



# Naval Safety Center

## LESSONS LEARNED



LL 20-33

### DELIBERATE RISK ASSESSMENTS

#### “Reduce, Reuse, Recycle” is for the environment — not for ORM

Navy and Marine Corps units execute missions or tasks every day in a variety of conditions, some ideal, some not so much — but with the goal of completing the event safely and professionally. Whether you’re planning dive operations, restricted waters transits, live-fire and maneuver, or *[fill in your mission here]*, these events often involve some level of risk. Human error continues to be the leading cause of Navy and Marine Corps mishaps, with inadequate risk assessment, either in the planning or execution stages of a mission, being a frequent (and avoidable) factor. Our lessons learned and sanitized reports library is full of takeaways highlighting that “Operational Risk Management (ORM) isn’t a program, it’s a way of operating.” ORM assists in identifying hazards and implementing controls to mitigate them. Incorporating risk management with the right attitude, and not just “going through the motions” can be the difference between a mission well done and a mishap investigation.



With an understanding of the applicable instructions — OPNAVINST 3500.39 (series) Operational Risk Management (ORM), and Marine Corps Order 5100.29C, Volume 2 — commands can determine how to identify hazards and mitigate risk before the mission using a Deliberate Risk Assessment Worksheet (DRAW). While maintaining a library of old DRAWs on your unit’s shared drive for ease of access is a good idea, beware; evolutions aren’t the same each time. Carefully review the worksheet, and honestly ask yourself and your team, “What’s different today?” The Naval Safety Center (NAVSAFECEN) ORM staff repeatedly sees the practice of commands using “canned” DRAWs to brief an operation without updating for reality. Mission planners often become complacent about ORM (“*We did the same mission last week*”), but is it really the same? Additionally, we’ve seen ORM start off on the right foot, only to lose its footing as the mission progressed. Here are a few examples:

- The NAVSAFECEN ORM assessment team was on a carrier observing a composite training unit exercise. While sitting in on an anti-terrorism force protection brief for a strait transit, it was readily apparent that the DRAW used for the brief was for getting the ship underway from port vice an actual at-sea strait transit (*not the same*). About one-third of the way into the brief, the Commanding Officer stopped it and asked where the security department got the information for the brief. The answer; “Well, we used the DRAW from the “S” drive and thought it would work.” The CO stopped the brief and told the department to go back to the drawing board. Fortunately, in this case, the planners got a redo.



- In a Navy diving near-mishap, the location and diving scenario were the same for the morning and afternoon sessions. The team conducted the first dive 100 percent by the book, including a deliberate risk assessment worksheet and brief. After a lunch break, the dive team splashed to continue their work, but the dive was abruptly stopped when the divers realized they entered the water with air tanks that did not have enough air left for the dive. Fortunately, all divers were evaluated by medical with no issues. This incident could have been fatal, and was easily preventable if the dive supervisor had reviewed the approved pre-dive ORM checklist and operation procedures for the dive system after the lunch break. The Navy

dive manual identifies any subsequent dive as an entirely new evolution, requiring the dive supervisor to conduct another ORM brief and pre-dive checklist (even after a lunch break). ORM is a continuous process, a way of operating, not just a check in the box for the day.



- A Marine battalion was conducting training in groups on various weapons systems to include an Anti-Personnel Obstacle Breaching System (APOBS). For the non-Marines, an APOB is an explosive line charge that uses a rocket to fire a string of grenades into a minefield. Once deployed, the grenades will detonate and clear a safe path. A training cell member asked one of the Marines if he “was good to do the APOBS,” implying that the Marine would set up the APOBS under their supervision as 30 or so Marines observed. As the Marine was going through the steps to arm the device, the

rocket portion of the APOBS ignited and shrapnel struck a Marine in the helmet, fracturing his skull and rendering him momentarily unconscious. The safety investigation revealed that the safety pin was inadvertently removed from the rocket portion. This mishap was completely avoidable. Among the many causal and contributing factors identified in this mishap were poor planning in allowing a non-instructor to demonstrate the procedure and that the DRAW for the training made no mention of the APOBS or the associated risks with it. Without any ORM or plan, the range safety officer and instructor at the site had no shared understanding of the plan to employ the APOBS.

**Key takeaways / Lessons Learned**

The examples above had minimal consequences, but that isn’t always the case. In 2017 a grounding and three collisions - two of which resulted in 17 Sailors’ deaths - led to a comprehensive review of surface force incidents. The review team found that poor risk management and planning were factors in all four mishaps. Here are some tips to help you be an ORM champion:

**1. Don’t clone your Deliberate Risk Assessment Worksheets.** If you use an old DRAW from your shared files, review the hazards that were identified during the initial development of the risk assessment, and see if they are still applicable. Ask, “What’s different today?” for all actions involved with the mission to capture and mitigate any new hazards. We’re not saying to reinvent the wheel, but use a DRAW library only as a starting point, not as a “check in the block.” “Reduce, Reuse, Recycle” is a good mantra if you want to protect the environment, but isn’t so good with ORM. Follow the ORM process’s spirit and intent to keep you and your command safe and operationally effective.

**2. ORM is a team sport.** Mission planning, including the development of the DRAW, should not be done behind a curtain. Like the mission itself, it takes a team to perform ORM correctly. Team members should be part of the process to help identify hazards before and during the event. It’s not just a brief for the CO.

**3. Don’t know about ORM? You should.** The Navy ORM instruction lists the required individual training from E-1 to Flag-level. Every command must conduct annual ORM training, so if you don’t see it happening at your unit, ask. The more you learn the principles of ORM, the more you’ll internalize them, and they’ll influence how you operate. ORM isn’t a checklist. It’s a way of thinking and operating. Sailors can access the ORM electronic learning courses at <https://learning.nel.navy.mil>. Marines, visit <https://www.marinenet.usmc.mil>.

Note: You can access the DRAW on the Joint Risk Assessment Tool site at <https://jrat.safety.army.mil/login.aspx> in the “worksheets” tab and on the Naval Safety Center’s CAC-enabled website at <https://intelshare.intelink.gov/sites/navsafe/SitePages/ORMHome.aspx>.

This product is posted on the NAVSAFECEN CAC-enabled website at <https://intelshare.intelink.gov/sites/navsafe>, and on the public website at <https://navalsafetycenter.navy.mil/Safety-Promotions/Lessons Learned>.

*And remember, let’s be careful out there...*