

"Whenever I embark on a DIY project, I always read the instructions carefully...and retrospectively" —Anonymous

What is it about us that makes us start assembling things out of the box without reading the instructions? It almost always goes wrong, and we have to back up and start again. It's the same when it comes to checklists and procedures on duty except that instead of a crooked DIY table or putting the kids' toy together backward, skipping our on-duty procedures can *and has*—led to significant consequences, costs and injuries. In fact, procedural non-compliance is one of the most common causal factors in on-duty mishaps. In a 2023 study of the value of the Naval Safety Command's (NAVSAFECOM) assessment process, our team reviewed 2,117 on-duty mishaps and found that nearly one-third of those mishaps reported procedural non-



compliance as a factor. NAVSAFECOM's local area assessments also commonly observe non-compliance with procedures and policy.

While most mishaps involve some degree of non-compliance with established procedures or policy by the worker (*which may appear to be the direct cause*), mishap investigations often don't reveal "*Why*" the worker didn't follow the procedure—"*the cause behind the cause*," if you will. The underlying reasons for someone not following a procedure can be difficult to spot (and there are many), but what if there was a guide that could help you identify the active and underlying failures that led to an unsafe act **before** a mishap? If you haven't already guessed, there is one: the Department of Defense Human Factors and Analysis Classification System (HFACS) Guide.

Before you roll your eyes, thinking, "I only need the guide if I have a mishap," hear us out. "Procedure not followed correctly" is one of 13 unsafe acts (active failures) described in the guide. Those are the likely direct causes of mishaps, but consider that there are 51 "preconditions," ranging from fatigue and life stress to ineffective team resource management and training. Those are tangible and, in most cases, identifiable influences that can lead to mishaps—or better yet, they can be addressed to prevent mishaps. The guide also includes 18 supervision and leadership failures, such as failure to provide sufficient equipment or supplies, unit safety culture and allowing unwritten practices to become standard—all identifiable at your unit—**before** a mishap. The guide's 19 organizational influences capture issues at or above the unit level, including flawed doctrine (*e.g., the procedure itself is confusing or wrong*), operational tempo, inadequate formal training and inadequate funding. You can identify most, if not all, of these influences without waiting for someone to get injured before you look 'em up. You can also find the HFACS 8.0 Handbook in our APP in the eGuide/Flipbook Library. Download the App from Apple App Store or Google Play; there's a QR Code on page 3.

It wouldn't be a Safety Awareness Dispatch without real-life examples to illustrate the point. As you read these events of people not following procedures, you'll see how they were all preventable. Use them as a primer along with the HFACS guide to help you recognize the signs and intervene before bad things happen. It's less work to prevent the mishap than it is to clean up and report after it happens.

• <u>Request Denied</u>! Maintenance control directed six maintainers to swap radar domes (radomes) on two aircraft while underway. Before starting the work, the Collateral Duty Inspector (CDI; a maintenance Sailor) recommended to Maintenance Control that they should do the swap in the hangar bay with the use of the radome support fixture (*per the written procedure*) rather than on the ship's flight deck. Maintenance Control

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denied the request and directed the team to do the work on the flight deck. Without using the required radome support fixture, three maintainers attempted to remove the radome by hand—and it didn't go well. Struggling with the uneven weight of the radome and the wind on the flight deck, the maintainers dropped it onto the deck, causing more than \$90,000 in damage. —The CDI had it right by requesting to do the work in the hangar bay, but leadership directed a departure from following the procedure, presumably to save time during an operational mission. We see how that worked out. The report noted that a shift in culture toward strict procedural compliance was underway after the mishap, and we think that's a step in the right direction.

 That Sinking Feeling. A Sailor on watch observed one of the unit's boats sitting lower in the water than several boats moored beside it. He notified the Command Duty Officer (CDO), who directed him to begin dewatering procedures and activate the bilge pumps. What followed was a series of missteps that doomed the sinking boat: 1) The Sailor didn't know how to turn on the bilge pumps and had to contact another Sailor for instruction on how to turn them on. 2) He soon turned them on, but the seacock valves were left open, so the bilge pumps couldn't keep up with the flooding. 3) The CDO arrived to find the Sailor in waist-deep water on the boat, bailing water with an ammo can. 4) Other service members joined in the dewatering (bailing) while the Sailor was then ordered to retrieve a P-100 pump—which he found, but it didn't have any hoses. 5) The Sailor went to the fire station to see if they had a pump and they, in turn, contacted base police to respond. 6) Base police arrived (with no equipment or pumps because those aren't typical police gear). 7) Nearly two hours after the watchstander observed the flooding, the CDO obtained a P-100 pump from another command and began dewatering. The boat was eventually emptied, but the water caused more than \$350,000 in damage. —Multiple procedural compliance violations coupled with a lack of training and knowledge led to this costly mishap. Proper rounds weren't made, the unit hadn't trained in their emergency response procedures and the post-operation checklist wasn't completed after the mission, which required the bilges to be checked. Leaders, don't let sound watch standing principles and emergency response training fall by the wayside, lest you lose an expensive piece of equipment or, worse, get someone hurt.

• <u>No Good Deed Goes Unpunished</u>. A civilian employee was helping maintainers fold a helicopter tail pylon. With limited personnel available due to holiday routine, three maintainers attempted to fold the tail pylon, which required five according to the written procedure. The maintainers also didn't use the required leverage bar 2. During the attempted fold, the employee strained his shoulder. *—There's a good reason why the procedure requires five people and a special tool to fold a helicopter's tail pylon, and this team proved it. Procedures exist to keep you safe. Mayhem takes no holidays, so you shouldn't take a holiday from following procedures.*



• <u>Getting Ahead of Himself</u>. As a Marine howitzer gunnery section was given a fire mission, the section chief gave the order to fire, and as the lanyard was pulled, the gun misfired. The magazine that holds the primer had a weak spring, which was a known issue with this howitzer. The weak spring caused the magazine to not seat correctly, causing the cannon to not fire. Following Standard Operating Procedures (SOP), the section chief ordered two more lanyard pulls to try to get the cannon to fire. Outside of the view of the section chief, a Marine reached his arm toward the loose magazine to properly seat the primer (*which is an SOP step…later*) without being

directed by the section chief. As the Marine was attempting to reseat the magazine, the cannon fired and the recoil mechanism struck his arm, fracturing it. —*The injured Marine knew the next step in the misfire procedure but rushed to do it before the section chief ordered the required third lanyard pull. The report noted that there is a strong culture among young artillerymen to be the fastest, which, if unchecked, can lead to severe injury or worse. Don't get ahead of yourself, even if you think you know the procedure. The steps are in order for a reason.*

• <u>Checklist Schmecklist</u>. A Ship's Engineering Duty Officer Under Instruction (EDO UI) and the cold iron watch stander were conducting an engine plant shutdown. As part of the shutdown process, the EDO UI

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and cold iron watch stander secured the lube oil pumps for the Main Reduction Gear (MRG) in main engine rooms 1 and 2. They did not secure the propeller shaft turning gears (even though the written shutdown procedure says to secure those gears). The turning gears ran without lubrication until the main propulsion assistant arrived the next day, 10 hours after the pumps were secured. He immediately secured both turning gears and notified the chain of command. The EDO UI and cold iron watchstander made additional errors during their shutdown procedure, but not securing the turning gears proved



to be the most costly. The misstep required an inspection of the MRG bearings, resulting in the ship remaining pierside during a planned underway certification period and requiring rescheduling a maintenance availability period. The estimated inspection cost was more than \$800,000 and altering the maintenance availability cost another \$70,000 for lost and changed contracts. —*So, how did something so easily avoidable like this happen? The department was undermanned with qualified watchstanders, but so was nearly every ship, so that's not the big reason. The groundwork was laid for the mishap when leaders voiced procedural compliance to the chain of command but didn't enforce it, leading to a culture of complacency. Along that vein, there were no night orders, despite being required by the Engineer Officer standing orders (which was also a breakdown in procedural compliance), so why should we be surprised if two subordinate watchstanders didn't comply either? Every command or department has a culture. Whether that culture is helpful or harmful depends on the leadership and example you provide.*

Key Takeaways

With the aid of the HFACS guide and a little reflection on your unit's operational safety culture, you can learn to recognize the potential reasons behind procedural non-compliance and take action to keep your people safe and avoid breaking stuff. Here are a few points to help you in that effort:

1. **Know yourself and your team**. Of the preconditions to unsafe acts in the HFACS guide, 27 are mental awareness, state of mind or physiological conditions. Not all are readily detectable, but many are, such as fixation, task saturation, personality style and life stressors. Getting to know your people (also known as intrusive leadership) can go a long way toward identifying and addressing many preconditions to unsafe acts. The better you know yourself and your team, the easier it will be to pick up on the cues to hazardous behavior.

2. **Bad procedure may be a reason, but it's not an excuse**. If the procedure is unclear or outdated, or you don't have the right tools or equipment, Tell Someone! (*yes, we are yelling*). As we mentioned earlier about accepting risk at the appropriate level, the same principle applies to procedures and checklists. Deviating from the procedure because it's impossible to comply is only a temporary fix, and if your chain of command isn't aware of the issue, it'll never get resolved. Don't suffer in silence; say something!

3. There is no culture of excellence without safety. Sailors, Marines and civilian employees don't likely show up at work thinking, "I'm just gonna wing it today." That is, unless the unit maintains a culture of allowing deviation from following published procedures as a matter of routine. A culture of procedural non-compliance can reside in one division, one department or an entire organization. It may lie undetected for days, weeks or even years before manifesting as a mishap. That's where an effective Safety Management System (SMS) that self-assesses, self-corrects, identifies and fixes problems when they are small can break the cycle of bad habits. See our safety awareness dispatch, SA 23-17, "What is The SMS and Why Should You Care," for more information on how the SMS works for you. It's simpler than you might think.

Download the NAVSAFECOM App here:



And remember, "Let's be careful out there."

Send feedback to: NAVSAFECOM_SAFETY_AWARENESS@us.navy.mil.