Deal ‘em! Alaska’s rockfish playing cards

The safety issue

- Gulf of Alaska cod crash
- A very old Chinook
Welding, cutting, sanding – the work is hazardous in boatyards. For safety, your equipment and attitude have to be right. Jeff Pond photo

Boatyard safety
Here are tips that might save your life when working in a place fraught with danger

Editor’s note: This article is adapted from a new publication titled “Boatyard Hazards: Tips for protecting worker safety and health.” The full publication is available for free from Alaska Sea Grant at seagrant.uaf.edu/bookstore/pubs/MAB-73.html.

Boatyard work is hazardous. Industrywide, the injury and illness incidence rate on ships and in boatyards is more than double those of construction and general industry, according to the U.S. Department of Labor Occupational Safety and Health Administration (OSHA).

This publication uses the term “boatyard” to include any facility that conducts boatbuilding, boat and related equipment maintenance and repair, and marinas, boat harbors, and storage yards where these activities are conducted.

The publication is for you if you work as any of the following: boatyard employee, contract worker or technician, or boat owner or crewmember.

Here are some protective measures for boatyard workers.

BEFORE AND DURING ANY JOB

Adopt a “safety is no accident” attitude toward the job.

Before starting to work, study the site to find and identify all safety and health hazards.

Employ signage that instructs, reminds of safe procedures, or warns of hazards.

Locate safety equipment. Make sure an adequate number of the correct type and size of fire extinguishers are located in appropriate and easy-to-reach places, and likewise for first aid kits, eye wash kits or stations, and similar items.

Read the safety data sheet on each potentially hazardous chemical agent before opening the container.

Grinders and cutting tools that produce fine dust should have high-efficiency vacuum attachments that prevent dust from escaping into the air.

Ensure adequate ventilation. Where volatile chemicals, fumes or dust are released, make sure there is adequate cross ventilation or
powered ventilation for fume removal.

Wear personal protective equipment including hard hats, protective clothing, Tyvek suits, aprons, safety boots, or other items that provide protection from injury hazards identified at the site.

Use eye protection. Properly fitting safety glasses protect eyes from dust, fragments, and splinters. Include goggles or face shields with appropriate filters for protection from radiant energy during welding or cutting. Consult state or federal guidelines on correct shade numbers for various activities, and for safe exposure limits. Welding hoods should protect the neck and side of face.

Do not weld near trash bins.

Wear hearing protection. The level of noise reaching the ear should be no more than 85 decibels (conversational voice is 65 dB). Ear muffs and good quality ear plugs usually suffice.

Use proper lifting techniques. Keep back straight, lift with legs, use correct equipment for lifting, and get help moving or lifting awkward or heavy loads.

AROUND GASSES, DUST, OTHER AIRBORNE SUBSTANCES

Always wear dust mask or respirator. When sanding, grinding, or cutting, wear a properly fitted dust mask. When working with paints, solvents, polyester or epoxy resins, and other chemicals, wear a respirator with an organic vapor cartridge appropriate to the types of fumes present. Change filters regularly. Facial hair prevents a good seal, and stubble or a “leaky goatee” is no better.

Wear a respirator when welding. Welding hoods protect eyes and heads, but not lungs from welding fumes.

Use the welding fume extractor if your facility has one. If welding stainless steel, this helps to prevent hexavalent chromium (hex chrome) poisoning.

Follow OSHA guidelines when sand blasting. Wet abrasive blasting produces less dust than dry. Enclose blasting in cabinets or rooms, or substitute other stripping methods such as water stripping or dry ice pellets. Always wear full personal protective equipment. Dispose of residuals from blasting correctly.

Follow confined spaces protocols when entering holds, lazzarettes, refrigerated spaces and other areas where there could be toxic gasses, reduced oxygen, or the possibility of being trapped. Use the buddy system and appropriate respirators.

AROUND ELECTRICAL HAZARDS

Use “lockout/tagout.” To ensure that electrical circuits are deactivated and vessel machinery is prevented from starting, use

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SAFETY
Best practices

Stay out of the water in boat harbors, due to the risk of stray electrical currents. Wesley Loy photo

a procedure in which warnings are place at control points and systems can’t be started without removing locking mechanisms.

Clip a ground wire to a vessel on the hard. If it is connected to shore power, there is potential that faulty or damaged wiring could result in current that could electrocute a worker who touches the boat or items that are connected to it.

Remove metallic jewelry such as necklaces and bracelets before working around exposed electrical contacts. Rubber gloves can protect hands and fingers and can cover rings. Remove tools and other metal items from belts and pockets prior to entering tight spaces to do electrical work.

A metal hard hat poses serious risk of electrocution if worn while working on exposed electrical circuitry.

Stay out of the water. Do not enter the water in any industrial facility, including marinas and boat harbors, because there is a chance that improperly installed or maintained circuitry could allow electrical currents to stray. Avoid puddles and standing water around work sites, and if necessary to enter wet areas, wear high top rubber boots and thick rubber gloves and avoid contacting any metal or wiring with any part of the body. Divers doing underwater construction or maintenance are at particular risk and must take measures to ensure there are no stray currents and that vessel engines are shut off and prop shafts locked.

AROUND RUNNING MACHINERY
Shut off running machinery unless operation is necessary to achieve the aim of the work.

Assure a means of stopping machinery within seconds. Station a worker at the controls to stop the machinery on signal or if anything goes wrong.

Ensure that exhaust is properly routed. If it is necessary to run engines, be sure that exhaust gasses, crankcase vent fumes, and other aerosols are properly vented outside the work area. Carbon monoxide can cause loss of consciousness in just minutes, and death shortly after.

Be sure no loose clothing or other items attached to a person can come into contact with pulleys, belts, shafts, or other moving parts.

Employ lockout/tagout if you do maintenance or repair on machinery.

HEIGHTS
Use harness and safety line (tether) when working 5 feet or more above the next lower deck or ground. Use a secondary belay if working up a mast.

Use stairways with handrails. To work on elevated areas, use a stairway rather than a ladder. A good one can be built in a few hours with inexpensive materials.

AFTER WORK
Designate a place for equipment in need of repair. Don’t use power tools with faulty circuitry, frayed power cords, or broken parts.

Practice good housekeeping at the work site. Clean up contaminates and slippery substances, remove tripping hazards, repair damaged doors, steps, railings, etc. Store oily rags and materials soaked with flammable liquids in covered metal waste cans and dispose of them properly and frequently.

Mark or label substances legibly. Make sure everyone knows what substances are in each can or container.

Store flammables in designated lockers including paints and solvents.

Don’t contaminate family members at home by wearing work clothing in family living and eating areas.

Terry Johnson is a professor emeritus with the Alaska Sea Grant Marine Advisory Program. For more than 30 years, he has owned, operated, repaired, and maintained small commercial fishing and passenger vessels.

Confined spaces are particularly hazardous for workers. Jeff Pond photo