Detecting and reporting unsafe or unhealthful working conditions as early as possible, and then promptly controlling the reported hazards, is essential to a successful safety and occupational health program. (Ref: OPNAVINST 5100.19E, para A0307). Hazard abatement has three steps.

**Step 1:** Anticipate where hazards may exist (e.g., hazmat areas, paint lockers, deck plate level, engineering spaces). What can injure personnel or damage equipment?

**Step 2:** Identify hazards by walking through spaces. Use checklists and references (OPNAVINST 5100.19, materials from ATG, the Naval Safety Center and INSURV, and past ZIDLs) to help you identify deficient conditions or personnel not following procedures (links are on Page 2).

**Step 3:** Report dangerous work procedures or conditions to your immediate supervisor, the division safety petty officer, or the safety officer. Cooperation from all hands is essential to ensure a safe and healthy working environment.
### What To Anticipate, Identify & Report

<table>
<thead>
<tr>
<th>Shop Equipment (e.g., pedestal grinders, lathes, drill presses, table saws, milling machines) have the proper deck markings, safety precautions posted, standard operating procedures posted, machine guarding and operate properly with E-Stops working.</th>
<th>Tag-Out: Know who does what, know who can clear it, proper markings; Dead end cables should have a tag identifying what it is to/from and that power has been turned off. If off, the breaker should also be tagged.</th>
<th>Airflow Alarms: Know who is responsible; what is in that space that requires an alarm, and what to do if it goes off. Does the alarm protect people or equipment?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladders should have safety chains, three non-skid strips at the top and bottom of the ladder, no missing or defective pins, and grab rods installed.</td>
<td>Electrical: Look for corrosion, water near outlets, frayed wiring, grounding issues, extension cords, surge strips, UA equipment on board, unsecured dead end cables.</td>
<td>Hatches and Scuttles: Not missing safety chains/stanchions, and safety hold open devices were not defective.</td>
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<tr>
<td>GFE: Understand what spaces need to be gas freed; Who can gas free a space and if your program adheres to NSTM 074V3</td>
<td>Safety Nets: Not missing, damaged, twisted, installed upside down, or have excessive paint or grease on them.</td>
<td>Hazmat: Store powered or dry products on the top shelf and liquids on the bottom.</td>
</tr>
<tr>
<td>Hazmat: Do not store citric acid tablets within 3 feet of bases, sulfuric acid or nitric acid. Organic Acid ≠ Bases. Organic Acid ≠ Inorganic Acid.</td>
<td>Hazmat: Do not store oxidizers with flammables or combustibles. If paints, thinners, oils and greases leak within or onto a cardboard box, they can start a fire.</td>
<td>Hazmat: Ensure all hazardous materials are labeled properly and containers are not damaged, leaking or showing signs of corrosion.</td>
</tr>
<tr>
<td>Hazmat: Labels must contain material name, manufacturer name and address, target organ affected, stock number and HCC code.</td>
<td>Oily Rags: Minimize the use of oily rags until pier side. Store them in labeled and sealed metal containers. Obtain more 55-gal. drums during unrep if necessary. Store in a fire suppressed space.</td>
<td>Oily Rags: Don’t use rags for cosmetic purposes while underway. Use only for PMS, urgent repairs, and emergencies. Save making things pretty until pier side.</td>
</tr>
</tbody>
</table>
| Oily Rags: Never leave bags unattended except when conducting immediate tasks. It’s okay to transit rags in plastic bags, but leave the bags inside a plastic bag liner inside a metal container. This makes it easier for off-load. | Other:  
- Faulty safety devices  
- Paint and preservation conditions  
- Deterioration, rust  
- Cleanliness  
- Utilization as per design  
- PPE, tools or hazmat not properly returned |

### Checklist Links

- INSURV: [http://www.public.navy.mil/fltfor/insurv/Pages/default.aspx](http://www.public.navy.mil/fltfor/insurv/Pages/default.aspx)
- Naval Safety Center: [http://www.public.navy.mil/avsapec/Pages/Afloat/surface/Checklists.aspx](http://www.public.navy.mil/avsapec/Pages/Afloat/surface/Checklists.aspx)
Training Exercise

How Would You Have Prevented the Following?

While underway a ship prepared to tag out one of its four main propulsion diesel engines. The MPA placed the tagout in the night orders. His LPO was on watch as the Engineering Officer of the Watch.

The EOOW drained the engine sump of lube oil in preparation for the tag out. He designated an ENFN as the primary person on the tag out and himself as secondary. This ENFN was not qualified in any engineering underway watch stations. He had only recently qualified as 3M maintenance man and had never tagged out an engine before.

Once inside the space, the ENFN prepared to de-clutch the engine but could not locate the engine’s clutch control panel. The Engineman of the Watch noticed the confused ENFN but did not leave his post until minutes later when the engine clutched in and began to spin. The ENFN had successfully located the clutch control panel but misinterpreted the indicating arrows and accidently clutched in the engine.

In August 2011, this incident resulted in damage of more than $800,000 and a follow-on safety investigation.

Suggested Answer: Training

- Get back to basics on qualifications (not the standard “sign it off and route it” scenario).
- Conduct hands-on training on tagout precautions and procedures before any paper qual is routed. If it is a Sailor’s first time doing a tagout, walk them through the check (3M standards and training) and explain the importance of verifying the tagout.
- Emphasize the chain of command in the engine room and the importance of knowing when to ask questions.
- Stress watchstanding and situational awareness.
- Assign the right person for the job. Having someone who isn’t qualified on any watch station as the primary person for a tagout is poor risk management. This situation could have been a great training tool for the EN1 to train the ENFN. Instead it was a lesson on what not to do.

References

OPNAVINST 5100.19E, para A0301 - The main way for you to identify and correct hazards and unsafe work practices is through routine workplace inspections.
OPNAVINST 5100.19E, para A0302 - An experienced officer or CPO, accompanied by a DSPO, shall be assigned to accomplish the safety inspection of a workplace.
Training Exercise, cont.

Key Take-Aways

- Failing to train division personnel may lead to mishaps.
- Taking the time to train properly and going that extra step to use outside resources may make training more fun.
- Documentation of training is a key item that inspectors look for.
- Observance of safety precautions during routine work shall be monitored by supervisory personnel.
- Continual training shall be provided by the chain of command. Aboard ship, topics include PMS, PQS, QA, the functional operation of weapons systems, DC, general housekeeping and the tactical employment of the unit.

POD Notes

1. Don’t let hazard and warning signs become an invisible part of the background, even though you see them every day. If you see a place where one is required or necessary, get one installed.
2. A complete safety survey of all work areas, processes and operations must be conducted at least annually to identify hazards. If you see a safety hazard, don’t wait for the survey—report it to the safety officer.
3. Speak up when you see a coworker or shipmate doing something wrong or risky.
4. When you have a question on going aloft, basic safety, electrical safety, hazardous materials and more consult your OPNAVINST 5100.19 (series), NSTMs, NWPs, Technical/operation manuals, MRC cards, Naval Drawings, Naval Messages and your AEL.
5. Follow MRCs to the letter. Don’t assume that just because you’ve done something before that you did it correctly or even safely. Read and heed the posted safety precautions and warning labels.
6. Do you know of an unsafe or unhealthful situation? Detecting hazards as early as possible and promptly controlling them is essential to a successful NAVOSH program.
7. Who is responsible for reporting any observed safety hazards or unsafe practices?
   Answer: All hands (IAW OPNAVINST 5100.19E, A0203, Para j)
8. Tried to report a safety hazard and not satisfied with the response? You have a right to report hazards and appeal the action if you are not satisfied with the corrective action. See the Safety Officer if you have any question about correcting a hazard.

About the Afloat Safety Manager NEC

This NEC is available to E-5 through E-9 personnel who meet the eligibility requirements. Designated personnel assist the safety officer in implementing the Navy Safety Program; maintaining a complete safety library; and monitoring/evaluating the crew’s ability to identify hazards and prevent mishaps. The Afloat Safety Manager also assists in investigations and reporting mishaps. If you are up to the challenge of becoming a true safety professional, contact your safety officer for further eligibility requirements (IAW NAVPERS 18068F).