

The Uninspected Vessel Sector

*Practical considerations of OSHA compliance
in the wake of the Chao v. Mallard Bay decision*

By Jeffrey D. Beech

AS DESCRIBED IN “The Uninspected Vessel Sector: The Chao v. Mallard Bay Decision” (pp. 30-34), the Supreme Court ruled in the Mallard Bay case that since the U.S. Coast Guard (USCG) had failed to make and enforce regulations regarding the safety and health of mariners on uninspected vessels, another federal regulatory body charged with worker safety and health—namely OSHA—should assume that duty.

This ruling did not have great impact on operators in the inspected sector, but the ramifications are serious for those in the uninspected sector. Operators who have no experience with OSHA regulations have suddenly been pitched into unfamiliar waters.

Fortunately, the list of OSHA standards that apply to marine operations is not unduly extensive; many operators are already using these standards as a template for their safety manuals, although they are not necessarily required to do so. Under USCG regulations, some operations did not require written plans, training or reporting, all of which are required under the OSH Act.

Aside from the added requirements for reporting accidents and injuries to OSHA found at 29 CFR 1904, several major mandates exist under 29 CFR 1910, and marine employers must incorporate these elements into their operations in order to be in compliance:

- Subpart D: Walking-Working Surfaces (1910.22)
- Subpart E: Exit Routes, Emergency Action Plans and Fire Prevention Plans (1910.35)
- Subpart H: Hazardous Materials [1910.120(b)(e)]
- Subpart I: Personal Protective Equipment (1910.132)
- Subpart J: General Environmental Controls
 - Safety color code for marking physical hazards (1910.144)
 - Permit-required confined spaces (1910.146)
 - Control of hazardous energy (lockout/tag-out) (1910.147)

- Subpart K: Medical and First Aid (1910.151)
- Subpart L: Fire Protection (1910.155)
- Subpart O: Machinery and Machine Guarding (1910.212)
- Subpart Q: Welding, Cutting & Brazing (1910.251)
- Subpart R: Special Industries
- Subpart S: Electrical (1910.301)
- Subpart Z: Toxic and Hazardous Substances (1910.1200)

Specific Actions

The specific actions needed to ensure compliance with OSHA regulations are described here, along with the contrasting USCG regulation where applicable. These are general descriptions, and are meant to be neither exhaustive nor comprehensive.

Reporting

Under Part 1904 of OSHA regulations, an injury must be reported on an OSHA Form 301 within seven days of the incident. This report is not forwarded to OSHA, but is used to gather information for OSHA Form 300, Log of Work-Related Injuries and Illnesses, which must be maintained by each employer. This log records the type and severity of the injury or illness, and is displayed in summary form on OSHA Form 300A. It is important to note that OSHA forms require reporting of occupational illnesses, and place no emphasis on damage to property involved in an incident.

The standard for reporting marine incidents has long been the USCG 2692 Report of Marine Accident, Injury or Death, commonly referred to simply as 2692. This form must be completed and forwarded to USCG in cases of vessel

Captain Jeffrey D. Beech holds a Coast Guard license as a Master of Towing Vessels upon near coastal waters and is the operations manager of River Parishes Co. Inc., which operates a fleet of eight tugboats on the lower Mississippi River. His experience includes the U.S. Navy and the South Louisiana oil field. Beech recently completed a concentration in industrial safety at Nicholls State University, where he is pursuing a degree in management. He is a student member of ASSE's Bayou Chapter.

This ruling did not have great impact on operators in the inspected sector, but the ramifications are serious for those in the uninspected sector.

grounding; loss of propulsion or steering; any occurrence that materially affects the seaworthiness of the vessel; death; an injury requiring medical treatment beyond first aid; or property damage in excess of \$25,000. Most questions on 2692 relate to the vessel involved in the accident. USCG does not require an operator to maintain or display a log of accidents or injuries.

Under this new arrangement, it is not entirely clear when notification of one agency or the other is warranted. However, the prudent course may be to notify both agencies in a timely manner if a serious injury incident occurs.

Walkways, Stairs & Ladders

Generally, this section requires that walkways, stairs and ladders be constructed to and employed with specific standards. While no USCG regulations have been promulgated with regard to this subject, the marine industry has seen to it that the vessel builder addresses hazards from improper walkways and fixed stairs. Most mariners refer to these as ladders, which require no special gear or specific employee training.

Compliance with this section should start with a comprehensive walking surface inventory. Attention should be given to slip and trip hazards, handrails, inspection of portable ladders and training in their proper use, if applicable.

Means of Egress

This section contains a specific exclusion for vessels and rightly should not be included in this discussion. However, two arguments can be made for inclusion of an emergency action plan (EAP) in a marine operation. First, an EAP is not difficult to develop and is beneficial to have in place in case of an emergency. OSHA offers a web-based e-Tool that helps employers develop an EAP. Second, as described in the next section (HazWOPER), an employer can exempt an operation from the most onerous requirements of HazMat cleanup training by adopting a written policy—in the form of an EAP—which states that all employees will be evacuated to safety in case of an “incidental” spill, and that no employees will participate in cleaning up any major spill.

Hazardous Waste Operations & Emergency Response (HazWOPER)

The marine operator who handles hazardous waste and/or hazardous substances must implement a written plan to safely handle those materials. Operators must organize, outfit and train members of the HazMat team to contain, clean and decontaminate the site of a spill or release. Specifically, plans must include:

- safety and health risk analysis for each task and operation;
- employee training assignments to ensure that tasks are carried out properly;

- PPE for each task or operation;
- medical surveillance;
- procedures for air, personnel and environmental monitoring, as well as for maintenance, calibration and use of monitoring equipment;
- site control plans;
- decontamination procedures;
- emergency response plan;
- confined space entry procedures;
- spill containment program.

Although diesel fuel and lube oil are not classified as hazardous substances by NIOSH, OSHA has determined that exposure to a large quantity of these substances over an extended period has a similar effect on the safety and health of an employee who is performing cleanup duties on a large spill of these materials. Marine operators who do not handle HazMat may incorrectly believe that they are not subject to the requirements of the section.

Section 1910.120, paragraph (q) offers operators an exception to strict compliance with the HazWOPER requirements. Employers whose workers clean up only small or “incidental” spills of material not listed as hazardous are not required to have plans on file if their EAP calls for evacuation of employees and use of environmental contractors to clean any major spill.

PPE

The only PPE mandated in USCG regulations is personal flotation devices. As with the walkways standard, any company trying to control its liability insurance premiums will have already been providing and mandating the use of PPE for some time.

The OSHA standard requires training in the proper selection and use of equipment, replacement of damaged equipment and providing a choice among several suitable styles. The hearing conservation and respiratory protection programs that are part of this section are quite detailed in their requirements. Both programs require hazard analysis, baseline testing, annual testing, recordkeeping, employee training and awareness, as well as provision of the proper protective gear. Not every employer is required to have these programs, however, as there is an exposure threshold that must be met before compliance is mandated.

Specifications for Accident Prevention Signs & Tags

This section prescribes three different sign titles and suggests the color of each type, with the designation depending on immediacy of the danger to individuals.

- **Danger.** Indicates immediate danger with special precautions necessary. Red, black and white.
- **Caution.** Indicates a possible hazard against which proper precaution should be taken. Yellow and black.
- **Warning.** The standard does not mention “warning,” but the appendix suggests a color scheme: orange, with a contrasting color.
- **Safety Instructions.** General instructions and suggestions related to safety. Green, white and black.

The only training program prescribed in this section is for the employer to inform employees “as to

the meaning of the various tags throughout the workplace and what special precautions are necessary.”

Permit-Required Confined Spaces

This section is intended to prevent harm to employees entering certain spaces where there may be either a concentration of toxic substances, an insufficient concentration of oxygen to permit proper respiration, limited escape in an emergency or a combination of those factors.

A confined space is defined as:

- large enough and configured such that a person can physically enter and perform work;
- having limited or restricted means for entry and exit;
- not designed for constant human occupancy.

An employer whose workplace includes such spaces—which are common in the marine environment—must institute a written permit-required confined space program. Such a plan must include the following components:

- Implement necessary measures to prevent unauthorized entry.
- Identify and evaluate the hazards in permit spaces before employees are allowed to enter.
- Develop and implement means, practices and procedures for safe permit space entry.
- Provide, maintain and train employees in the proper use of equipment necessary to ensure the safety of permit-required spaces when they are required to enter to perform work.
- Evaluate permit space conditions when entry operations are conducted.
- Provide at least one attendant outside the permit space for the duration of the entry.
- Ensure that communication equipment enables an attendant who is monitoring more than one space to respond to any of the spaces in an emergency.
- Designate specific persons for active roles in entry operations.
- Develop and implement procedures for summoning emergency and rescue personnel.
- Develop and implement a system for the issuance, use and cancellation of entry permits.
- Develop and implement procedures for multiple employees or contractors to work in permit spaces without causing danger to one another.
- Develop and implement procedures for closing the spaces when operations are completed.
- Review operations when there is reason to believe that the program might not be meeting the standards.
- Annual review.

This section further requires that all employees with duties relating to the entry of permit spaces will be trained so that they gain understanding, knowledge and skills necessary to safely perform assigned duties. In addition, it requires the following:

- Training will be provided when employees are first assigned, concurrent with a change in duties, tasks or requirements, or when it is believed that the prior training was inadequate.
- Training will establish employee proficiency in the assigned task.

•Trainers will be required to initial and sign off certifications, and such certifications will be available for inspection by employees or their authorized representatives.

Control of Hazardous Energy (Lockout/Tagout)

This is another section that marine employers have probably been using on a more informal basis, although the maritime industry is specifically excluded from enforced compliance with this regulation.

Appendix A of this section outlines a “minimal” lockout/tagout procedure, which can be used to contribute to the overall safety of a workplace. In today’s litigious environment, any workplace—even those specifically exempt by the regulation—would be well advised to adopt the basic workings of this program.

Lockout/tagout procedures should clearly and specifically outline the purpose, scope, authorization, rules and techniques of the control of hazardous energy in the workplace. Lockout/tagout material should be durable, standardized, easily identifiable and substantial, and should only be removed by the person placing such controls in position.

Medical & First-Aid Treatment

USCG requirements for first aid/CPR training relates only to issuance of the mariner’s original license. Mariners are not required to prove proficiency in this subject upon renewal of certificates or licenses.

This section provides for the “ready availability” of medical personnel for consultation on matters of plant health, personnel trained to render first aid, adequate first-aid supplies, and eyewashes and drench showers for use around corrosive materials.

The appendix to this section discusses the “minimal” contents of a generic first-aid kit. This appendix suggests that employers study the OSHA logs to determine the adequacy of their first-aid supplies and to predict the need for equipment above and beyond what is required by the standard. Reasonable expectation of exposure to blood should cause the employer to stock the first-aid kit with appropriate PPE as described in the Bloodborne Pathogens standard.

Fire Protection

USCG regulations regarding fire protection consist mainly of a chart listing the requirements for onboard extinguishers based on the type and horsepower rating of the boat’s engines. At certain horsepower levels, fixed or large-wheeled units are specified.

The standards at 1910.156 do not contemplate the realities of firefighting aboard a vessel at sea; the standard refers to fire brigades and evacuation of nonessential personnel. On a vessel at sea, everyone is essential in fighting a fire, and evacuation is not always a realistic option.

Marine operators who do not handle HazMat may incorrectly believe that they are not subject to the requirements of the HazWOPER section.

Marine operators who have always had the duty to provide a seaworthy vessel will have no problem understanding the scope of the General Duty Clause.

The standard calls for outfitting every member of the crew with the full gamut of firefighting gear, to include self-contained breathing apparatus if toxic chemicals are present. Annual training for fire brigade members is mandated, with quarterly training for persons who are expected to fight interior structure fires.

One minor conflict between USCG and OSHA rules is the inspection of portable fire extinguishers. While OSHA requires annual inspection of portable extinguishers, USCG requires that the inspection be performed semiannually. Two sections of this standard—those relating to fire detection systems and employee alarm systems—have recently been the subject of rulemaking by USCG. Since they are very similar in their intent

and requirements, USCG rules would control.

If any fixed firefighting systems were installed without regard to OSHA, USCG or NFPA standards, they should be inspected and certified. While USCG does not mandate fixed firefighting systems aboard all uninspected vessels, those that are so equipped generally follow USCG standards.

Machine Guarding

Generally, this section refers to the operation of specific machinery in specific industries, but section 1910.219 refers to “mechanical power-transmission apparatus.” This sort of equipment is commonly found aboard vessels in the form of electrically driven pumps or compressors, hydraulic or pneumatic cylinders, or propeller shafts.

According to this section, all power transmitting machinery must be guarded in a manner that would keep those who work around it from becoming entangled in the machinery. Each type of rotating machinery commonly found in the workplace has specific standards concerning the material, tolerances and procedures for preventing injuries from this equipment.

Welding, Cutting & Brazing

This section contains regulations related to safe welding and cutting, but does not reference operations aboard vessels. Operators whose crews or support employees perform welding and cutting duties aboard vessels should study this section. Provision of proper protective equipment, ventilation and regard for contact with flammables are all addressed.

Special Industries

The special industries covered in this section do not include vessel operations, so the section does not apply. However, vessel operators should carefully read the language at 29 CFR 1915.4 (c) and (d), which defines the term “employee” as applicable to the standards at 1915, Shipyards.

The two sections noted above make it clear that a vessel’s master, officers and crew are exempt from the requirements of this chapter, but that workers who are engaged to perform ship repair work are covered. Shoreside personnel (e.g., mechanics,

welders, painters, electricians) who perform maintenance aboard vessels may well be subject to requirements that would treat shoreside “ship repairers” differently from crew members.

It may come as a surprise to a vessel operator that he is now a shipyard operator, by virtue of the fact that he employs a welder or mechanic aboard a vessel.

Electrical

This is another section that may cause uncertainty for operators of uninspected vessels who have installed and maintained electrical systems in accordance with USCG regulations for inspected vessels, although those regulations were not controlling.

Standards in this section specify equipment and materials to be used in industrial electricity operations, as well as safe clearance distances and proper grounding procedures.

Like the USCG standard, this section lists several ANSI standards that were used to develop the regulations. The two sets of regulations appear to be fairly consistent. Special training is required for employees who work with electricity, as well as for certain workers who are likely to come into contact with electricity in the workplace.

Hazard Communication

The purpose of this section is to ensure that employees are aware of the potential hazards of materials and substances they work with so that they take appropriate precautions to protect themselves.

Employers are required to develop, implement and maintain a written hazard communication program that describes how the employer will advise employees of hazards, and distribute and maintain MSDS, and that describes the training which each employee must undergo with regard to this section.

Employers that do not generate, package or repack-age chemicals are not required to develop the information for MSDS or for threshold limits for the materials. Instead, they may rely on the information provided by the supplier of such substances. Should the process involve mixing materials, caution should be used to ensure that the resultant substance is not hazardous.

Many substances found in the workplace contain material that may be hazardous if handled or used improperly. For this reason, employers are required to provide employee access to MSDS for substances in the workplace such as cleaners, solvents and petroleum additives.

Training under this program should include methods and observations available to detect the presence of hazardous chemicals in the workplace, the physical and health hazards of those chemicals, measures that employees can take to protect themselves, explanation of the labeling system and proper use of MSDS.

The General Duty Clause

Marine operators who have always had the duty to provide a seaworthy vessel will have no problem understanding the scope of the General Duty Clause. The issue of seaworthiness usually arises in the context of litigation by injured Jones Act seamen,

although the term is not defined in any regulation or statute. OSHA's General Duty Clause requires employers to furnish a workplace that is free of recognized hazards that may cause serious injury. This clause is used where no specific standard exists to regulate an unsafe condition.

Miscellaneous

OSHA regulations in 29 CFR 1910 also address workplace sanitation (1910.141), air receivers (1910.169) and portable tools (1910.241), all of which affect the marine operator. These sections do not require the development of a specific program or special training, but should be studied to ensure compliance.

In addition, the regulations call for penalties ranging from \$5,000 to \$70,000 per violation in the most egregious cases. Proposed penalties may be adjusted downward for good faith efforts at compliance, or upward for willful or repeat violations. Willful violations that result in a fatality, falsification of records, and assaulting or otherwise interfering with a compliance officer can bring fines of \$10,000 to \$250,000, and up to three years' imprisonment for individuals. Companies face fines of \$500,000 for willful violations that result in a fatality.

A bill in the U.S. House of Representatives would raise the penalty for a willful violation fatality to 10 years imprisonment and a \$250,000 fine.

Operations Post-Mallard Bay

It is fairly easy to see what the Supreme Court meant when it identified the void between USCG regulations and those promulgated by OSHA. Where the majority of USCG regulations promote worker safety by regulating safety equipment and vessel operation, most applicable OSHA standards relate directly to worker safety and health.

In 2002, during a presentation to the Greater New Orleans Barge Fleeting Assn., OSHA Regional Administrator John B. Miles Jr. stated, "We primarily go out on complaints and fatalities. We have not targeted the inspection in that [uninspected vessel] area. I don't think you're going to see a major change in the way we do that" (Evans 3). Bob Clinton, vice president for safety for American Waterways Operators (AWO), stated in a telephone interview on May 7, 2003, that he was not aware of any concentrated enforcement efforts by OSHA in the sector, nor was he aware of any effort that OSHA had made at outreach (e.g., mailings, special handbooks) to companies affected by the Mallard Bay ruling.

Joe Reina, Deputy Administrator for OSHA Region VI, in a May 16, 2003, interview stated that he knows of no national emphasis program or local emphasis program underway in the uninspected marine sector. Reina added that the agency conducts employer outreach by providing speakers on the Mallard Bay decision for industry trade groups. As for complaints against uninspected sector employers, Reina stated that he had no specific knowledge of any sharp increase in such complaints.

Analysis of USCG and BLS records will be of some use in determining whether OSHA involve-

ment in operations in the uninspected sector will result in a reduction in the occurrence of serious and fatal accidents. The overall numbers will allow for some measurement, but it would be particularly useful if these agencies recorded their statistics with regard to industry sector.

It will be interesting to see how certain discrepancies between USCG and OSHA regulations are handled. For example, USCG mandates at 46 CFR 32.02-10 that handrails be at least 39½ inches high, have three courses no more than 15 inches apart, with the lowest course being no more than nine inches from the deck. The 39½-inch height of the top rail may be waived if that height interferes with operations. This section goes on to say that when it may be shown that the vessel is operated exclusively in sheltered waters, the provisions of this section may be relaxed. In contrast, the regulations at 29 CFR 1910.23(e) require that a "standard" railing be 42 inches from the floor to the top rail, with one intermediate rail approximately halfway between the top rail and the floor, and a four-inch toeboard.

Are the notoriously steep ladders (fixed stairs)—commonly utilized on vessels in order to maximize useable space, and which have been perfectly acceptable for years—now in violation of OSHA's regulation that limits the pitch of such stairs to 30 degrees? Will any slip and fall on such a set of stairs bring an OSHA citation? Without doubt, the next few years will be interesting in this regard.

AWO has begun to explore an initiative to urge USCG to promulgate a set of rules for use aboard uninspected vessels, thereby reversing the effects of the Mallard Bay decision and reverting regulation of this sector to USCG. The feeling among some is that USCG—which has shown enormous willingness to work with industry to develop rules by consensus—would be better equipped to regulate the vessels industry than would OSHA, which some fear may try to force its standards on vessel operations without regard for the unique challenges faced in this sector.

This initiative has not yet gotten off the ground. But considering the additional duties that USCG has found itself handling as a result of the events of Sept. 11, 2001, it seems unlikely that the agency will volunteer to undertake the burden of rulemaking for uninspected vessels. USCG has repeatedly disclaimed the authority to regulate working conditions aboard such. In fact, USCG filed an amicus ("friend of the court") brief in which it "unequivocally disclaims comprehensive regulation of uninspected vessels generally, regulations of the cited conditions, and statutory authority to promulgate such regulations" (Mary B15). These remarks were in reference to the factory portion of a fish-processing vessel, but USCG took the same position in the Mallard Bay case with regard to the buildup of natural gas subsequent to a well blowout. The agency contends that it simply does not

It is fairly easy to see what the Supreme Court meant when it identified the void between USCG regulations and those promulgated by OSHA.

Operators whose SH&E programs have strictly adhered to the standards set forth in the Responsible Carrier Program will have to make limited changes.

have the regulatory authority to make rules concerning drilling operations.

In retrospect, had the operators in the uninspected sector pursued a broad negotiated rulemaking with USCG before the Supreme Court ruled in this case, the existence of those rules may have changed the decision.

While some sections in the general industry regulations currently exclude the marine industry, it would seem prudent for the maritime employer to comply as closely as possible with those standards—if for no other reason than to provide a positive defense in the case of personal injury litigation. Recently, a plaintiff unsuccessfully attempted to have a Louisiana court apply OSHA standards to the conditions that he claimed caused his injuries on a vessel (Orlando). It is only a matter of time until this argument finds a sympathetic jurisdiction and sets a new legal standard for employer liability in Jones Act injury cases.

Operators whose SH&E programs have strictly adhered to the standards set forth in the Responsible Carrier Program (RCP), which incorporates many standards from 29 CFR 1910, will have to make limited changes, mostly relating to training and record-keeping. Those operators who took advantage of the customize feature of the RCP—which allows them to opt out of some standards—will need to thoroughly evaluate their programs to ensure full compliance. Those who have chosen to comply only with USCG regulations for uninspected vessels will have to perform an exhaustive evaluation of the OSHA regulations to determine which standards apply to their operation, and how to make certain that they are in full compliance.

Conclusion

As noted, marine operators have adopted many of the standards relating to general industry on an ad hoc basis. Indeed, all members of AWO are required to prove compliance with RCP. Some operators had adopted the letter of the OSHA standard before the Mallard Bay decision, but those who had complied only with the intent of the standards will have to review their programs to ensure full compliance.

While OSHA has not initiated any national or local emphasis program targeting the uninspected sector, a sharp increase in the number of employee complaints from this sector may trigger such a program. OSHA feels that the Mallard Bay decision was not a change in its authority, but a reaffirmation of that authority. It is unlikely that the agency will accept the argument that an employer did not have sufficient time to begin development of an OSHA-compliant SH&E program.

A good starting place for any employer unfamiliar with OSHA regulations and how they apply to an operation would be to conduct a hazard analysis using OSHA's web-based hazard awareness expert

system. This program guides the user through a thorough inspection of a facility, then reports on what standards may apply to that operation. OSHA offers several online expert programs and development programs that can be of tremendous use to a company trying to get into compliance.

In conducting this review, it became apparent that injury/illness reporting, formalized training, and the possible requirement of baseline and annual medical exams will be the biggest departure from pre-Mallard Bay programs. Those operators who chose to remain outside the scope of the RCP will have a huge task before them in formulating a comprehensive program that is in compliance with applicable OSHA standards. ■

References

- American Waterways Operators (AWO). "Responsible Carrier Program." Updated edition. Arlington, VA: AWO, July 1, 2002.
- Bureau of Labor Statistics (BLS). "Census of Fatal Occupational Injuries." Washington, DC: U.S. Dept. of Labor, BLS, May 13, 2003.
- Bureau of Marine Inspection and Navigation. "Bureau of Navigation & Steamboat Inspection Service." <http://nightbeacon.com/lighthouseinformation/articles/Bureauof_Navigation_Steamboat_Investigation_Service.htm>.
- Dickey, D.H. "Marine Accident Statistics." Presentation at the American Waterways Operators Spring Convention 2003, Arlington, VA.
- Drudo, D. "Persons Overboard/ Sunk Vessels: Fishing Jobs Continue to Take Deadly Toll." *Issues in Labor Statistics*. Summary 98-6. June 1998. Adapted from "Fishing for a Living Is Dangerous Work." *Compensation and Working Conditions*. Summer 1998.
- Elaine L. Chao, *Secretary of Labor v. Mallard Bay Drilling Inc.* U.S. Supreme Court. Jan. 9, 2002. <http://www.usdoj.gov/osg/briefs/2001/3mer/2mer/2000-0927_mer.rep.html>.
- Evans, B. "Experts Debate Impact of OSHA Jurisdiction." *The Waterways Journal*. Oct. 2002: 7, 13.
- Gregory, S.S. "Death By Fire and Water." *Time*. Oct. 4, 1993.
- Mary, B.E. "U.S. Coast Guard v. OSHA: Which Agency Is Entitled to Board My Boats, and, If Not, How Do I Keep That Agency Off?" 1998 River & Marine Industry seminar presentation. New Orleans: The Greater New Orleans Barge Fleeting Assn., 1998. B1-B18.
- Orlando, M.A. "OSHA Takes a Dip in the Sea: Chao v. Mallard Bay Drilling Inc." Expert Commentary. IRMI.com, August 2002. <<http://irmi.com/expert/articles/orlando005.asp>>.
- OSHA(a). "Memorandum of Understanding Between the U.S. Coast Guard, Dept. of Transportation and OSHA Concerning Occupational Safety and Health on Artificial Islands, Installations and Other Devices on the Outer Continental Shelf on the United States." Washington, DC: U.S. Dept. of Labor, OSHA, Dec. 19, 1979. <http://www.osha.gov/pls/oshaweb/owadispl.show_document?p_table=MOU&p_id=223>.
- OSHA(b). "OSHA/ U.S. Coast Guard Authority Over Vessels." CPL 02-1.20. Washington, DC: U.S. Dept. of Labor, OSHA, Nov. 8, 1996. <http://www.osha.gov/pls/oshaweb/owadispl.show_document?p_table=DIRECTIVES&p_id=1526>.
- Tyler, D. "Proposed Rules for Drug, Alcohol Testing Met with Skepticism." *Professional Mariner*. Dec./Jan. 2004: 8-9.
- U.S. Coast Guard(a). "Alternate Compliance Program." Washington, DC: U.S. Coast Guard, Nov. 26, 2003. <<http://www.uscg.mil/hq/g-m/mse/acp/acp.htm>>.
- U.S. Coast Guard(b). "Guide to the Streamlined Inspection Process." Washington, DC: USCG Marine Safety Office Honolulu, Eighth Coast Guard District Quality Action Team, Sept. 20, 1994. <<http://www.uscg.mil/d14/units/mso/hono/sipguide.htm>>.

Your Feedback

Did you find this article interesting and useful? Circle the corresponding number on the reader service card.

| RSC# | Feedback |
|------|----------|
| 31 | Yes |
| 32 | Somewhat |
| 33 | No |