

# Neighborhood Communications Training

# Introduction

# Using Radio Communications

- An alternative to phone calls or Internet communications
- Does not depend on telecommunications infrastructure
- Depends on adequate power supplies

# Family Radio Service (FRS)

- 14 channels
- Handheld Radios
- 0.5 watts power
- Limited range (1/3 to 1 mile typical)
- No license required

# FRS Radio Characteristics

- Small antennas
- Good building penetration characteristics
- Good audio quality

# Using a Radio

# Controls

- On/Off
- Volume
- Channel selection
- Mute selection
- Push To Talk (PTT)

# Selective Mute

- Continuous Tone-Coded Squelch System (CTCSS)
  - Called “Private Line” or “PL” by Motorola
  - “In-Band” Signaling using sub-audible tones
- Digital Coded Squelch (DCS)
  - Digital
  - “Tags” radio transmission

# Radio Operation

- Turning radio on and off
- Changing the volume
- Changing the channel
- Changing the “Tone”

# Thoughts about Battery Life

- There is only so much
- Comparable to altitude for a glider pilot
- Comparable to air for a scuba diver
- Exactly like cell phone battery life

# Increasing Battery Life

- A muted radio uses much less power
- A radio that is switched off uses even less

# Activities that Shorten Battery Life

- Continuous radio operation
- Transmitting
- Un-muted radio operation

# Using FRS Radios in the Neighborhood

# Message Contents

- Who you are and who you are calling
- Where you are
- What you see
- What you are doing
- What you have done
- What you are going to do
- What you need

# Appropriate Voice Communications

- Would you send the same message over the phone?
- Is the message long and complicated?
- Consider the alternatives if the message is long, complicated, sensitive or dangerous to miscommunicate
- Using a runner/messenger

# Considerate Operating

- Only one person can use a radio channel at a time, within the range of the radios
- A radio channel is like a “party line” and everyone gets to listen in
- Keep messages short and to the point

# Radio Operation

- Turn on the radio
- Verify channel and tone
- Think out the radio call
- PTT - Push-To-Talk
- Listen carefully

# Talking on the Phone

- Hi Mary, this is Becky.
- Hi Becky, how can I help you?
- I need a cup of sugar.
- Hold on a minute (followed by a pause)
- Becky, I will send Mike over with it in 5 minutes.
- Thanks, Mary. Good-bye.

# Talking on the Radio

- Mary, Becky.
- Becky, go ahead.
- I need more bandages at 123 Main St.
- Stand-by (followed by pause)
- Becky, I'm sending Mike with bandages from medical.
- I will watch for Mike. Becky clear.

# Parts of a Contact

- Say who you are calling and who you are
- Send the message
- Get acknowledgment
- Close contact

# Contact - Breaking In

- Interrupting an ongoing contact for priority traffic
- Use the word “break” followed by your name or tactical call
- Break should only be used for communications that are urgent and warrant interrupting the other stations

# Changing Channels

- The leader announces the change
- The neighbors acknowledge the change and do so
- The leader is the last one off and the last one to join the new channel

# Changing Channels

- The leader is the first to speak on the new channel
- The neighbors check in to make sure everyone made it
- The leader announces the change is complete

# Pro-words

- Clear - End of contact
- Over - End of transmission (optional)
- Go ahead - Indicates calling station proceed
- Out - Leaving the air, will not listen
- Stand by - Temporary interruption
- Roger - Acknowledge transmission

# Neighborhood Communications

- Choose a channel (2-14)
- Use CTCSS to quiet reception of unaffiliated neighborhoods (saving battery)
- Monitor 1610 AM for City of Berkeley announcements
- Record communications where possible

# Calling and Emergency Channel

- FRS Channel 1
- Recommended by Radio Emergency Associated Communications Teams (REACT) and National SOS Radio Network
- No PL/CTSS or DCS

# Exercise

# Questions and Answers

# Backup Slides

# Definitions

- CERT - Community Emergency Response Team
- FRS - Family Radio Service (No License)
- GMRS - General Mobile Radio Service (Requires License)
- PL Code - Private Line, a trademark of Motorola for CTCSS

# Types of Radio Services

- Family Radio Service (FRS)
- General Mobile Radio Service (GMRS)
- Citizens Band Radio (CB)
- Multi-Use Radio Service (MURS)
- Amateur Radio

# General Mobile Radio Service (GMRS)

- 15 channels
- Mostly handheld radios
- 50 watts maximum / 3-5 watts typical
- External antennas allowed
- License required (FCC License Fee/No Test)

# Citizens Band Radio

- Inexpensive
- Relatively large antennas
- Best for mobile or base use
- 12 Watts Power
- 40 Channels
- No license required

# Multi-Use Radio Service

- 2 Watts Power
- 5 Channels
- Handheld
- No license required

# Amateur Radio

- Up to 1500 watts of power
- Allocations from 1.8 MHz - 275GHz+
- Portable, mobile and base radios
- Allows operator designed and assembled radios
- Requires testing to obtain license

# FRS/GMRS Relationship

- FRS radios are limited in range and flexibility but don't need a license
- GMRS radios have greater range and can be more flexible but need a license
- FRS and GMRS share seven channels
- GMRS radios can be used by a team leader or communicator to relay messages between teams using FRS radios

# Additional Notes on Use of GMRS

- Train in the way you plan to respond
- If you plan to use GMRS, get licensed and train using GMRS
- If you are not licensed to use GMRS, you can't legally use GMRS during training
- If it is an emergency and you do not have a license, you may use GMRS without violating the FCC regulations

# Maintaining a Radio

# Storage

- Keep the radio with the rest of your disaster supplies
- Dry
- Cool
- Ventilated

# Rechargeable Batteries

- Wall/desk charger
- Car charger
- Solar charger?
- Have a battery case for using disposable batteries if the radio needs it
- Charge batteries every 1-2 months

# Disposable Batteries

- Store separately from radio
- Replace disposable batteries
  - Every six months if used
  - Otherwise according to the expiration date