



# Naval Safety Center

## *LESSONS LEARNED*



LL 21-05

### *FORMALITY AND COMMUNICATION BREAKDOWN*

***"The single biggest problem in communication is the illusion that it has taken place."***  
***— George Bernard Shaw***

Formality, particularly formal communication, has been a cornerstone of disciplined operations aboard ships since the early days of sail, with many standard commands and practices still in use today. One of the six elements of Sound Shipboard Operating Principles and Procedures (SSOPPs) is formality; the rigorous adherence to established rules, customs, or norms. Formality includes standard commands and repeat backs. When used in conjunction with the other five principles of SSOPP (procedural compliance, questioning attitude, forceful backup, level of knowledge, and integrity), the application of formal protocols and customs keeps Sailors on task and prevents them from being complacent and making mistakes. Lest we forget, the 2017 Comprehensive Review of Recent Surface Force Incidents included a grounding and three collisions resulting in the loss of 17 sailors. All four of those incidents involved non-adherence to formal commands and communications failure.



Deficiencies in formality range from poor communication practices to informal issue resolution, which contribute to breakdowns in the effective execution of day-to-day operations. The following summaries highlight the importance of maintaining formality, in conjunction with sound shipboard operating principles, during all evolutions — no matter how routine and no matter who is in charge. Formality is not only one of the SSOPs, it is an enabler for others. We are fortunate that these cases were near misses, but the lack of formality that contributed to them could have led to much worse. Please read, discuss with your shipmates, and learn from these near misses that could quickly have become mishaps.



♦ Red Light, Green Light. An amphibious ship was supporting amphibious warfare certification events where the vessel was to launch 11 Amphibious Assault Vehicles (AAVs). On the morning of the launch, the ship completed ballasting with six inches of water at the sill, and all AAVs were positioned in the well. The AAV craft were set for launch while the stern gate was lowered to the 90-degree position. Upon receiving the green flag signaling "Green Well" (clear for launch), all AAVs cleared the sill in approximately three minutes. They missed one minor detail though: the well deck status was actually "Red Well," meaning the AAVs should not have been cleared to launch. No personnel or AAVs were harmed despite the ship executing a turn as they launched.

In this case, the incorrect signal to launch resulted from of a breakdown in formality and communication. The Phone talker (PT) in Well Deck Control (WDC) requested "Green Well" when the stern ramp was lowered to 90 degrees. He anticipated the command, which is usually given almost

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immediately when the ramp reaches 90 degrees. However, Debark Control (DC) replied, "Wait one." The PT heard the reply as, "GREEN WELL," and replied with the repeat back, "Roger, GREEN WELL." The PT then passed the GREEN WELL condition in WDC and to the well deck safety observer. The PT in DC was caught off guard by the reply and did not act in time to stop the craft launching. The DC officer (DCO) then came on the well deck communication network and ordered "RED WELL," but the AAVs had already begun to depart. Additionally, there should have been no action until ordered by DCO over the established network in accordance with the briefed procedures.

The PT, safety observer, and signalman were not in attendance at the brief before the event, and the approved path of launch authority was not briefed on station the morning of the incident. Otherwise, they would have known that the authority to launch rested with the DCO and would be passed to the WDC officer, who would direct the launching of craft in the well deck.

The deviation from formality by having critical team members absent from brief started an error chain that led to miscommunication and ultimately launching 11 AAVs while the ship was in a turn. The event brief is crucial to a successful operation, but only if you follow it.



♦ Let Go The Anchor...No Wait! During a ship's anchoring evolution, significant tension was placed on the anchor windlass as the ship gained too much sternway, unseating the retention lugs and causing the anchor chain to unintentionally pay out. Fortunately, the brake was applied quickly enough to prevent further damage or a runaway anchor chain, and no one was injured. A summary of the sequence of events (not all-inclusive) leading to this near-miss highlights how a lack of formality and poor communications, both technical and human, can ruin your day.

On the morning of the anchoring, the ship's interior wireless communications system (HYDRA) was experiencing broken and unreadable transmissions, preventing critical information and coordination from being passed between the Foc'sle and Bridge. Despite the issues with HYDRA, the crew did not shift communications to sound powered phones.

According to the anchoring bill, the Bridge was required to notify the Foc'sle at 6000 yards, every 1000 yards after that, and then every 100 yards inside of 1000 yards while approaching the anchorage. The Foc'sle crew only confirmed hearing a "2000 yards out" call.

Due to the missed calls, deck personnel were not ready to anchor, and the 1st Lieutenant attempted to report this to the Bridge. The "not ready to anchor" call was not acknowledged from the Bridge, nor was there a recommendation or a decision to abort or delay the anchoring evolution.

The Officer of the Deck (OOD) did not order a stern bell due to confusion with the status of the anchor chain and instead attempted to hold position. However, due to winds and currents, the ship started to drift over the anchor.

The 1st Lieutenant was concerned the anchor chain would stack up on top of the anchor and ordered the windlass to be engaged. After the windlass was engaged, the ship began to make sternway, however, with the drift and potentially more sternway than anticipated, the windlass could not pay out the anchor chain fast enough. These factors resulted in significant tension loads between the windlass and wildcat, eventually resulting in the drive lugs becoming unseated and the anchor chain freely paying out until the brake could be appropriately applied.

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The post-incident debrief and critique identified multiple opportunities to stop the anchoring evolution. The critique tallied the cascading events when poor communications and deviation from the formal navigation brief resulted in compressed decision timelines and significant confusion amongst the Bridge and Foc'sle crews. There's something to be said for using the old standard sound powered phones. They're reliable and were the only form of internal ship communications for decades. That's why we still have them. Assertive communications and repeat backs would have confirmed the deviation from the plan. A good rule of thumb is, "If they didn't hear it, it didn't happen."

◆ Oops, My Bad. While conducting the Planned Maintenance System (PMS) check during a weapons turnover at the shipyard's entry control point, a watchstander negligently discharged a 9mm round into the clearing barrel from the M9 pistol. No injuries resulted from the negligent discharge. The watchstander didn't follow the procedure, because the Maintenance Requirement Card (MRC) wasn't posted at the weapons clearing station; he was essentially winging it. Not helping the situation, the off-going watchstander didn't provide forceful backup by observing the check. Formality, in this case, would have involved strict adherence to following the MRC during weapon turnover, but formality gave way to complacency, diminishing the opportunity for forceful backup if a step were accidentally missed. Fatigue due to aggressive watch schedules was also noted as a factor that resulted in watchstanders rushing through their weapons turnover checks without an MRC in hand.



◆ Be Careful Where You Point That Thing. A ship was conducting a live-fire missile shoot on a designated range. Before the missile event, the ship was required to complete a Close-in Weapon System (CIWS) Pre-action Calibration (PAC) fire to ensure both forward and aft CIWS mounts were fully operational. Safe firing bearing was designated as 270 degrees relative (off the port beam) for both CIWS mounts. Immediately before firing, the forward CIWS mount slewed from 270R to 000R (dead ahead). Approximately 140 rounds were expended at 000R (the wrong bearing), landing approximately one mile in front of the ship.

Without getting too far into all the technical details, the main cause of the incident was that the CIWS mount operator didn't follow the steps to ensure the weapon would stay on the desired firing bearing. He did not enter the relative bearing code of 270R for PACFIRE mode, so when the PACFIRE was set, the mount slewed back to 000R from 270R. Compounding the errors, the script was improperly written. The gun lay (direction it is pointing) must be verified after PACFIRE mode is set, but the script called for gun lay to be verified before, not after, PACFIRE was set. The Junior Officer of the Deck noticed the gun lay was not correct, but did not immediately call for "Cease Fire."

All live-fire weapons events require strict adherence to established (and correctly written) rules, commands, and repeat backs. Thankfully, the ship had a 360 degree cleared range from shipping traffic. Otherwise, the discharge on an unexpected and unplanned bearing could have resulted in catastrophic loss of equipment or personnel.

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USS Constitution's 75th Commanding Officer and Sailors assigned to USS Constitution furl the ship's main topsail during weekly heritage training

### Key Takeaways / Lessons Learned

Formality is rigorous adherence to established rules and is evidenced by clear, concise orders and verbatim repeat backs. It underpins other sound shipboard operating principles. Formal execution in day-to-day operations leads to alert and engaged watchstanders and facilitates forceful backup from the planning stage through the debrief stage. When a lack of formality is allowed to become standard, control of evolutions is effectively lost. It is essential that we continue to use the critique process to identify root causes, take actions to address them, and learn from past experiences (yours and others). To that end, here are a few things to keep in mind.

1. **All for one and one for all.** SSOPP doesn't work by following just one or two principles at a time. All six principles must be integrated into shipboard operations ... all the time.
2. **Formality is key to operational discipline.** Address formality in all stages of operations and don't forget the debrief. Just because "nothing bad happened" in today's event doesn't mean there isn't room for improvement. Collect and apply lessons learned to avoid a mishap. — Besides saving lives and tax dollars, you'll reduce the risk of being the subject of our lesson learned products.
3. **"Pass on what you have learned" — Yoda.** Engage your junior Sailors whenever possible in all phases of PBED (Plan, Brief, Execute, Debrief). These phases aren't just for the command cadre. Every member of the team has an important role, from the phone talker to the commanding officer. Teach our future naval leaders the pillars of SSOPP before they develop poor habits and need to *"unlearn what [they] have learned."*

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