



Declared Emergency Coordination

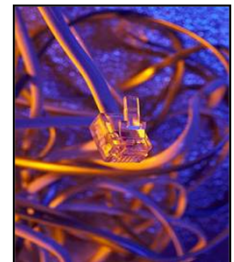
- **Federal Coordination:**
 - **JFO: Joint Field Offices**
 - **ESF2: National Communications Systems**
 - **DEC: FEMA Disaster Emergency Communications Division**
 - **MERS: Mobile Emergency Response Systems**
- **State/Local Coordination:**
 - **EMA: State/Local Emergency Management Agencies**
 -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

Other Jurisdictional Communications Assets

- **CST: National Guard Civil Support Teams**
- **IMT: Regional, State, and national Incident Management Teams
(Type 3, 2 or 1 IMTs)**
- **FEMA USAR: Federal Emergency Management Agency Urban Search and Rescue Teams**
 - **IST: Incident Support Team**
- **SUSAR: State Urban Search and Rescue Teams**
- **Fed Tech**
- **Other communications response groups**

NCS Programs

- **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



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



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

WPS – Fixed Cellular Units



Telecommunications Service Priority (TSP)

The TSP program contains two primary and distinctive components:

Provisioning

A provisioning priority is obtained to facilitate the priority installation of *new* telecommunications services in a shorter than normal interval.

Cannot be used to compensate for inadequate planning

Restoration

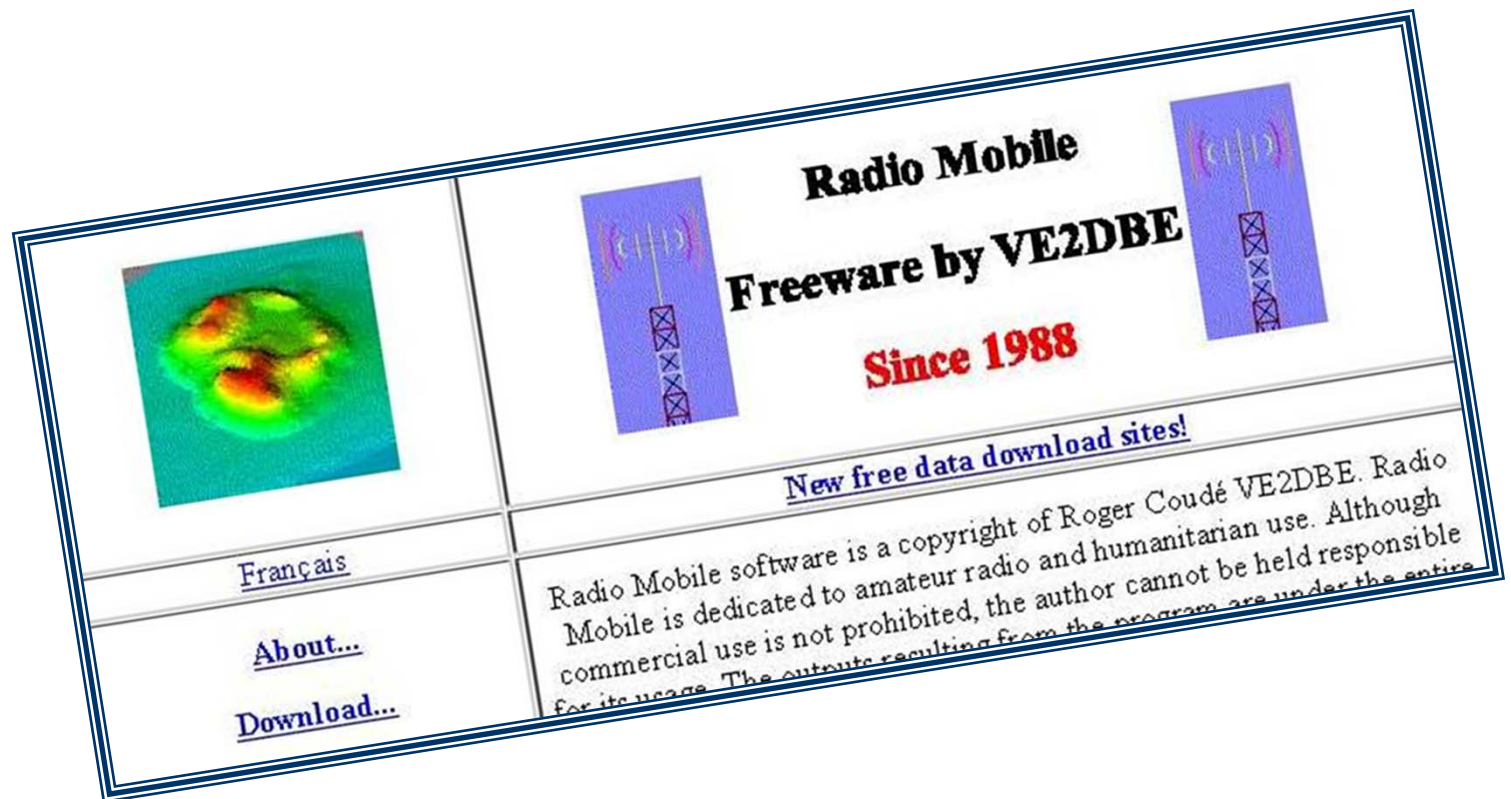
A restoration priority is applied to new or existing telecommunications services to ensure restoration before a non-TSP program user.

Must be requested and assigned before a service outage occurs

Other Resources (cont.)

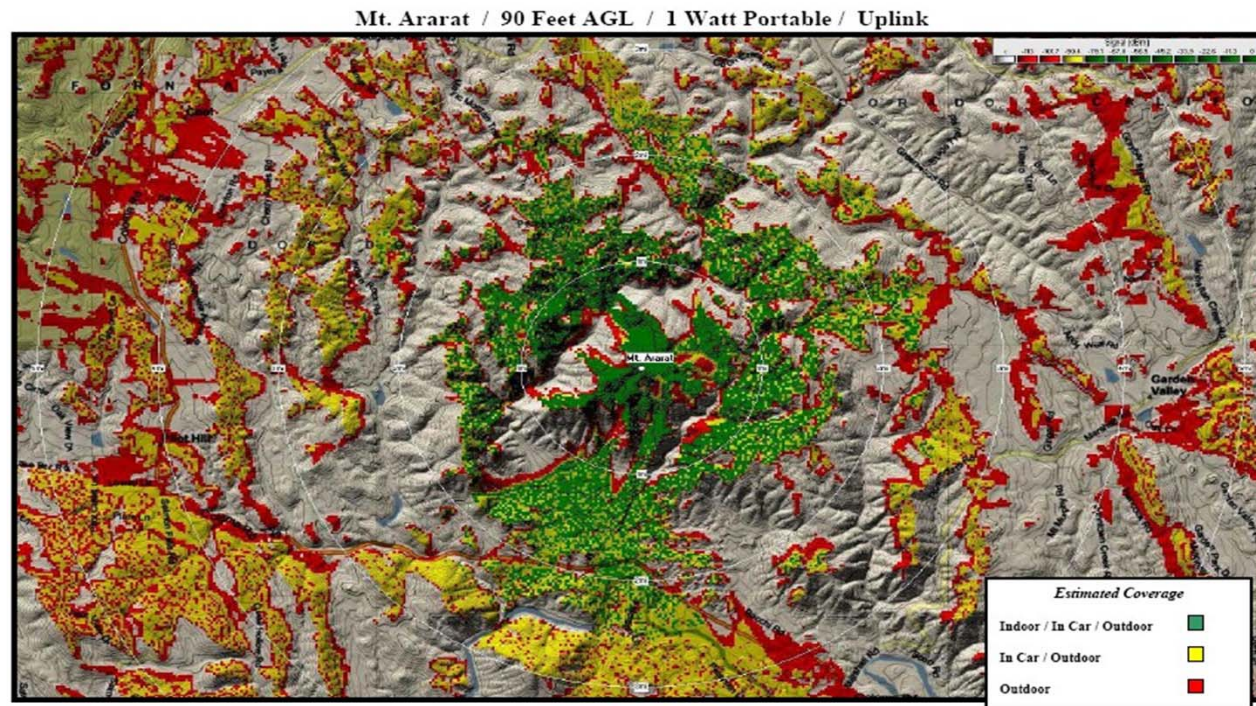
Radio propagation software

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



Other Resources (cont.)

■ Radio Propagation Example



Site: Mt. Ararat – STAC91
Coordinates (NAD 83): 38-51-13.0 N 120-56-27.0 W Elevation: 2000 Ft AMSL
Date: September 22, 2009

Other Resources (cont.)

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

Other Resources (cont.)

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

Test System

Continually Test and Evaluate Your System



Exercise 6

Initial Resource Order and Accountability

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.***

Questions?