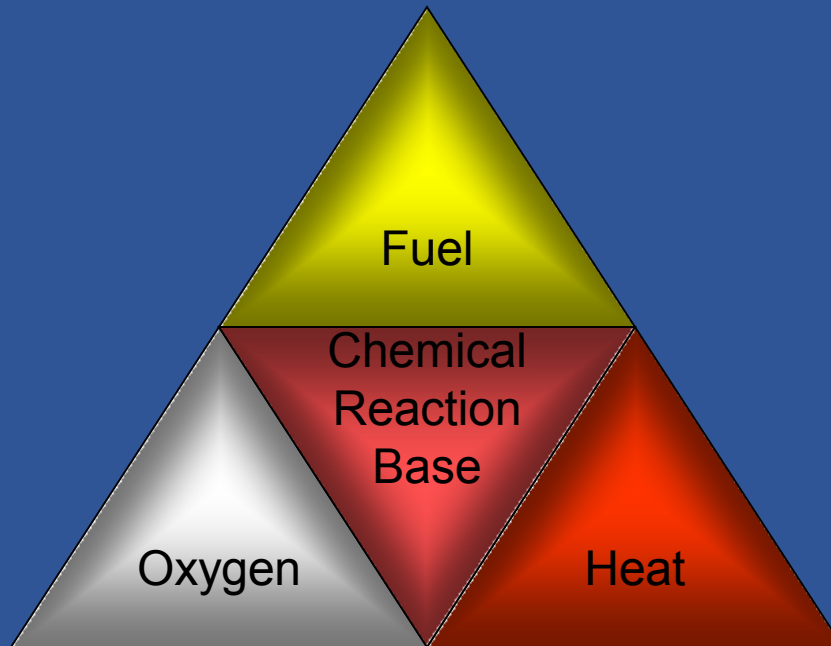




Boat Crew Training

On-shore

Classes of Fire Theory of fire



The center represents the chemical reaction that takes place during the combustion process.

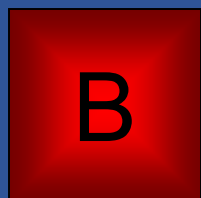
Take any one of the components fuel, heat, or oxygen away the picture is incomplete and the fire is extinguished

Classes of Fire

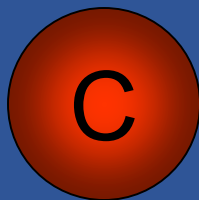
There are 4 classes of fire named after the general properties of their fuel source; a determination of class of fire must be made before selecting an extinguishing agent



Fires involving common combustible materials. Fuel sources could be wood and wood based materials, cloth, paper, rubber and certain plastics
To extinguish – water is used in a cooling effect to reduce the temperature below the ignition temperature



Fires involving flammable or combustible liquids, flammable gases, greases, and similar products
Smothering or blanketing to remove oxygen is most effective. Other extinguishing methods include removing the fuel and temperature reduction

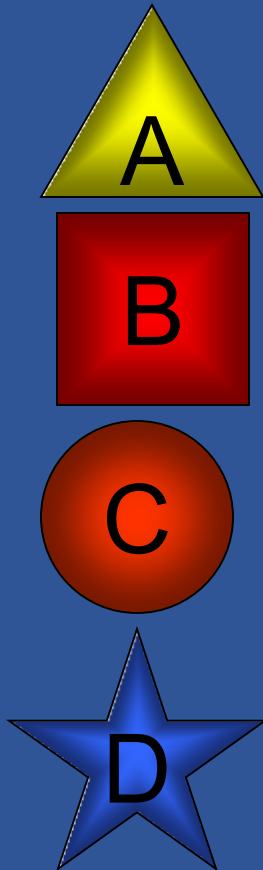


Fires involving energized electrical equipment
The fire can sometimes be controlled by a non-conducting extinguishing agent. The safest is to remove the power source.



Fires extremely high temperature burns water and other common extinguishers are ineffective only special extinguishing agents will control a class D burn.
includes lithium, potassium, magnesium, sodium

Classes of Fire



- Water
- CO₂
- Dry Chemical

- CO₂
- Foam - Coast Guard Approved in Western Rivers

- CO₂
- Cut the power source

- Specialized Equipment

Precautions in Using CO₂ Extinguishers

Precautions must be taken when discharging a CO₂ extinguisher in a confined space. A fire-killing concentration of Carbon Dioxide can be lethal.

- A fully charged 5 pound extinguisher lasts only 10 - 15 seconds!
- The range is no more than 5 feet, greater than that can let the CO₂ become mixed with air and become ineffective

Operating Procedures:

1. Remove the locking pin from the valve
2. Carry the extinguisher in an upright position, approach the fire as close as safety permits
3. Grasp the handle and squeeze the release lever to start extinguisher
4. Direct the flow of CO₂ toward the BASE of the flame and attack the flame with a sweeping motion of the nozzle

WARNING

CO₂ is extremely cold when discharged and can "burn" or raise blisters. Keep hands away from the discharge nozzle and on the release lever

GAR 2

Risk Assessment

The Overall Risk Level Score, must use Low, Medium, or High Scale

P.E.A.C.E. – Determines The Risk Assessment Score

S.T.A.A.R. – Mitigates/Controls Risk Factors

USCG Afloat Risk Assessment

Mission: _____ **Date:** _____

Step 1: Identify, Assess, & Mitigate Risk Elements

Instructions: To determine the level of risk for each element below, estimate the risk level based on the Low/Medium/High scale. If your perceived rating is Medium or High, explore mitigations. Draw a line through the risk zone that corresponds to the mitigated risk level and document the perceived risk(s) and mitigation(s) in the space provided.

Rate Risk Zone

Planning - Enough time and information to conduct thorough pre-mission planning. Consider: B-0 response, completeness of mission information and of on-scene details.
NOTES/MITIGATIONS:

Complete	Partial	None
L	M	H

Event - Refers to mission complexity. Consider: non-standard mission profile, coordinating multi-agency/nationality, language barriers, not performed often, etc.
NOTES/MITIGATIONS:

Low	Moderate	Extreme
L	M	H

Asset - Crew - Proper number and skill set for the mission. Consider: time at unit, familiarity w/OP area, fatigue, u/w time, crew selection, adequate supervision, etc.
NOTES/MITIGATIONS:

Excellent	Marginal	Poor
L	M	H

Asset - Cutter/Boat Resources - Proper number and operational characteristics for mission. Consider: operational thresholds/limitations, status of equipment, etc.
NOTES/MITIGATIONS:

Ideal	Restrictions	Limitations
L	M	H

Communications/Supervision - Ability to maintain comms throughout mission. Consider: availability/quality of internal w/command and external w/customer.
NOTES/MITIGATIONS:

Excellent	Partial	None
L	M	H

Environment - External conditions surrounding mission. Consider: weather, night/day, sea state, currents, water temp, air temp, visibility, etc.
NOTES/MITIGATIONS:

Ideal	Marginal	Extreme
L	M	H

***Other (Unit Specific Element):**

L	M	H
---	---	---

***Other (Unit Specific Element):**

L	M	H
---	---	---

Step 2: Determine Overall Risk Level

Consider: 1) the rating for each element above, 2) the importance of the element for mission execution, and 3) how elements may interact. Rate the perceived Overall Risk Level when considering this information. Circle the risk zone (*Low, Medium, or High*) that corresponds to your perceived overall risk level:

Low	Medium	High
-----	--------	------

**PEACE elements are required per COMDTINST 3500.3A. Additional unit specific elements are permitted.*

GAR 2 Model:

P – Planning
 E- Event Complexity
 A – Asset (Crew)
 A – Asset (Equipment)
 C – Communications
 E – Environment

You may be asked to
 share each segments
 score and how you
 mitigated it if above
 Low.

GAR 2 Mitigate/ Control the Risk with STAAR

Can You:

S – Spread Out, Move equipment, people, facilities to avoid risk

T – Transfer all or part to someone or some other facility or agency

A – Avoid, by-pass the area or change the time etc.

A – Accept benefit outweighs the risk

R – Reduce people, facilities, equipment to risk exposure without adding risk to mission

USCG Afloat Risk Assessment

Step 3: Determine Risk vs. Gain: Do gains warrant the risk?

Step 3a. Enter the **Overall Risk Level** (Step 2 on prior page) in the **RISK** box below (*Low, Medium, or High*).

Step 3b. Review the definitions for Gain below and enter the level in the **GAIN** box below. (*Low, Medium, or High*).

Level of Gain

- **Low** – Situation with unclear benefits or a low probability for providing concrete results.
Examples: passenger transport, non-critical logistics missions, and public affairs demonstrations.
- **Medium** – Situation that provides immediate and real benefits.
Examples: saving property, protecting the environment, deterring illegal operations.
- **High** – Situation that provides immediate and real benefits that if ignored could result in loss of life.
Examples: Urgent SAR and MEDEVACs.

	Vs.	
RISK		GAIN
(Low, Med, High)		(Low, Med, High)

Step 3c. Use the **Risk vs. Gain** values from above and follow the column and row until they cross. The intersecting point is the recommended action.

Example, if Risk is 'low' and Gain is 'medium', the recommendation is: "Accept the Mission. Continue to monitor Risk Factors, if conditions or mission changes".

Risk vs. Gain	High Gain	Medium Gain	Low Gain
Low Risk	Accept the Mission. Monitor Risk Factors and re-evaluate if conditions or mission/activities change.	Accept the Mission. Monitor Risk Factors and re-evaluate if conditions or mission/activities change.	Accept the Mission. Monitor Risk Factors and re-evaluate if conditions or mission/activities change.
Medium Risk	Accept the Mission. Monitor Risk Factors and employ Controls when available. Re-evaluate if conditions or mission change.	Accept the Mission. Monitor Risk Factors and employ Controls when available. Re-evaluate if conditions or mission change.	Accept the Mission Only with Command Endorsement Communicate Risk vs. Gain to Chain of Command. Implement Controls and continuously evaluate conditions and mission for change.
High Risk	Accept the Mission Only with Command Endorsement. Communicate Risk vs. Gain to Chain of Command. Implement Controls and monitor Risk Factors. Continuously evaluate conditions and mission change.	Accept the Mission Only with Command Endorsement. Communicate Risk vs. Gain to Chain of Command. Implement Controls and monitor Risk Factors. Continuously evaluate conditions and mission change.	DO NOT Accept the Mission. Communicate to Chain of Command. Wait until Risk Factors change or Controls are available to warrant Risk exposure.

NOTES:

Do the mission or not?

Side-by-Side Tow General Concepts



Stern Tow



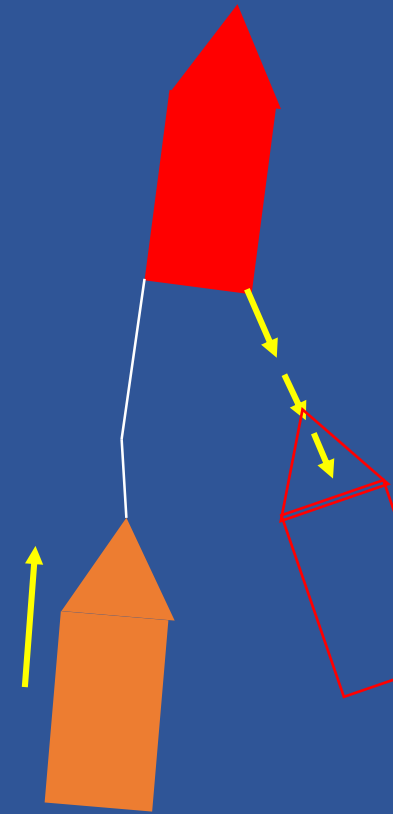
Stern Tow to side-by-side note fenders are out well in advance of bringing along side, if you plan to execute a side-by-side tow at some point, alert those on the towed vessel before taking them in tow. Side-by-side tows can be executed initially when there is time, room, and seas allow.



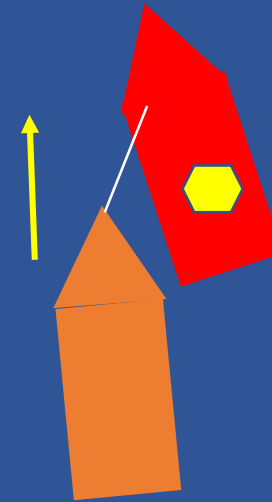
Preparing for
side-by-side



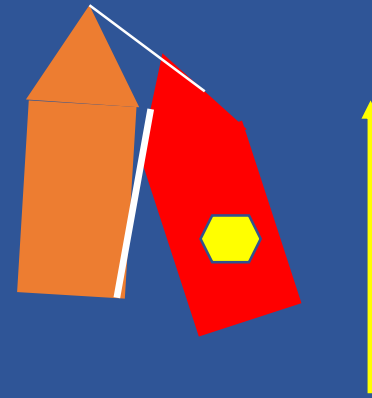
Bringing along side – notice the towing vessel is positioning to bring tow to portside, also slack in tow line – slow and easy.



Bringing along side – note the towing vessel is slowly bumping in and out of gear in reverse, to help position the tow along portside. Crewman is pulling tow by hand into position, keeping coxswain apprised of progress

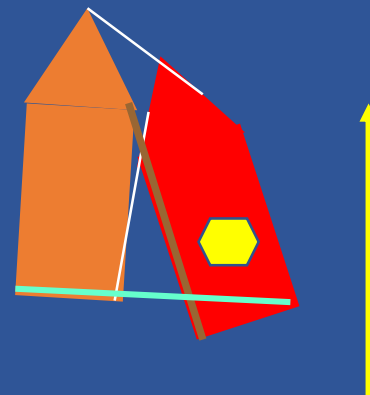


The tow line is walked to the front of the towing vessel bringing along side the tow, keeping watch that they do not hit and the fenders are placed well. A “walking-fender” is used if necessary.



The tow line is tied-off to starboard front cleat of towing vessel. Note the tow is turned in and slightly ahead of towing vessel. A second line is “tow strap” and is attached to tow starboard stern cleat.

Once both lines are secured – the towing can begin (1, 2...go) . The foreword movement will bring both vessels together.



The next line across is the “**Backing Line**” *in this case*, from starboard bow of tow to port side of towing vessel.

Last line across is “**Stern Line**” from portside stern cleat of tow to starboard stern of towing vessel.

Breaking down has lines removed in reverse order.