



Focus on Bridge Resource Management (BRM)

Spills Prevention, Preparedness & Response

What is Bridge Resource Management?

Bridge Resource Management (BRM) is the effective management and use of all resources (human and technical). It begins with the passage plan and continues through the end of the voyage with the passage debrief. BRM principles include:

- Shared view of goals
- Delegation of responsibilities
- Effective organization
- Sense of team ownership in achieving goals

Benefits of Bridge Resource Management

A team practicing BRM will be able to:

- Appropriately delegate workload and authority
- Maintain situational awareness
- Safely monitor the vessel's progress and make appropriate adjustments and corrections
- Acquire relevant information early
- Anticipate dangerous situations
- Undertake appropriate contingency plans
- Recognize the development of an error chain and take action to break the chain

Safe navigation and BRM

Studies show that BRM principles increase navigational safety. Although BRM has been around since the 1990s, collision and groundings still occur. Investigations show that accidents often take place when the principles of BRM are not followed and the bridge team loses situational awareness or fails to effectively communicate. STCW95 requires bridge officers to be competent in BRM principles of teamwork, communication, leadership, decision-making, and resource management.

Practicing BRM: Communication

The heart of BRM is effective communication. Effective communication is a complex process that requires accurate and complete information to be shared with and understood by others. When information is not received or is misunderstood, accidents can occur. Tips for practicing effective communication are:

- Repeat and acknowledge orders
- Crosscheck and speak up to clarify ambiguous or confusing communication
- Use bridge team meetings to form a common understanding of the passage plan, address inconsistencies and ambiguities, and review lessons learned
- Use a common language on the bridge to help all team members maintain situational awareness and contribute to safe navigation

Practicing BRM: Teamwork

The bridge team is most effective when they are working toward a shared goal. Teamwork allows each team member to participate in problem solving challenges and anticipate dangerous situations. Team discussions are essential for learning and refining BRM. Challenging situations can be anticipated and managed by an organized bridge team. Tips for practicing teamwork are:

- Understand your important role in the vessel's safe and effective navigation
- Avoid passive and complacent behavior
- Avoid relying on just one person or piece of equipment

Practicing BRM: Situational awareness

The bridge team must have an excellent understanding of the vessel's current situation in order to anticipate and successfully respond to changes in the environment. When you understand the external and internal conditions affecting your vessel's safety, you have situational awareness. Perhaps the greatest adversary of situational awareness is complacency. By paying attention to the ongoing situation and anticipating dangers, you can prevent complacent behavior and ensure critical details are not overlooked.

Tips for practicing situational awareness are:

- Ensure you understand the vessel's current situation
- Be aware of potential dangers
- Think about and plan for the next phase of the passage plan

Practicing BRM: Decision-making

The captain is the final authority onboard; however, it is vital for the captain to have all the relevant and pertinent information to make well-informed decisions. It is the bridge team's responsibility to provide that information. Tips for practicing decision-making are:

- Share data and information through meaningful interactions between bridge team members
- Explore viable options and make deliberate and thoughtful decisions
- Recognize that your participation in decision-making is an important part of your team member duties

Behaviors that can cause BRM to fail:

- Passive, complacent behavior
- Over reliance on a person, a system, or a piece of equipment
- Lack of training, familiarization, experience, or competency
- Lack of interest, motivation, or communication
- Fear of appearing incompetent
- Inability to understand and adapt to changes in traffic or weather conditions
- High workload, stress, and fatigue
- Ambiguity, confusion, distractions, and interruptions

Additional reading

- Australia Advisory Note, 21 September 2020, "Bridge resource management and the reduction of single person errors."
<https://www.amsa.gov.au/safety-navigation/navigating-coastal-waters/bridge-resource-management-and-reduction-single-person>
- Paper by Captain Livingstone, Captain Merrigan, and Captain Konrad, "Bridge Resource Management", October 2018,
<https://3kbo302xo3lg2i1rj8450xje-wpengine.netdna-ssl.com/wp-content/uploads/2019/10/BRM-gCaptain.pdf>
- "Bridge Resource Management." Robson Forensic, 08 November 2021,
<https://www.robsonforensic.com/articles/bridge-resource-management-expert>
- "Bridge Resource Management, Working as a cohesive team." The Navigator, October 2014,
<https://www.nautinst.org/uploads/assets/uploaded/9035e6d8-7886-49f1-994501926c5f5e6d.pdf>



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