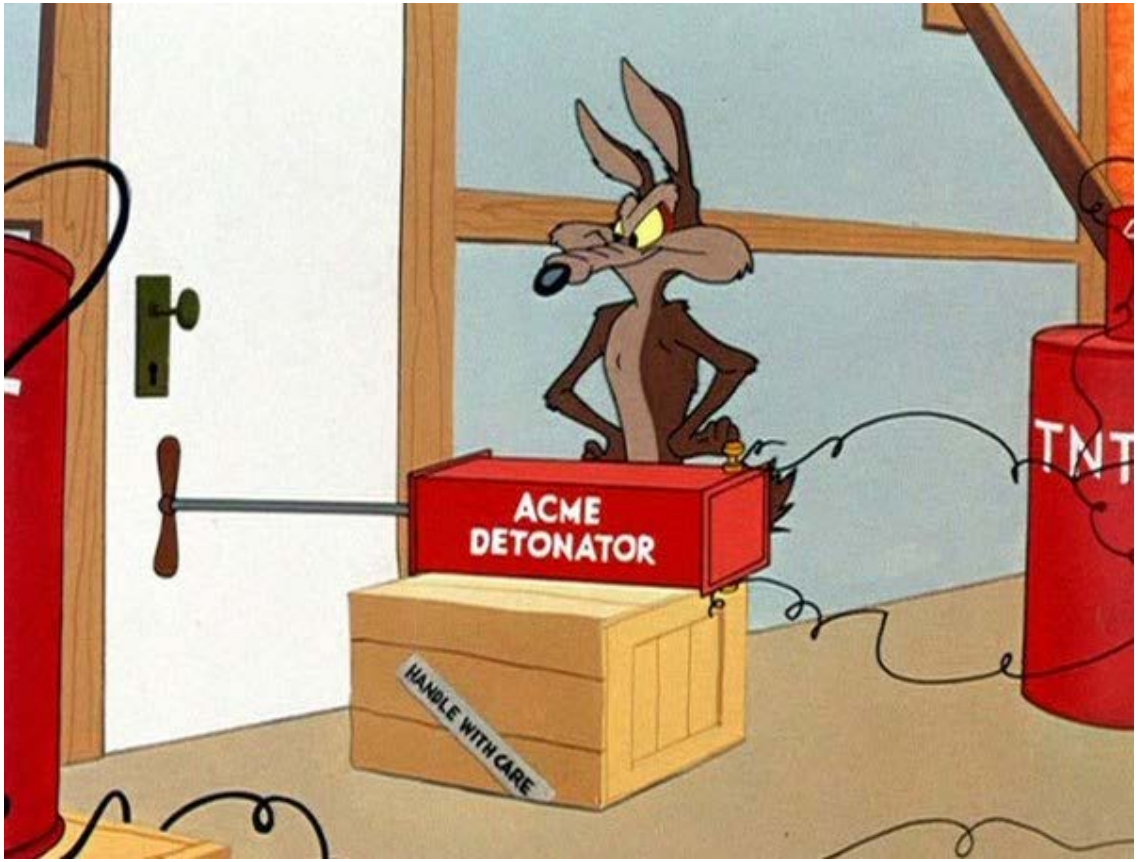
Procedures for Risk Analysis and Management



Introduction

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- DASHO Representative
- Voting Member SBSB
- Risk Management
- Incident Investigation

Process for Risk Management

1) **Baseline Assessment – should articulate the capabilities and limitations of the boat.**
2) **Mission Based Risk Assessment – should articulate the requirements and limitations of the science and tasks to be conducted.**
3) **GAR – risk assessment based on both the capabilities of the boat and mission requirements, usually performed days before the mission.**

Baseline Assessment

- **Risk assessment to evaluate the capabilities of the boat.**
- **Tool to communicate practical limitations and operational parameters of the boat.**
- **Team effort that should include operators that have first hand knowledge of the boat and operations.**
- **Define and narrow the range of acceptable risk in each of the GAR categories**

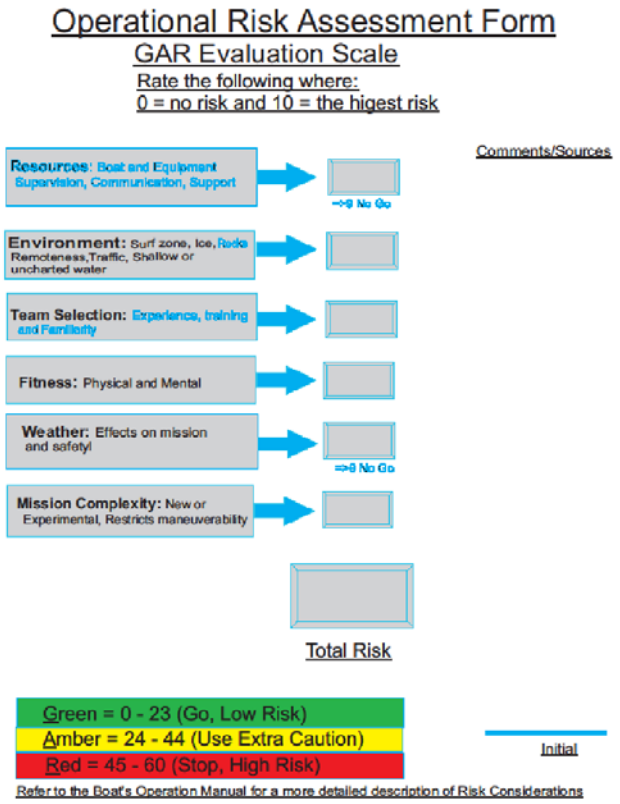
https://www.omao.noaa.gov/sites/default/files/documents/Baseline%20Assessment.pdf

Mission Based Risk Assessment

- **Risk assessment to evaluate the mission equipment, operations, and personnel.**
- **Tool to communicate boat requirements such as; infrastructure, speed, deck space, lifting capabilities, cruise duration, operational area, etc.**
- **Team effort that should include P.I., SME, scientist, and operators.**
- **Identifies the range of acceptable risk in each of the GAR categories for the mission**

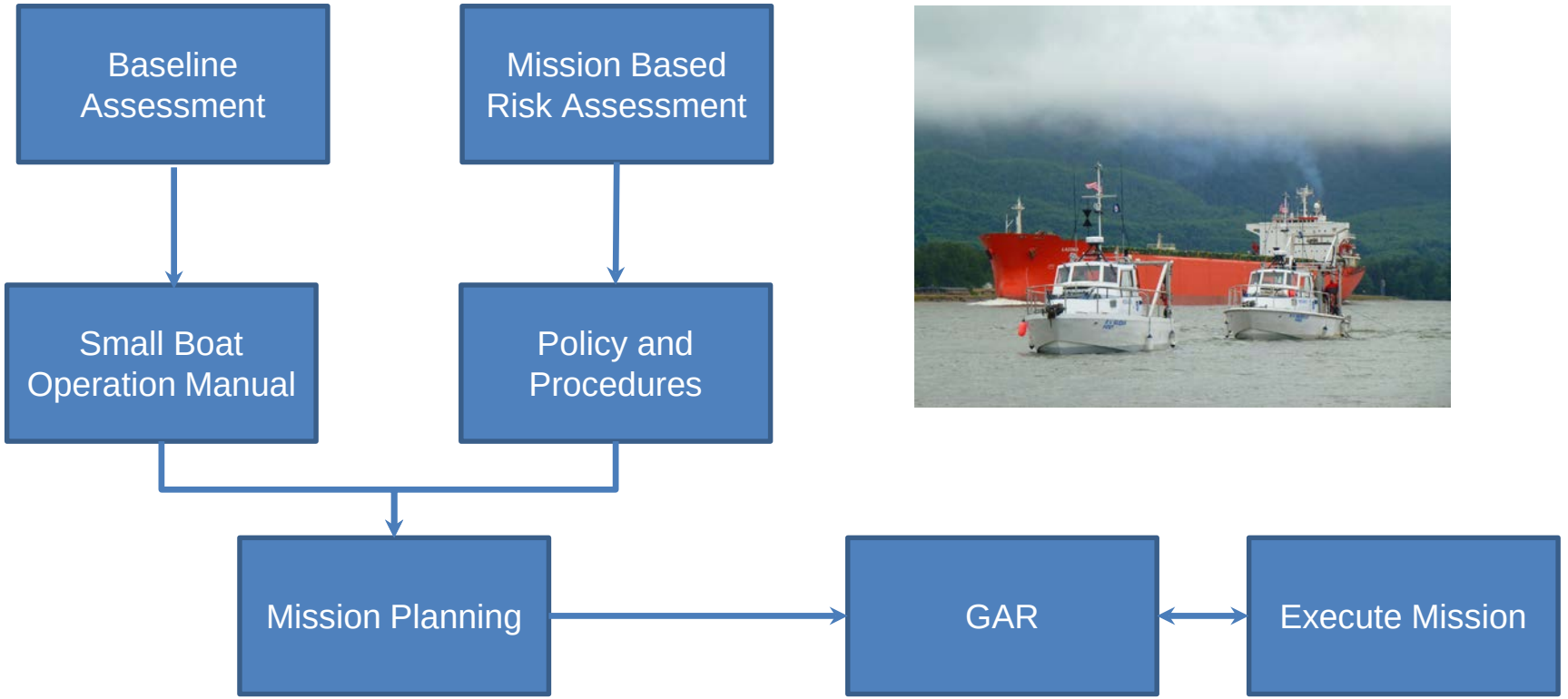
GAR (Green, Amber, Red)

- Tool used to assess risk during an operation
- Tool to help communicate the risk level of individual team members
- Risk is assessed on a 1-10 scale in 6 categories
- Based on identified range of acceptable operational parameters



Operational Risk Management

The process of using risk assessment throughout the planning and execution of an operation.



Mitigation of Risks

Mitigation is a necessary step for proper risk management

- Mitigation should be conducted throughout the Risk Management process.
- Continual assessment (GAR) should be done throughout the operation. Mitigation should be applied anytime the GAR identifies elevated risk levels.
- Mitigating factors must be documented for any GAR category identified >6

Law of Large Numbers

If there is an inherent risk in an operation, repeating that operations, without applying mitigation steps, will increase the probability that the risk will present itself.

Mitigation Steps in Order of Priority

- Substitution – using different assets
- Engineering Controls – use of mechanical devices
- Administrative Controls – training, reducing exposure, adjusting mission timelines, etc.
- PPE – use of personal protective equipment

If unable to mitigate to an acceptable risk level, need to consider canceling mission




Risk Acceptance Authority

Risk Management is a process to ensure no **unnecessary** risks will be accepted. However…

- Acceptance of some level of risk is necessary
- Acceptance must be made at the appropriate level
- If the risk remains elevated despite mitigation, or mitigation cannot be identified, the OIC must notify the VOC or next higher level of authority
- A cumulative GAR score >44 despite mitigation requires the OIC to alert the VOC or next higher level of authority

Risk Acceptance Authority

Other Considerations for Acceptance of Risk

- If risk increases during the operation then the appropriate risk acceptance authority should be notified before proceeding.
- Don’t push decision-making down any faster than the learning level will accommodate
- Get decisions to the right level and create a trail of accountability
- Assure like decisions are made at like levels
- Assure the decisions are made in a timely fashion and provide flexibility as required by the mission.

Annual Review

Risk Management is an on-going “fluid” process.

NOAA requires risk assessments be reviewed annually (at a minimum).

WHY?

Normalization of Deviance

https://www.youtube.com/watch?v=CdTjEoqT6Mc

Summary

Risk Management is a systematic process to identify and mitigate all known risks to increase the probability of the successful completion of a mission.

- The risk management process should be based on Mission Success, not just to prevent accidents.
- Risk management involves all players in the mission.
- Risk assessments should be conducted throughout the mission, especially as things change.
- Mitigation steps must be defined if you identify elevated risks
- Get the proper level of Risk Acceptance Authority.

Proper risk management will reduce/eliminate the "unforeseen" emergencies.

Questions?


HOW DO THEY GET ALL THE BOATS
TO PARK FACING THE SAME WAY?
imgflip.com