Uninspected
Passenger
Vessel
Examiner
Training

Session Seven
General Housekeeping
Task 5.1 – 5.8
Scope of Training & Major Tasks

The presentation is provided in nine (9) sessions which will allow ease for searching selected topics.

This presentation does not alleviate or replace on the job training or additional requirements or training required by each Sector.

Additionally there are tasks, depending upon your AOR, that may not be applicable or present the opportunity for field experience however are documented in this presentation for your knowledge.

1. Introduction
   Application
   Task 1-1

2. Application
   Task 1.2
   Equivalents
   Task 2.1
   Task 2.2
Scope of Training & Major Tasks

Continued

3. Requirements
   Tasks 3.1 – 3.4
4. Requirements
   Tasks 3.5 – 3.10
5. Operations
   Tasks 4.1 – 4.7
6. Operations
   Tasks 4.8-4.12
7. General Housekeeping
   Tasks 5.1 – 5.8
8. Expanded Issues
9. Exercise Opportunities
Task 5.0

General Housekeeping
Task 5.1

Living Space

- Clean
- No build up of debris
- No evidence of smoking in bed.
Task 5.2

Galley Cleanliness and Refrigeration

- Galley appliances within the generator rating.
- Observe if the lights dim when the electric stove is turned on or the refrigerator compressor turns on.
- No flammable materials nearby.
- Tank installed properly.
Task 5.3
Main Deck Stanchions and Chains
Stanchions

- Stanchions must be through bolted or welded to the deck

![Diagram of stanchions]
Deck Rails

- Rails or equivalent protection must be installed near the periphery of all decks of a vessel accessible to passengers or crew.
Task 5.4

Fuel tank vents covered w/flame screens

33 CFR §183.520 Fuel tank vent systems.

• (a) Each fuel tank must have a vent system that prevents pressure in the tank from exceeding 80 percent of the pressure marked on the tank label under §183.514(b)(5).

• (b) Each vent must:
  • (1) Have a flame arrester that can be cleaned unless the vent is itself a flame arrestor; and
  • (2) Not allow a fuel overflow at the rate of up to two gallons per minute to enter the boat.
Machinery Space Conditions

- Gears, couplings, flywheels and all machinery capable of injuring personnel shall be provided with adequate covers or guards.
- Shaft packing not leaking excessively.
- No automotive parts.
Machinery Space Conditions

• Notice of noise hazards posted. Hearing protection available to personnel.
• No fire hazards (boxes of oil soaked rags near heat sources or oil soaked exhaust system lagging, etc.)
Backfire Flame Arrestor

- Applicability – all UPVs with fixed gasoline engines
- 46 CFR 25.35-1 Requirements.
  - (a) Every gasoline engine installed in a motorboat or motor vessel
- 33 CFR 183.520 Fuel tank vent systems.
  - (b) Each vent must:
    - (1) Have a flame arrester that can be cleaned unless the vent is itself a flame arrester …
Backfire Flame Arrestor

- **Best practice**
  - Must be secured to the air intake of the carburetor with an airtight connection
  - Elements clean, and grids tight enough to prevent flames passing through
  - Cleaning with soap and water or solvent is the best way to maintain its effectiveness
  - U.S. Coast Guard-approved (must comply with SAE J-1928 or UL 1111 standards)

- **Best practice (continued)**
  - Verify installed unit is for marine use
  - One per air intake
  - Ask owner to remove protective shrouds

- **Acceptability**
  - One/air intake, approved marine type, properly installed, clean, and in satisfactory material condition – check “Yes”
  - Any one of above not true – check “No” with note

- **Diesel engines** – check “N/A”
Task 5.6

Electrical System
Electrical System

33 CFR §183.420

- Batteries secure
- Terminals covered
- Well organized wiring
- Extension cords not used as permanent wiring
- Proper fuses/circuit breaker
Electrical System

• Shorted electrical systems can cause
  – Release of Hydrogen gas – think Hindenburg
  – Extreme heat very quickly = fire

• Rule of thumb
  – Newer the vessel, the better the electrical system design
    • Look for evidence of post-production modifications
  – Pre ~ 1984 vessels should get more scrutiny from the Examiner
Electrical System

- Each battery must not be directly above or below a fuel tank, fuel filter, or fitting in a fuel line.
- A vent system or other means must be provided to permit the discharge from the boat of hydrogen gas released by the battery.
Electrical System

• Installed so that metallic objects cannot come in contact with the ungrounded battery terminals.
• Each metallic fuel line and fuel system component within 12 inches and above the horizontal plane of the battery top surface as installed must be shielded with dielectric material.
Electrical System

- Best practices – batteries
  - Anchored in place
  - Shielded from above
  - **Tight terminal connections**
  - Think “what happens in rough seas?”
  - Ask how many and where batteries are located
    - House
    - Start
    - Thrusters
  - Be firm about not accepting questionable situations
  - **No “alligator clips” on battery terminals**

- Best practices – wiring and circuit protection
  - Wires are tied down in neat bundles
  - Electrical panel is neat and well labeled
  - Look for post-production wiring, and its circuit protection

- Acceptability
  - Proper battery installations, no obvious wiring issues – check “Yes”
  - Otherwise – check “No” with note
Fuel System

• Best practice
  – Because gasoline has a much lower flash point than diesel fuel, really try and find gasoline tank ground wires
  – Tank grounding should include the metal portions of the filler “neck”
  – Key item - look for green (usually) ground wires; metal tanks and metal fillers
  – Often hard to find due to installation configuration
    • “Other end” of ground wires
    • Tank labels
Ventilation

• Applicability – all UPVs with inboard gasoline engines
  – Some vessels with diesel engines also have powered ventilation systems – not a requirement

• 33 CFR
  – 183.514 Fuel tanks: Labels
  – 183.524 Fuel pumps
  – 183.572 Grounding
    • Each metallic component of the fuel fill system and fuel tank which is in contact with fuel must be statically grounded …

• 33 CFR 183.610(2)(d) - (f) Powered ventilation system

WARNING—GASOLINE VAPORS CAN EXPLODE. BEFORE STARTING ENGINE OPERATE BLOWER FOR 4 MINUTES AND CHECK ENGINE COMPARTMENT BILGE FOR GASOLINE VAPORS.
Ventilation

• Best practices
  – Operating verification
    • Intake (if installed) and exhaust blowers operate
    • Interior intake and exhaust hose ends are in the lower third of compartment; exhaust hose intake lower
    • Intake hose exhausts air into the compartment when the blower is operating
    • Exhaust from compartment with blower running is easily felt by putting hand over hull exhaust port

• Best practices (continued)
  • All related air ducts/hoses are secured in place
  • Confirm warning label is at each engine ignition station

• Acceptability
  – Proper installation and operation is verified, and required label(s)/placard(s) are in place – check “Yes”
  – Otherwise – check “No” with note

• Diesel engines
  – Check “N/A”
Steering System

- Check hoses for signs of wear.
- Check fittings and seal locations for leaks or damage
- Check mechanical linkages and connections.
- Check hoses for chafing/rubbing marks.

Task 5.7
46 CFR §176.814
Task 5.8

Explain the application and renewal procedures for the Federal Communications Commission (FCC) ship radio station license, and when it is required.
Communications Licenses

• Types
  – Station License – issued to the vessel
  – Operator License – issued to the individual

• Station License
  – Includes all electronic emitters onboard – renew every 10 years
  – Not required if no HF SSB onboard, operating in US navigable waters only, and <20 meters length
  – Required otherwise; various categories depending on where vessel operates
Communications Licenses

• Operator Licenses
  – Not required if operating with voluntarily installed VHF-FM, solely on US navigable waters, and < 20 meters in length
  – Restricted Radiotelephone Operator Permit (RR) required for all other conditions with ≤ six passengers-for-hire
    • Good for holder’s lifetime
  – Marine Radio Operator Permit (MP) required when carrying > six passengers-for-hire
    • Good for holder’s lifetime
VTS - Communication

- **VHF-FM**
  - required on UPV >20 meters
  - required on vessels 100GT and over
- Transmit/receive on 16 & 22A
- In VTS – 2\textsuperscript{nd} VHF-FM needed 20 meters - 65.6 feet
- VTS – The purpose of a Vessel Traffic Service (VTS) is to provide active monitoring and navigation advice for vessels in particularly confined and busy waterways. There are two main types of VTS, surveilled and non-surveilled. Surveilled system consist of one or more land-based sensors (i.e. radar, AIS and closed circuit television sites), which output their signals to a central location where operators monitor and manage vessel traffic movement. Non - surveilled systems consist of one or more reporting points at which ships are required to report their identity, course, speed, and other data to the monitoring authority. They encompass a wide range of techniques and capabilities aimed at preventing vessel collisions, ramming's, and groundings in the harbor, harbor approach, and inland waterway phase of navigation. They are also designed to expedite ship movements, increase transportation system efficiency, and improve all-weather operating capability.
- FCC ship license issued for 10 years and assigns vessel call sign
- Operator with 3\textsuperscript{rd} class permit
Communications

• Special Case - VHF-FM Radios
  – DSC radio is Global Maritime Distress and Safety System (GMDSS) capable
    • When properly installed, registered, and proper operating procedures are followed it sends a distress signal with vessel information including position
    • Registration is free
  – Observe installed marine VHF-FM radio(s) onboard all UPVs
    • Look for the guarded red emergency button on the face of the control panel (DSC Radio)

• Procedure
  – VHF-FM radio not required
    • If DSC capable, and not yet registered, encourage owner/operator to obtain MMSI, and program it into the radio.
  – VHF-FM radio(s) required
    • If DSC capable, ensure MMSI has been obtained and incorporated in all onboard DSC capable VHF-FM radio(s)
Communications

- MMSI number acquisition is free
- Recreational and small commercial vessels not mandatorily equipped that never leave US waters can obtain MMSI numbers from
  - Boat US
  - West Marine
  - US Power Squadron
  - FCC
- Non-FCC issued numbers are not registered with International SAR agencies
- If you have a Ship Station License from the FCC, you have probably already been issued an MMSI number; check your License Certificate for a nine digit number, most likely beginning with 366 or 367. If you are required to have a Ship Station License, you can obtain an MMSI number by filing [FCC Schedule B](#) with Form 605 when you apply. You will receive your MMSI number with your license.
Communications

- MMSI registration information includes
  - Boat owner name, address, phone, etc.
  - Primary and alternate emergency contacts ashore

- Vessel information
  - EPIRB info
  - Vessel description
  - Maximum people onboard count
  - Registration/Documentation numbers
  - Home port
  - Nationality
  - Wireless phone numbers onboard
  - Vessel classification
COMMUNICATE EFFECTIVELY

EMERGENCY DSC RADIO PROCEDURES
If the boat or a person is in grave and imminent danger and immediate assistance is required.
Always ensure that your DSC radio set has your correct position entered into it.

Option 1
- Lift the cover on the red SOS button & press the button for at least 5 seconds.
- Wait 15 seconds and send a Mayday using voice as laid out on the attached card.

Option 2
- Lift the cover on the red SOS button & press the button momentarily.
- Follow the menu instructions and select the type of emergency.
- Lift the cover on the red SOS button & press the button for at least 5 seconds.
- Wait 15 seconds and send a Mayday using voice as laid out on the attached card.

As DSC radio sets vary in the way they are setup and used, always ensure that you have followed the manual carefully. The radio will not operate correctly unless you have correctly programmed your MMSI number into it.

EMERGENCY VHF RADIO PROCEDURES
If the boat or a person is in grave and imminent danger and immediate assistance is required.

- Check that your radio is switched on and high power setting is selected.
- Select Channel 16
- Press the transmit button, and say slowly & clearly:
  Mayday, Mayday, Mayday
  This is ... (repeat the name of your boat 3 times)
  Mayday, This is ... (name of your boat said once)
  My position is ... (use latitude and longitude, or a true bearing and distance from a known point)
  ... ... ... If you don't know, don't guess.
  I am ... (sinking, on fire, etc.)
  I require immediate assistance.
  I have ... (number of people on board and any other useful information—drifting, flare fired etc.)
  Over - this means please reply
  Now release the transmit button and listen for a reply
  Keep listening on Channel 16 for instructions
  If you hear nothing then repeat the distress call.
You have completed Session 7
General Housekeeping

Document and save information in a folder as it will assist you as you work toward status as a UPV Examiner.

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