



# Communications and Risk Management





# Learning Objectives

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

1. Maintain effective crew communications during operations.
2. Manage risk Using the "G.A.R." Model for Mission Analysis and Operational Risk Assessment
3. Participate in a mission briefing.
4. Participate in a post-mission debrief.
5. Communicate a vessel float plan to a shore contact.



# Learning Objectives

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

6. Operate a VHF-FM marine radio using VHF protocols in accordance with FCC regulations.
7. Select and use approved working frequencies for communications with a vessel or shore contact.
8. Monitor vessel traffic and identify the two safety broadcast: "Security & Pan Pan"
9. Identify and describe procedures for an Emergency broadcast: "Mayday"



# Practical Exercise-Learning Objectives

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

1. Operate a VHF-FM Radio to conduct safety communications with other vessels and the designated shore-contact.
2. Communicate the mission and assess conditions to ensure vessel and crew safety.



# Types of Communications

- Mission Readiness Communications
- Emergency Communications
- Radio and Tele-Communications
- Navigational Communications



# Mission Readiness Communications

This section addresses communications associated with human error and risk based decision-making.

- Mitigate Safety Hazards
- Maintain Situational Awareness
- Manage Risks
- Improve Team Performance and Effectiveness.



# Mission Effectiveness

## Standard Boat Operations

- Team coordination
- Risk management
- Crew briefing
- Crew debriefing



# Mission Specific Communication Skills

It is the responsibility of each boat crew member to actively participate in the communications and decision making process.





# Risk Management Communication Process

- Risk management shall be performed during the planning and execution of missions.
- Every mission event (getting underway, transit, on-scene operations, and mooring) has some level of risk and not all of the risks are known.



# Four Rules of Risk Management

Rule #1: Integrate risk management into all mission planning and execution.

Rule #2: Accept no unnecessary risks.

Rule #3: Make risk decisions at the appropriate level.

Rule #4: Accept risks if benefits outweigh costs.



# Using the "G.A.R." Model for Mission Analysis and Operational Risk Assessment

GREEN / AMBER / RED



<b>GREEN</b> (Low Risk)	Risk level is acceptable and minimal, take measures to avoid complacency.
<b>AMBER</b> (Caution)	Risk level is moderate, alternate plans and contingencies should be identified to minimize risk exposure and to identify changes that could elevate risk levels.
<b>RED</b> (High Risk)	Risk level is HIGH, alternate plans and/or mitigating measures must be implemented, the mission stopped/suspended until the risk level is manageable.



# Risk Mitigation

## Risks must be mitigated

- What changes can be made to reduce risks to an acceptable level without changing the mission objective?

# GAR Model Scoring the Six Elements

Supervision

Planning

Crew Selection

Crew Fitness

Environment

Event/Evolution Complexity





# Final Analysis

- Validation
- Go / No-Go Decision
- Evaluate Effectiveness



# Crew Briefing and Debriefing Communications

- Crew briefings should be required before the boat gets underway
- Crew debriefings should be performed after missions. Evaluate performance and recognize individual and team accomplishment





# Crew Briefing

The crew briefing should at minimum consist of the GAR model elements

Supervision

Planning

Crew Selection

Crew Fitness

Environment

Event/Evolution Complexity



# Crew De-Briefing

The informal crew debriefing should cover the following topics:

- Major Events.
- Level of Performance.
- Outcome of Events.
- Evaluation of Goals and Standards.
- Establishment of New Goals and Standards

# Float Plans

Provides emergency planning and response contingencies to afford timely notification and assistance or rescue should a boat crew not return as planned



# VHF-FM Radio

(Very High Frequency - FM Radio)



Fixed Mount-Hard wired to Boat



Portable Handheld-Battery Powered

# Monitoring the VHF-FM Radio

- Used for monitoring vessel traffic.
- Communicating passing & meeting situations.
- Emergency notifications and response.





# Standard VHF-FM Radio Controls

- Volume
- Squelch
- High/Low Power
- 16/9
- WX
- Memory
- Lock
- Dual
- Scan



Used for Coastal, Marine and Inland Communications

# Advantage/Disadvantages

- + Widely used, especially marine (law?)
- + Monitored 24/7
- + Range: handheld 8 mi., fixed ~25 mi.
- Only line of sight
- Electronics/water bad mix
- + Inexpensive
- + NOAA Weather
- + Permit not required
- Not "private" except DSC
- + Floating model(s) avail.





# Channels

- 90 total
- Channel 9 - Informal calls to another boat, radio check
- Channel 16 = "Hailing" frequency & distress
- Chan's. 68, 69, 71, 72, 78 = Working channels





# Basic Calling Protocol

- Select channel/Think/Push/Pause/Speak
- Calling: Their name x3 "this is" my boat name
- Replying?
- Variations (ultra proper -> working -> casual)
- Don't be too casual (USCG, FCC)
- End with "Over" if want a reply
- End with "Out" when all done



# Distress & Safety Calls

Use Channel 16 - Wait for a break in traffic:

- Safety signal - Concern for safety of navigation, meteorological info...
  - "SECURITY" x 3
  
- Urgency signal - Safety of person or vessel in jeopardy...
  - "PAN PAN" x 3



# Distress & Safety Calls

Use Channel 16 - Wait for a break in traffic:

- **Imminent loss of life or vessel only...**
  - **"MAYDAY, MAYDAY, MAYDAY"**
    - **Give boat name, description, location, problem, # on board, action being taken**
  - **Say "Over"**
    - **USCG will prompt you. Follow their instructions.**



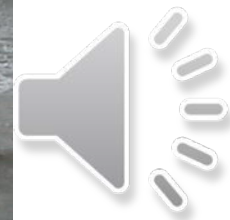
# Distress & Safety Calls

## If you hear a Mayday call:

- ☐ Write down what you hear.
- ☐ If USCG answers -
  - Allow them to handle it. You may offer assistance to CG.
- ☐ If nobody answers -
  - Acknowledge the call, record information
  - Pass info along to USCG or another boat
  - Assist as required and is safe

# MAYDAY Call Example

Write down what you hear



# Navigation Communications

## Electronic Emergency Signaling Devices

