

CHAPTER 8

SAFETY AND DAMAGE CONTROL

LEARNING OBJECTIVES

Upon completion of this chapter, you should be able to do the following:

1. Describe the procedure for conducting a preliminary investigation involving personal injury or death.
2. Describe the supervisor's responsibilities for the Navy's safety program.
3. Describe how to conduct survival training.
4. Identify the duties of the departmental damage control chief petty officer (DDCCPO).

This chapter covers areas of safety and damage control not included in the *Basic Military Requirements* through *Military Requirements for First Class* training manuals. It includes the procedure for conducting an investigation in the case of personal injury or death and a review of supervisory responsibilities in the safety program. It also covers the damage control requirements of the departmental damage control chief petty officer (DDCCPO). Since safety is related to survival, this chapter also introduces you to the survival training you are expected to conduct as a chief petty officer.

PRELIMINARY INVESTIGATION OF INJURY OR FATALITY

One of the many potential jobs you may be required to undertake is to conduct a safety investigation of a mishap, personal injury, or fatality. The requirements for safety investigations are set forth in OPNAVINST 5102.1C. The procedures you, the investigator, should follow are contained in the *Handbook for the Conduct of Forces Afloat Safety Investigations*, NAVSAFECEN 5102/29. This section of the chapter will provide a brief description of the investigative procedures for a mishap.

RESPONSIBILITIES

The commanding officer will appoint a qualified investigator of the appropriate paygrade. In many cases, the appropriate paygrade means the division leading chief petty officer (LCPO). The LCPO is often appointed because of his or her special qualifications. For example, the LCPO may have a highly specialized knowledge of the equipment that failed or a personal knowledge of the people and procedures used. The commanding officer is also responsible for ensuring a thorough and complete investigation is conducted.

Your responsibilities include answering the following questions: What? Where? When? How? and Why? Notice that you are not trying to find **WHO** caused the mishap. Your job is to make an objective inquiry to learn the circumstances and causes, not place the blame.

Each mishap indicates a failure or defect in a person, a piece of equipment, an environmental condition, a procedure, or a combination of these items. You should thoroughly examine each situation to determine all causes, both primary and contributory.

An important concept for you to understand is that mishaps and injuries are two separate and distinct occurrences. An injury is not the mishap;

it is the result of the mishap. The cause of a mishap is usually discovered during an investigation of an injury or damage.

DEFINITIONS

Before continuing, let's define some of the terms with which you as an investigator need to be familiar:

Mishap—Any unplanned or unexpected event causing material loss or damage or causing personnel injury or death; or an occurrence that, except for proximity or timely action, would have resulted in damage or injury.

Mishap investigation—A check of the facts surrounding the causes of a mishap; conducted by the command involved using the procedures outlined in OPNAVINST 5102.1C.

JAG Manual investigation—A check that provides official, factual documentation of all matters pertaining to a mishap, which can be used for legal or administrative action.

Naval Safety Center investigation—An independent check conducted based on the guidelines of a mishap investigation. It is in addition to, but not a substitution for, either a JAG Manual investigation or the mishap investigation conducted by the local command.

Protection of information—The requirement that prevents individuals who are conducting a separate mishap investigation from divulging information obtained or from providing an opinion based on that information to any other fact-finding body. The limitations on the use of statistical mishap reports. The prevention of any part of Personnel Injury/Death/Occupational Illness Report (OPNAV Form 5102/1) or Material (Property) Damage Mishap Report (OPNAV Form 5102/2) being used in any other investigation. Protection of information is based on OPNAVINST 5102.1C.

INVESTIGATIVE PROCEDURES

Your investigation should answer the questions of What? Where? When? How? and Why? Your investigative procedures should be geared toward these questions as well.

You should begin your investigation as soon as possible after the mishap. The sooner you begin, the better the investigation will be. Witnesses will be present. More accurate facts can be gathered because of the possibility that the damage or materials should be in the same relative position as when the mishap occurred.

You will have very little time to plan your investigation. You should be ready to proceed with the collection of facts and circumstances with little prior notification.

Real evidence, such as photographs, records, operating logs, and damaged equipment or material, can be shared by the investigative bodies. Items that fail to meet military or manufacturer's standards should be marked for investigation by the appropriate technical authority.

Photographs can provide invaluable evidence. They should be clear and provide enough detail to actually depict the situation. Color photographs should be used if possible, but black and white will suffice. Polaroid instant prints present an accurate representation of the scene. However, Polaroid type prints are difficult to reproduce or enlarge. You should take the photographs from at least two different angles and use a ruler in the photographs to show exact dimensions.

Sketches may be used instead of or in conjunction with photographs. Sketches should be drawn to scale. Use graph paper if it is available.

Pieces of equipment or material should be carefully handled to ensure physical evidence is not destroyed. Each item should be tagged with a full descriptive relationship to the accident. A photograph or sketch should be included with items sent out for laboratory testing to show the "as found" location or condition.

Verbatim copies of operating logs, records, directives, and so forth, should be made. If possible, make a photocopy or photograph. Make notations of obvious erasures and mark-overs, and make sure the notations appear in the photocopy or photograph.

Since testimony in a safety investigation is unsworn, all verbal information must be fully evaluated. You should always remember that this information is to be used for the single purpose

of improving safety. Never try to obtain written statements or record the information verbatim.

INDIVIDUALS INTERVIEWED DURING INVESTIGATIONS CONDUCTED PURSUANT TO OPNAVINST 5102.1C SHALL NOT TESTIFY UNDER OATH AND SHALL BE ADVISED THAT THEIR STATEMENTS ARE FOR ONE PURPOSE ONLY—THE PREVENTION OF FURTHER MISHAPS. INFORMATION OBTAINED DURING ANY INVESTIGATION PURSUANT TO OPNAVINST 5102.1C SHALL NOT BE USED AS THE BASIS FOR ANY ADMINISTRATIVE, REGULATORY, DISCIPLINARY, OR CRIMINAL PROCEEDING WITHIN THE DEPARTMENT OF THE NAVY.

—Handbook for the Conduct
of Forces Afloat Safety
Investigations

The following are some basic guidelines you should observe during your investigation:

- Never delay medical treatment to interview a person.
- Let the witness tell you what happened.
- Interview witnesses separately.
- Ask only one question at a time.
- If a witness refers to “they,” determine exactly who “they” are. If nothing else, get a description and send an investigation team out to locate “they.”

Sometimes you will find that reconstructing the mishap will help you get a clear picture of how the mishap occurred. Have those who take part in recreating the mishap proceed up to the point of the mishap. Beyond the point of the mishap, talk about the action taken and walk through the steps. Many times you will discover the cause of the mishap through the reconstruction.

CAUSE FACTORS

Your investigative procedures should have answered the what, when, and where questions.

Next you must investigate the how and why. Review the evidence gathered in an analytical fashion to determine if you can answer how and why the mishap occurred. **DON'T OVERLOOK THE OBVIOUS.** Since most mishaps are caused by people, look to see if the personnel involved were affected by any of the following conditions:

- Physical condition: drunk, hangover, drug affected (prescribed or unauthorized), tired, ill, or hungry
- Mental attitude: worried, frightened, bored, depressed, distracted, day dreaming, confused, or complacent
- Attitude toward shipmates: distrustful, overtrusting, or contemptuous
- State of training for the task: formally trained, trained on-the-job, team trained, overtrained, or insufficient mental ability for needed training

Next, look to see if any of the following environmental conditions could have contributed to the mishap:

- Environment: hot, cold, humid, dusty, too bright, too dark, too noisy, smokey, windy, or cramped
- Equipment being operated: controls poorly located, instruments unreadable, design non-standard, operating procedure inadequate, maintenance manual incomplete, or access difficult
- Clothing and outfits: adequate, burdensome, or clumsy

TYPES OF MISHAP REPORTS

Mishap Investigation and Reporting, OPNAVINST 5102.1C, prescribes the format to be used in reporting most mishaps. It defines the various categories of reportable circumstances, the format used for specific categories, and the entries required in each section of the report. The formats discussed in this instruction are designed to assist the investigator in determining all the factors previously mentioned, with particular emphasis on the question *why*. A brief description of these reports and their uses follows:

1. Personnel Injury/Death/Occupational Illness Report, OPNAV 5102-1—Used to report mishap injury, death, or occupational illness of all military personnel attached to Navy units or

However, cases of flooding, collision, grounding, explosion, or fire are investigated and reported regardless of the cost involved. One exception is small trash fires or similar fires involving no personnel injuries and material damage limited to the container in which the fire originated.

3. Explosive Mishaps Supplement Report DD-MIL(AR) 1020 (5102)—Used to report mishaps, incidents, and malfunctions (collectively referred to as explosive mishaps) involving non-nuclear explosives, explosive ordnance, chemical agents, and systems. This report is submitted as a supplement to the Material (Property) Damage Mishap Report, OPNAV 5102-2; it represents an extension of the cause factors section of that report.

4. Motor Vehicle Mishap Report, OPNAV 5102-4—Used to report a motor vehicle mishap involving a government motor vehicle or private motor vehicle (on Navy property) if it results in the following:

a. An injury or a death of any occupant or nonoccupant of the motor vehicle involved or property damage of \$1,000 or more. Damage should include damage to all motor vehicles involved, their contents, and all other government or private property.

b. A motor vehicle mishap not on Navy property involving a private motor vehicle and resulting in injury or death to Navy military or civilian personnel. A mishap involving Navy civilian personnel requires a report only when the injury occurs because of or during the performance of job-related duties. Travel to and from work does not meet, the criterion for such a report.

5. SAFETYGRAM, OPNAV 5102/4 (fig. 8-1)—Used to describe any situation that has mishap-causing potential or to make recommendations to improve safety. That includes near mishap and hazardous conditions which, if allowed to go unchecked or uncorrected, could cause a mishap. When submitting a Material (Property) Damage Report, OPNAV 5102-2, you may also use an unofficial correspondence SAFETYGRAM to report these situations.

Certain categories of mishaps require the submission of special reports. These special reports are specifically excluded from the reporting requirements of OPNAVINST 5102.1C. These categories and their corresponding reporting instructions are as follows:

1. Damage, injuries, or death as a direct result of hostile action. *Special Incident Reporting*, OPNAVINST 3100.6E.

2. Nuclear weapons mishaps/incidents. OPNAVINST 3100.6E and *Procedures of Joint Reporting Structure*, JCS Publication 6.
3. Mishaps associated with naval nuclear propulsion plants. *Procedures and Reporting Requirements for Nuclear and Radiological Accidents*, OPNAVINST 3040.5B and OPNAVINST 3100.6E.

Other special cases may require more than one type of report under separate instructions. An example of such a case is an aircraft mishap or a fire at a naval shore activity. The *Naval Aviation Safety Program*, OPNAVINST 3750.6P, provides for the reporting of crew members, passengers, and other persons (nonoccupants) injured or killed in an aircraft mishap. Damage to naval aircraft is also reported. However, when an aircraft mishap causes material damage to a ship or shore activity, except for aviation facilities in the flight deck or runway areas, a material property damage report is submitted. The ship or shore activity submits the report. The report details the damage sustained, the damage control and fire-fighting procedures used, and the equipment used to control or limit the damage.

Fires at naval shore activities are reported using the *Standard Organization and Regulations of the U.S. Navy (SORN)*. However, all injuries or deaths associated with these fires are reported following OPNAVINST 5102.1C. When explosives are involved in either of these special cases, the additional reports required by OPNAVINST 5102.1C. will be submitted.

PREPARING THE REPORT

The final part of the investigation is your report containing your recommendations to eliminate or control the causal factors in the mishap. Your report will contain any or all of completed OPNAV Forms 5102/1, 5102/2, or 5102/3. Appendix II of NAVSAFECEN 5102/29, *Handbook for the Conduct of Forces Afloat Safety Investigations*, contains checklists for use in the investigation of the most common types of mishaps.

Your report should provide a word picture of the entire mishap. It should be a detailed, concise account rather than a brief report of the incident. When you complete your report, forward it to the commanding officer for signature; then forward the report to the Naval Safety Center.

MISHAP PREVENTION

A mishap is always unplanned by the person whom it affects; otherwise, the mishap would not

happen. A person who expects a mishap will do something to avoid it.

The idea that mishaps are unplanned or unintended implies two things. First, you should train people to understand what can and might happen so that preventive measures can be taken. For example, suppose you were an Electrician's Mate and understood that someone could turn on a power switch without checking first to see if it were safe to do so. You would be more likely to protect yourself by removing the fuses in the power supply circuit and properly tagging out the switch. Knowing what might happen could prevent a possible mishap. Second, you should believe the unexpected will occur sooner or later unless you take appropriate precautions. For example, suppose you are convinced that sooner or later you will get a foreign body in your eye unless you wear goggles. You will then probably wear goggles when using a power tool. Believing the mishap may occur will prompt you to protect yourself.

When a person has a mishap, production is always interrupted. The interruption may only involve a half an hour to get a minor injury treated at sick bay. At the other extreme, a disabling injury may mean the loss of a person for several weeks or months and, therefore, the loss of a needed skill. All these possibilities mean lost man-hours; lost man-hours means a delay in completing the task for which the section or division is responsible.

Why the concern about mishaps being production losses? Mishap prevention is as much a part of your job as assuring productivity. Experience has shown that the two go hand in hand—when safety is improved, productivity is also improved, and vice versa. Mishaps are symptoms of inefficient methods, tools, equipment, machines, materials, or work areas. As a supervisor, once you accept this viewpoint, you will also agree that promoting safety is part of your job.

Promoting safety involves more than reporting mishaps and correcting dangerous situations after someone has been injured, property has been damaged, or work has been interrupted. Mishap prevention also requires alertness for, and response to, situations we shall call near mishaps. A *near mishap* is an event that was prevented from resulting in property damage or personnel injury by a fraction of time or someone's timely action.

Because no injury or damage results in near mishaps, some supervisors fail to investigate them. Hence, the facts are not made a matter of record

and the causes go uncorrected. Sooner or later the same conditions could occur and result in serious injury.

Consider the case of a person who fell several feet from a ladder after slipping on a worn ladder tread. The person was slightly shaken but without injury. The fact that the sailor escaped injury was purely circumstantial. If the causes of the near mishap had not been corrected, the next victim could have suffered serious injury.

Some near mishaps involve equipment failure of some kind, such as a line parting, a control mechanism malfunctioning, or the brakes of a vehicle not holding. Some are instances of personnel failure. Take for example a sailor who had just finished hooking up a poorly loaded skip box full of used boiler firebricks. After stepping clear of the skip box, the sailor signaled the crane operator to hoist away. As the load was about 10 feet off the deck and being swung over the side, the bricks shifted and several fell to the deck. Being clear of the load, the sailor was not struck by the falling bricks. Another near mishap.

Near mishaps should be investigated whenever reported or observed. They are forewarnings of what might happen again. A mishap is almost certain to follow when such forewarnings are ignored.

THE NAVY SAFETY PROGRAM

The objective of the Navy's safety program is to enhance operational readiness. That is done by reducing the number of deaths and injuries to personnel and losses and damage to material because of mishaps. The safety program is based on the issuance of general safety precautions to each person in the command. These include mishap prevention precautions and instructions regarding special hazards encountered in the daily work environment. The general safety precautions also include supervision in matters of safety, including continuing action and command interest in mishap prevention, and evaluation of the effectiveness of the program.

RESPONSIBILITY FOR THE SAFETY PROGRAM

The responsibility and authority for the administration of the safety program lies within the normal unit organization. Figure 8-2 shows a typical safety organization.

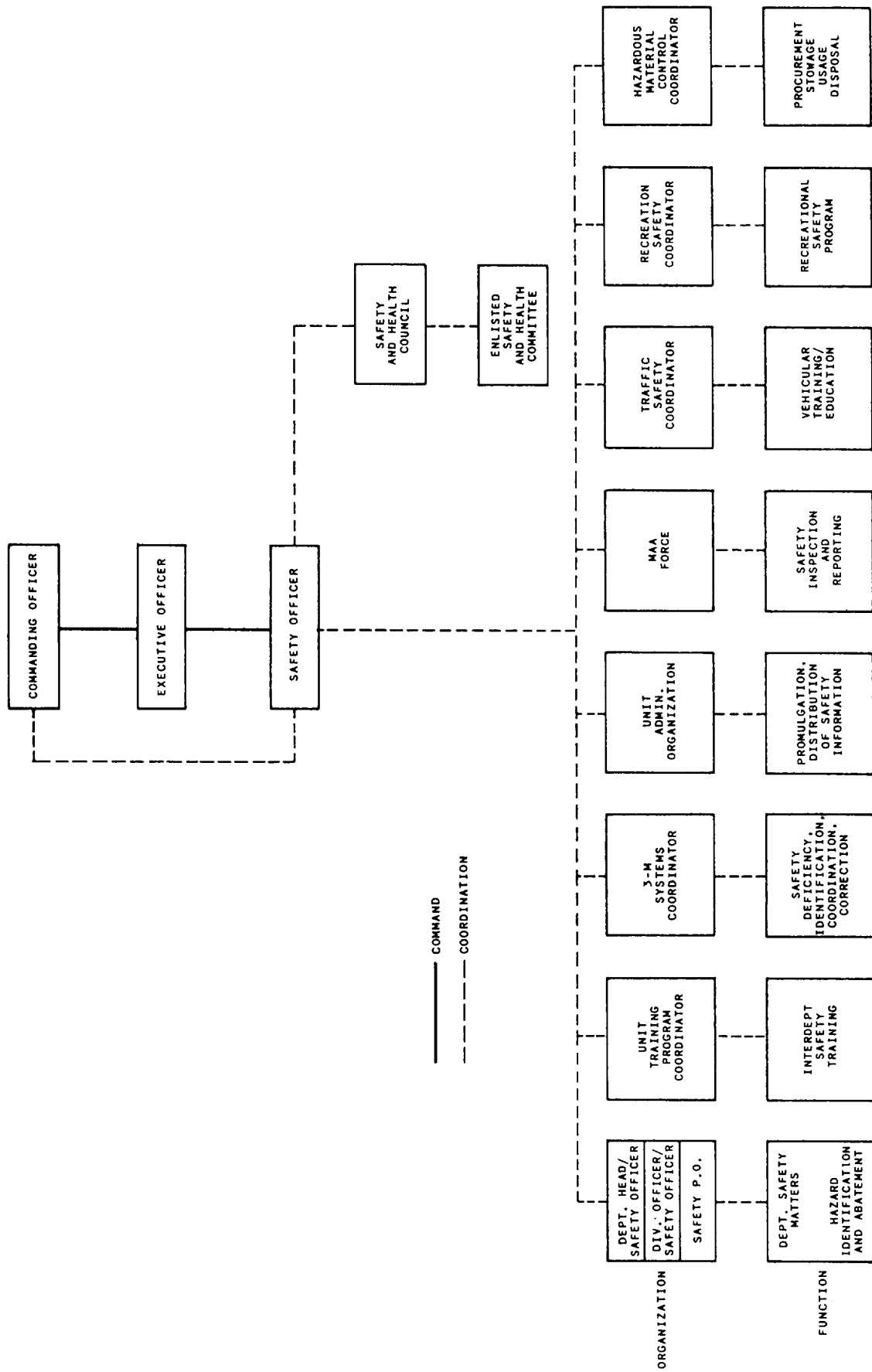


Figure 8-2.—Typical safety organization.

Safety is a command responsibility and should be carried out through the chain of command. Each level of command has responsibilities, both in training and in day-to-day supervision of both routine and specialized tasks. The safety program itself does not make a unit or crew safer; rather, the planned and coordinated activities of the crew acting as teams and subteams within the framework of the safety program make them safer.

The commanding officer has the ultimate responsibility for all safety matters within the unit. To provide day-to-day staff assistance, the commanding officer appoints a safety officer. Using policies and goals established by the commanding officer, the safety officer formulates a safety program based on the *SORN* and directives of higher authority. The safety officer monitors the crew's activities and exercises the coordination necessary to make all hands aware of the program and to keep it vital. The evaluation of the results of the program provides the commanding officer with a report about the progress of the command's mishap prevention goals. It also provides a report on the effectiveness of the unit's safety program.

SAFETY ORGANIZATION

The standard unit organization for carrying out a safety program is based on chapter 7 of the *Standard Organization and Regulations of the U.S. Navy* (OPNAVINST 3120.32B).

To coordinate monitoring and evaluating efforts of the safety program without relieving personnel of assigned responsibilities, activities should establish a safety organization. The safety organization should be established following the guidelines in figure 8-2. The purpose of this organization is to monitor mishap prevention standards and to evaluate the effectiveness of the safety program. The safety organization also coordinates the distribution of safety information regarding general mishap prevention, motor vehicle safety, and recreational safety.

RELATIONSHIP BETWEEN ADMINISTRATIVE/WATCH ORGANIZATIONS AND THE SAFETY ORGANIZATION

The primary responsibility for safety lies in the chain of command and rests with the appropriate members of the administrative and watch

organizations. Members of the safety organization have clear-cut responsibilities with regard to monitoring and evaluating mishap prevention. However, that in no way relieves the members of the administrative and watch assignments for which they are responsible.

THE SAFETY OFFICER

The safety officer is directly under the executive officer in the chain of command regarding the safety program. However, this person has direct access to the commanding officer in matters of safety. Normally, the safety officer has department head status and is responsible for enacting a comprehensive safety program. This program is based on objectives established by the commanding officer. The safety officer is responsible for promoting maximum cooperation in safety matters at all levels and ensuring wide distribution of safety information. The safety officer is also responsible for monitoring the timely submission and accuracy of safety reports and for maintaining appropriate safety records and statistics. The safety officer may be military or civilian and the head of a safety department, depending on the size and mission of the command.

The safety officer collaborates with all department heads and departmental/divisional safety officers in matters concerning safety.

Department Safety Officer

The department safety officer keeps the department head advised on the status of the department safety program within the unit. The department safety officer also performs the following duties:

- Performs mishap prevention functions as the department head may assign
- Acts as the departmental point of contact for coordinating and evaluating the ship's safety program
- Ensures correction of all hazardous conditions revealed by safety hazard reports
- Maintains records of mishaps and safety hazards within the department, and maintains direct liaison with the unit safety officer

Division Safety Officer

The division officer is the designated safety officer for a particular division. This person keeps the department safety officer advised on the status of the safety program within the division. The division officer also acts as the divisional point of contact in coordinating and evaluating the unit safety program. A senior petty officer, E-6 or above, should be designated as division safety petty officer. The division safety officer investigates divisional mishaps and near-mishaps. This officer ensures corrective action is taken immediately on hazardous situations revealed by mishap, hazard, and mishap/injury reports. The division safety officer develops a program that ensures divisional personnel receive mishap prevention training.

Division Safety Petty Officer

As the division safety petty officer, you should become familiar with all safety directives and precautions concerning the division. In this position, you conduct assigned divisional mishap prevention training and maintain appropriate records. You help to investigate safety mishaps, recommend safety program improvements, and serve on the enlisted safety committee. You also help the division officer execute safety duties by acting as the technical adviser on matters of mishap prevention within the division.

Safety Council

The safety council convenes monthly to develop recommendations for policy in safety matters and to analyze progress of the overall safety program. The safety council is composed of the commanding officer or executive officer (chairman), the unit safety officer (recorder, when not the executive officer), department heads, and a medical department representative.

The safety officer prepares an agenda in advance of each meeting of the safety council. The agenda shows the extent of any problem(s) and the need to take action. It also suggests ways to resolve problems as submitted by the safety committee or any other unit members. The safety council reviews all statistics compiled by the safety officer and hears reports from the medical department representative on injuries. It also hears from department heads on all other mishaps that occur within their departments. Further, it reviews the recommendations of the enlisted safety

committee and, by endorsement of the commanding officer, indicates which actions are being considered.

Enlisted Safety Committee

The enlisted safety committee makes recommendations concerning safety programs to the safety council. It also makes recommendations to promote interdepartmental communication in mishap prevention at division and work center levels.

The enlisted safety committee consists of the unit's safety officer (senior member), the division safety petty officers, the chief master-at-arms, and a recorder.

The enlisted safety committee meets monthly to exchange information, improve communications, and review safety conditions. It suggests improvements and makes its views and recommendations known to the safety council and the commanding officer.

SAFETY STANDARDS AND REGULATIONS

As a minimum, the safety program should provide the following basic elements:

1. Safety standards and regulations
2. Mishap prevention education and training
3. Maintenance
4. Safety enforcement
5. Mishap investigating and reporting

SAFETY STANDARDS AND REGULATIONS

Safety standards and regulations are based on standard procedures and precautions designed to minimize risks. These standards are based on guidance and directives from higher authority. They are contained in the *SORN*, in various unit instructions, technical publications, instructions for the watches, and unit regulations. These standards and regulations are monitored to determine their adequacy and to recommend new standards to correct hazardous conditions.

SURVIVAL TRAINING REQUIREMENTS

If an accident occurs at sea, you could have a direct effect on whether your personnel will

survive or perish. Proper training in survival techniques will provide your personnel with the tools to survive. You should consider survival training an important part of your shipboard training program. Basic survival training is outlined in *Airman* (NAVEDTRA 12000) and *Basic Military Requirements* (NAVEDTRA 12043).

The types of survival training to be conducted are defined in the *Military Personnel Manual (MILPERSMAN)*, articles 6610140 and 6610160. Training generally includes the following categories:

- Swimming
- Personal life saving equipment
- Abandoning ship or aircraft
- Leaving assigned spaces
- Survival equipment
- Fundamental first aid (fireman's lift and tied hands crawl, controlling bleeding, shock, burns, and administering morphine)

DEPARTMENTAL DAMAGE CONTROL CHIEF PETTY OFFICER

On large ships, a departmental damage control chief petty officer (DDCCPO) is assigned. The DDCCPO assists the damage control assistant (DCA) in carrying out the following duties and responsibilities:

1. Coordinates the training, relieving, and qualifying of the division damage control petty officers (DDCPOs) within the department
2. Informs the DCA and fire marshal of any changes of personnel assigned as DDCPO
3. Ensures the DDCPO performs his or her assigned duties
4. Performs other duties as directed by the DCA, the fire marshal, and the commanding officer

On small ships a DDCCPO is not assigned; the job is part of the everyday responsibilities of the department and division leading chief petty

officers. Your general responsibilities include the following:

1. Coordinating the training, relieving, and qualifying of your DDCPO
2. Informing the DCA and fire marshal when you change your assignment of the DDCPO
3. Ensuring your DDCPO performs his or her assigned duties
4. Coordinating division damage control training and maintenance with the DCA and fire marshal to improve overall division damage control readiness

SUMMARY

As a chief petty officer, you may be called upon to investigate routine mishaps because of your unique knowledge and leadership. You should be objective in trying to determine the cause of the mishap and not overlook the obvious. The injury of a person is not a mishap, but the result of a mishap. Most mishaps are the result of human error or an environmental condition at the time of the mishap.

The Navy's safety program is designed to enhance operational readiness. Operational readiness is enhanced by a reduction in the number of deaths and injuries to personnel and losses and damage to material because of mishaps. Ensuring every person in your division follows general safety guidelines in the conduct of everyday division business is an important part of the safety program.

Survival training is an important part of the shipboard training program. You should be aware of the various types of survival training required by the Navy.

On large ships, a departmental damage control chief petty officer is usually assigned. He or she trains and qualifies the division damage control petty officers within the department and assists the ship's damage control assistant as required. On smaller ships, the department and division leading chief petty officers ensure the division damage control petty officers are qualified and maintain a high degree of damage control readiness.

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