

RISK-BASED DECISION-MAKING GUIDELINES (SECOND EDITION)

This article is the second in a series concerning the revised Risk-based Decision-making (RBDM) Guidelines. It contains information about getting started with RBDM.

I'M INTERESTED IN RISK-BASED DECISION MAKING. WHERE DO I START? Tour the G-M risk web site (<http://www.uscg.mil/hq/g-m/risk/>) and read the article "Ten Common Risk Questions Answered" which introduces RBDM. Other articles in the current series also provide fundamental information.

NAVIGATOR. When you are ready to proceed, start with the Risk-based Decision-making Navigator (Volume 1), a road map to the second edition of the RBDM Guidelines. (The Guidelines are available electronically at <http://www.uscg.mil/hq/g-m/risk/e-guidelines/html/index.htm>.) Click on Volume 1 in the left frame to expand the list. Then click on Contents to access the Table of Contents for Volume 1. In the right frame, scroll down until the entries for Sections 1.0, 2.0, and 3.0 are visible. In these three short sections, the Navigator provides a quick insight into risk management in the Coast Guard, an overview of the second edition of the Guidelines, and an explanation of how the Guidelines evolved.

Section 4 presents reading plans that direct you to the most helpful information for your particular needs. Each plan addresses a different level of interest (see inset). Using a plan, you read only the information that pertains to your problem. Within the plan, each reference to material in the Guidelines contains a link to that material. Click on the links to access the recommended material.

If you have a general interest in RBDM, risk assessment tools, or risk assessment and risk management, the Navigator selects the appropriate information from Volumes 2 and 3 for you. If you have an

If:

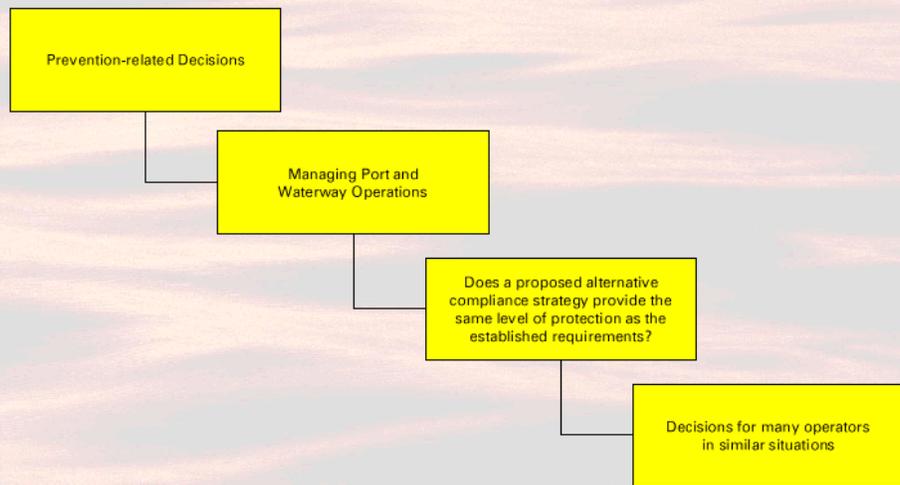
- **You need a quick start on a specific situation, but do not know where to begin** (<http://www.uscg.mil/hq/g-m/risk/e-guidelines/html/index.htm>, then go to Navigator 4.1)
- **You know what type of risk assessment to perform, but do not know what steps to follow** (Navigator 4.2)
- **You are investigating a particular accident** (Navigator 4.3)
- **You are reviewing a risk assessment performed by someone else** (Navigator 4.4)
- **You want to learn more about the basics of risk-based decision making** (Navigator 4.5)
- **You want to know more about risk assessment and risk management** (Navigator 4.6)
- **You want a broad overview of risk assessment tools** (Navigator 4.7)
- **You need help structuring your overall decision-making process** (Navigator 4.8)

the Navigator has a plan to start you on your way.

immediate need to use RBDM for investigating an accident or reviewing or performing a risk assessment, the Navigator provides a step-by-step process for identifying the appropriate information and guidance. Choose the plan that suits your needs and follow it.



RBDM Decision Structure Hierarchy



The Navigator also includes links to all four volumes of the Guidelines. Use this to familiarize yourself with the other volumes of the Guidelines.

After reading the introductory materials, visit the **Activities** section of the Risk web site (<http://www.uscg.mil/hq/g-m/risk/>) to see some of the ways that RBDM has been used to address Marine Safety issues. Under **Activities**, the Field Activities section includes brief examples of RBDM uses. View sample job-aids developed for:

- Equivalent Lifesaving Requirements on Small Passenger Vessels (<http://www.uscg.mil/hq/g-m/risk/lifesaving.pdf>)
- Marine Construction Risks (<http://www.uscg.mil/hq/g-m/risk/marine.pdf>)
- Requiring Stability Tests on Small Passenger Vessels (<http://www.uscg.mil/hq/g-m/risk/stability.pdf>)
- Risk Assessment of Fuel Barge Filling at Small Marine Terminals (<http://www.uscg.mil/hq/g-m/risk/fuelbarge.pdf>)

Risk-based Job Aid for Requiring a Simplified Stability Test on Small Passenger Vessels				
Part II – Scoring Chart				
Vessel Name:				
O.N.:			Date:	
Factor	Subfactors	Scoring Scheme		Vessel Score
		Category (Benchmark)	Weighted Score	
Route	<ul style="list-style-type: none"> ▶ Exposed ▶ Partially protected <ul style="list-style-type: none"> • 3 miles from shore — 20 miles from harbor of safe refuge • < 3 miles from shore • < 1,000 feet from shore ▶ Protected <ul style="list-style-type: none"> • < 1,000 feet from shore • Rivers • Shallow water <p><i>Note: If the vessel is on an exposed route, then require a test</i></p>	Significant increase (3 miles from shore — 20 miles from harbor of safe refuge)	8	
		Moderate increase (< 3 miles from shore)	4	
		Neutral	0	
		Moderate decrease	-4	
		Significant decrease (protected shallow water < 1,000 feet from shore)	-8	

These are all problems identified by Marine Safety Units and addressed in RBDM workshops. They show how RBDM can be incorporated into MSO decisions. Each example presents a diagram of the RBDM decision structure hierarchy. (In the table above, the decision structure hierarchy for determining whether to require stability tests on small passenger vessels is shown.) Use of the decision structure identifies the appropriate RBDM tools. The examples provide sample job aids developed using the RBDM tools. [See table above and the full job aid in Volume 4 of the Guidelines.] Both the web site and the RBDM Guidelines (Volume 4) give examples of job aids developed to assist Marine Safety Units with problems identified by the units. Check for aids that may be useful in your job.

EXAMPLE OF RBDM USAGE. Marine Safety Office (MSO) Mobile needed to determine whether to require a simplified stability test for existing small passenger vessels (vessels carrying fewer than 49 passengers) in its AOR. These vessels are not required by either regulation or local policy to have a stability evaluation. MSO Mobile wanted to know whether the potential benefit of detecting an unknown stability deficiency would outweigh the vessel owner's cost of conducting the evaluation.

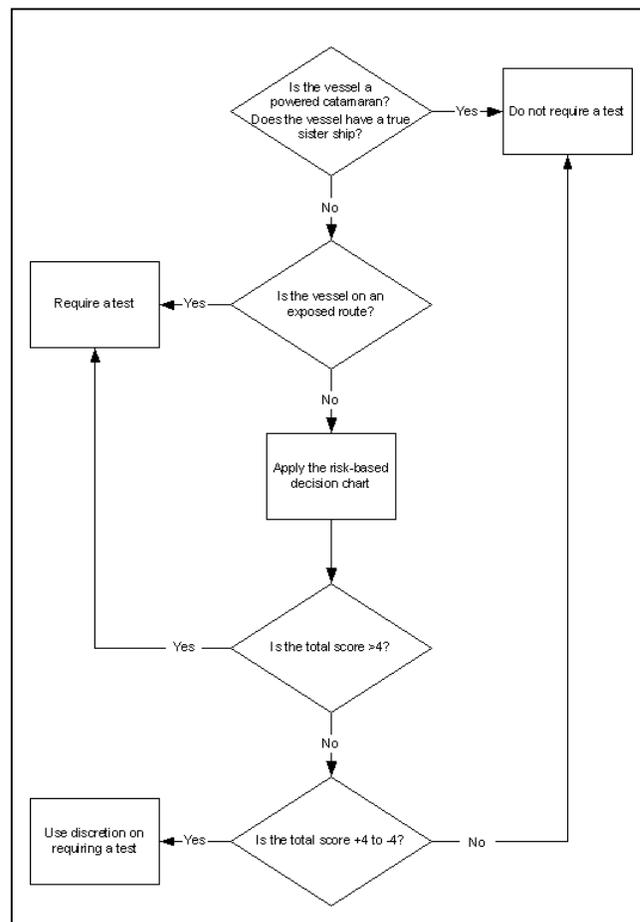
MSO Mobile used risk tools to gain an initial understanding of how small passenger vessel capsizing events could occur and what factors are important in characterizing stability risk for various small passenger vessels. Further use of tools allowed them to organize their understanding of the important stability risk factors and to develop a job aid for evaluating specific vessels to determine whether vessel stability evaluations will be required.

The job aid developed by MSO Mobile has two parts: a flow chart that addresses deterministic issues (see inset) and a scoring chart that weights factors important

to stability risk. Using the job aid helps inspectors identify vessels for which stability tests are indicated, vessels that do not need tests, and vessels whose scores require discretion on the part of the inspector.

The MSO found that the job aid could identify higher risk vessels, was consistent in application with reproducible results, was easy to use allowing rapid completion, and was able to be adjusted over time for continuous improvement.

ADDITIONAL RESOURCES. As you gain skill in RBDM, continue to visit the G-M web site. In the **Resources** section, you will find general interest risk articles from Prevention through People and the *Marine Safety Newsletter* (<http://www.uscg.mil/hq/g-m/risk/msn-jan01.pdf> and <http://www.uscg.mil/hq/g-m/risk/msn-dec00.pdf>).



The September 1999 issue of *Proceedings*, which was dedicated to risk management, provides in-depth articles on RBDM (<http://www.uscg.mil/hq/g-m/nmc/pubs/proceed/q3-99.pdf>)

A library (<http://www.uscg.mil/hq/g-m/risk/library.html>) and links to sites with RBDM information (<http://www.uscg.mil/hq/g-m/risk/links.html>) are also included in the **Resources** section. Risk-related events in the Coast Guard are listed on the **calendar** (<http://www.uscg.mil/hq/g-m/risk/events.html>).

FORMAL TRAINING OPPORTUNITIES.

Two rollout workshops were conducted during Spring/Summer 2001, to introduce the second edition of the Guidelines and provide practical experience in their use. Individuals representing most Marine Safety Offices received introductory training in RBDM. More workshops are being planned for 2002 to include additional "M" personnel as well as personnel from other directorates.

Team Coordination Training (TCT), an implementation of Operational Risk Management (ORM), is incorporated into Command and Operations School courses including prospective CO, XO, and OPS courses (PCO/POIC/PXO/PXPO, POPS, TCT, and IMOC). RBDM is included in the Chief Warrant Officers' Indoctrination

Course at the Leadership Development Center (LDC) at the Coast Guard Academy.

RBDM based on the second edition of the Guidelines is also being incorporated into courses taught at TRACEN Yorktown. Other opportunities to learn about RBDM will likely include the Chief Petty Officer Academy and similar courses at the LDC.

INFORMAL TRAINING OPPORTUNITIES. If a member of your unit attended an introductory workshop, that individual will have a copy of the Guidelines and may be able to offer assistance and support as you learn about RBDM.