

UNITED STATES NAVY YARDS  
AND NAVAL STATIONS

GENERAL SAFETY RULES  
(REVISED)

SECTION 1

NAVY YARDS  
AND NAVAL STATIONS

1928



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NAVY DEPARTMENT,  
NAVY YARD DIVISION,  
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These rules apply to the civil employees of navy yards and naval stations.

The rules are in three sections and apply as indicated by subtitles.

Y. S. WILLIAMS,  
*Aide for Navy Yards.*

Approved.

CURTIS D. WILBUR,  
*Secretary of the Navy.*

II

### "IT CAN BE DONE"

Somebody said that it couldn't be done,  
But he, with a chuckle, replied;  
That, "Maybe it couldn't, but he would be one  
Who wouldn't say so till he tried."  
So he buckled right in, with a trace of a grin  
On his face. If he worried he hid it;  
He started to sing as he tackled the thing  
That couldn't be done—and he did it.

Somebody scoffed: "Oh, you'll never do that,  
At least no one ever has done it."  
But he took off his coat and he took off his hat,  
And the first thing we knew he'd begun it.  
With a lift of his chin, and a bit of a grin,  
Without any doubt or quiddit;  
He started to sing as he tackled the thing  
That couldn't be done—and he did it.

There are thousands to tell you it can not be done,  
There are thousands to prophesy failure;  
There are thousands to point out to you, one by one,  
The dangers that wait to assail you.  
But just buckle in with a hint of grin,  
Then take off your hat and go to it;  
Just start to sing as you tackle the thing  
That "can not be done"—and you'll do it.

III

These rules are compiled from the experience of many men in the accident-prevention field and are for your guidance in protecting yourself and your fellow man.

“It is the duty of every man to protect himself and those associated with him from accidents, which may result in injury or death.”—  
Abraham Lincoln.

Accidents are an economic loss both to the employer and the employee. To the employer the loss of trained men, and the subsequent loss in training new men to take their places.

To the employee, however, falls the great loss; not only are his earnings reduced during the period of time lost through a small accident but the loss may extend over a period of many years. Not only does he have physical suffering, but in most cases his loved ones are also made to suffer through reduced finances. Thus the loss is multiplied.

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## GENERAL SAFETY RULES

1. These instructions and rules apply to and govern the safe practices of all navy yards and naval stations.

2. Supervisors must be conversant with all rules applicable to the work under their control. It is their duty to see that all employees in their charge are instructed regarding same and that the instructions are thoroughly understood.

3. Employees are warned not to look around or engage in conversation while at work, as this is the cause of many injuries. “Keep your mind on your work and your fingers on your hand.”

4. Employees must report at the dispensary immediately after sustaining injury, even though the injury may seem slight, as neglect to do so may result in infection or other serious conditions. Employees *must not* remove foreign bodies from their own eyes or permit anyone else to do so, except the surgeon or attendant at the dispensary.

5. Employees must not disregard warning signs, as to do so is to deliberately invite injury.

6. Employees are forbidden to take short cuts over dangerous places.

7. Skylarking is an accident hazard. Do not expose yourself or fellow workmen to danger by such actions.

8. In new construction or repairs the surrounding premises shall be kept as clean and orderly as possible. Boards with nails sticking up in them must not be left lying around.

9. Whenever employees see a nail protruding upward, they should either bend the nail down or turn the board or timber over so the nail point will be down.

10. Employees are forbidden to rest or lean against any railing.

11. All employees are expected to report the need of any safeguard or device to protect ways, works, machines, appliances, tools, etc.

12. Employees driving motor cycles or automobiles of any kind within the premises are to abide strictly by the special local rules.

13. Tools or materials must not be left on or between tracks, on overhead walk ways, scaffolding, or other raised platforms.

14. Employees must never fool with compressed air, never turn compressed air on anyone or on themselves. It may enter the body and cause serious injury or death. Even though it does not enter the body, the sudden cooling caused by the air coming in contact with the body may result fatally.

15. When mixing acid and water, never, under any circumstances, pour water into acid, but pour *very slowly* acid into water. This should always be done by a competent person instructed in the characteristics of acids.

16. Employees must never stand on the head of a barrel to reach a higher object. If a barrel must be used, place a board across the top.

17. Employees when using a jack must remove the handle if the work is suspended or discontinued, as there is danger of something slipping and causing the handle to fly out and injure some one.

18. Before lighting furnaces heated by gas or oil see that the draft dampers are open and valves closed tight, so that there will be no accumulation of gas or oil in the furnace; then proceed in the regular way to light the furnace.

#### HEALTH

19. Employees who are ill before coming to work should remain at home and by some means notify their supervisor. Employees taken ill at their work should report to their supervisor, who will take the necessary steps for their attention.

20. Employees should avoid spitting on the floors of workshops, as this is a dangerous menace to health.

#### PROTECTIVE CLOTHING

21. Employees engaged in grinding, chipping, handling hot metal of any kind, "busting" rivets or bolts; or other work where there is danger of chips or splashes entering the eye *must wear goggles*. Failure to do so will result in disciplinary action.

22. Goggles and rubber gloves are provided and must be worn when handling acid.

23. Employees are warned against wearing gloves, flowing neckties, or other loose or torn clothing around moving machinery, shafts, or pulleys. Many fatal accidents have been caused in this way.

24. Employees are cautioned not to use celluloid eye shields, cap visors, etc., as this material is very inflammable and is liable to ignite from a spark or intense heat and cause serious injury.

#### MOLTEN METAL

25. Employees working with molten metal are advised to wear congress type shoes and hard cloth pants (jeans) and leggings, or in some other way protect the legs and feet from being burned.

26. Molten metal must not be placed in cold, damp, or rusty molds or ladles, nor must it be permitted to come in contact with cold, damp, or rusty surfaces, as it may explode.

27. Employees are forbidden to jostle or distract fellow workmen while carrying or working with molten metal.

28. Employees engaged in babbitting or pouring lead *must wear goggles or babbitting masks*.

#### ELEVATORS, CRANES, AND HOISTS

29. In operating an elevator or hoist the operator shall see that it is *all clear* before starting.

30. Where there is no regular operator of elevator or hoist, and they are being operated by employees using them, every precaution shall be taken to make sure that the elevator is *in the clear* and that there is no danger of injuring some one by moving the elevator or hoist.

31. Where work is to be done on a crane, crane runway, or near a crane runway, when the employees doing said work are or may be endangered by the operation of the crane, the main switch must be locked open by the employee in charge of the work.

32. Cranemen are prohibited from moving cranes with chains swinging at full length or while hook-on men or others are in the way.

33. All employees are prohibited from riding on any lift being handled by a crane, except for inspection purposes.

34. Do not take hold of crane cables above sheave blocks, as your fingers may be drawn into block. Watch hooks as they are being hoisted so they may not catch on anything.

35. Every chain used for lifting must be inspected regularly and annealed when necessary. An individual record is to be kept of each chain showing repairs, annealing, and results of inspections. Tying knots in chains is prohibited.

36. Whenever possible chainmen or hookers must walk ahead of load carried by crane and see that employees on floor get out of the way before load passes over them. Never walk under a load.

37. If employees engaged in making a lift notice a kink in chain, lift must be lowered and chain straightened. If the chain is allowed to remain in this condition, it may suddenly straighten itself causing undue strain on lifting mechanism, and may break or otherwise drop the load, thereby causing injury.

38. All employees are warned to keep from under loads of material being lifted or carried by booms, derricks, cranes, or other lifting apparatus, and to keep in the clear at all times.

39. In using hoisting apparatus employees are forbidden to make a hoist before the load is securely made fast and properly balanced.

40. Operators of cranes, locomotives (see Transportation rules).

41. Crane operators or anyone working on cranes or crane runways must not throw any material from cranes or runways without first making sure that no one will be hurt thereby.

42. Both the crane operator and the crane inspector must try out safety limit stop on the crane at the beginning of each shift. If the stop does not work properly, the crane operator must at once notify the supervisor.

43. Where work is to be done on a crane, crane runway, or near a crane runway, when the employees doing said work are or may be endangered by the operation of the crane, the main switch should be locked open by the employee in charge of the work. Should two or more gangs be doing work on the same crane or runway, the employee in charge of each gang shall see to it that the main switch is open and should place thereon his lock. In no case shall an employee in charge of work remove his lock until he has assured himself that every man under his charge is in a place of safety. Should it be necessary for him to leave the work before completion, he shall place another man in charge whose duty it shall be to see that every man in his charge is in a place of safety before he takes off his lock. When an individual is doing work necessitating the locking of the switch, he should do so, and no other shall remove the lock.

44. Crane operators must not push or pull cars with the bridge or trolley motion of their cranes. Where cars have to be shifted, use a sheave block and pull straight up with hoist.

45. Men should not carry material up ladders to cranes but should use a hand line.

## ELECTRICITY

46. Only authorized persons are to work on electrical equipment because of the danger of injury and fire. All employees whose duty does not require them to do so are warned against touching wires of any kind, as it may result in death. Before doing any work where there is danger of coming into contact with electric wires, notify the master electrician, who will send an experienced man.

47. If loose or hanging wires are found, notify the electrical department.

48. Never close a switch without full knowledge concerning the circuit and why the switch is open.

49. If it is necessary for employees to work on any high-tension circuits, the employee in charge of the work shall have the oil switches on the high-tension circuit and the hook switches opened. He shall then see that a sign is placed on switch reading: "This circuit was ordered opened for repairs by \* \* \*, and shall not be closed except upon orders given by the above-named person." After all the work is completed and the employee has made sure that everyone is off the circuit, it is his duty to inform the operator in person that the work is completed, and he shall remove the sign. The circuit can then be put on. If for any reason, while an employee is engaged in work on high-tension circuit, he has to leave the work before completion, it shall be his duty, and the duty of the employee who succeeds him, to go to the power house and change the name on the card to the name of the man left in charge of the work.

50. Employees must exercise care and judgment handling live wires and electrical apparatus when the same is not cut out of circuit.

51. Employees should bear in mind that accidental contacts with high-tension circuits are invariably fatal and should not touch these wires.

52. It is the duty of employees to notify operators before beginning work on motors and to lock open

main switch controlling said motor with safety lock. This does not apply to inspection of motors.

53. The fact that one employee's lock is on a switch does not mean that another employee can work on another part of a crane or machinery controlled by a motor without first putting his safety lock on the switch also, unless he is one of a number of employees working under a man in charge whose safety lock is on the switch and whose duty it is to see that all workmen are safe before removing his lock.

54. Employees must report to their supervisor steam and water joints which are leaking and are in close proximity to motors or other electrical apparatus. Also, worn bearing shafts and gears next to motors which are kept up by the mechanical department. Supervisors will report same to proper authorities.

55. Work on lightning arresters or circuits running overhead is very dangerous while it is lightning. Employees are cautioned to exercise great care at such times.

56. *All wires must be considered as being alive until it is positively known that they are dead.*

## WORKING IN HIGH PLACES

57. When it is necessary for employees to work above other employees those working underneath must be notified. When it is necessary for employees to work underneath other employees those working above must be notified. Whenever employees are working overhead they must place a sign on the ground reading "Danger—workmen above."

58. Exercise care in placing ladders before using them. If there is danger of a ladder slipping, have some one hold it for you. All portable ladders shall be equipped with safety feet.

59. Do not go up or down a ladder without the free use of both hands. If material is to be handled, use a rope.

## RAILROADS

(See section 3)

60. Materials must never be piled within 4 feet 8 inches from the outside of railroad tracks.

61. Whenever an employee is directed to work in close or dangerous proximity to any track used for the passage of cars, engines, locomotives, cranes, or other moving machinery, the employee in charge of such work must, before the work is commenced, *take all necessary precautions* for the safety of the men under him. When possible he shall notify the operators of such machinery, and it shall be the duty of the operator to exercise due care in the operation of the machinery under his control. This, however, does *not release* any workman from exercising the utmost vigilance to prevent injury to himself or others. If it is absolutely necessary for the safe conduct of the work, the man in charge of the work being done, shall see to it that such machinery is not operated, or shall place one or more men to act as watchmen, whose duty it shall be to warn of approaching danger.

62. Employees are forbidden to ride on any part of a locomotive crane unless engaged in operating same.

## FIRE PREVENTION

63. Order and cleanliness are important both for safety and fire-prevention standpoint. Many accidents and fires are caused by untidy conditions.

64. Employees are forbidden to use any of the fire-fighting apparatus or equipment for any other purpose than that of fire fighting.

65. When it is necessary to use a fire extinguisher of any design, direct the stream at the base of the flame where it will do the most good.

66. Under no conditions are obstructions to be placed within 15 feet of fire hydrants, hose houses, hose boxes, or racks, or fire telegraph boxes, and an open passage must at all times be left so that this equipment can be brought into instant use

67. Oily waste, rags, overalls, etc., should not be wrapped into a tight wad and thrown into a corner or lockers, as spontaneous combustion may occur from these materials.

68. Only metal lamp shades are permitted to be used; paper or cardboard shades are a dangerous fire hazard. Flexible cords for lamps must not be tied to iron rods or nails nor allowed to come into contact with water or oil.

69. Obey the local rules in regard to smoking. Carelessness in this may destroy your place of employment.

## WELDING

(See rules 119 to 150, inclusive)

70. Employees are warned of the danger from the arc in electric arc welding and are positively prohibited from entering or looking into the screens placed about the work. A short exposure of the eyes to the arc may cause total blindness.

71. Employees engaged in welding operations must wear goggles or helmets of an approved type.

## BOILER HOUSE AND POWER HOUSE

72. Employees are forbidden to go into engine, power, or pump houses or electric motor rooms or gas plant unless their duties take them there.

73. Employees are forbidden to enter fire boxes or stacks of gas or oil fired boilers without first notifying the supervisor in charge. The employee must personally see that burners are closed before entering.

74. Employees are forbidden to make fire under boiler without first making sure that there is plenty of water in boilers.

75. Stop valves must not be opened without first making sure there is no one in the boiler.

76. Should it be found that fire has been started under a boiler in which there is not sufficient water, the fire must be withdrawn and the boiler allowed to cool before more water is added.

77. Any person entering a boiler for any purpose whatsoever must first see that the blow-off, feed, and connection valves are locked, and in addition he must notify the supervisor before entering the boiler.

78. Any employee working on blow-off lines must first notify supervisor, who is responsible that no one blows down boilers while such work is being done.

#### SAFEGUARDS

79. When an employee is required to do work of any description on power lines, main steam lines, electrical equipment, or machines, he should open the switch controlling the line or machine and place upon the switch or valve a lock to which he alone has the key.

80. Employees are forbidden from removing a safety lock and/or chain other than their own from a valve, switch, or other appliance that governs light, power, gas, oil, water, steam, or pipe lines of any description.

81. Employees shall not disturb or remove any covering or guard except for the purpose of oiling, inspection, or repair of machinery, and if removed, *must be replaced and securely fastened* before leaving the job. Any employee violating this rule will be subject to discipline.

82. All gears, belts, shafting, and machinery must be properly protected at all times. When necessary to remove safeguards for any purpose, those who do so *must see* that they are *replaced and properly fastened* before leaving the job. Supervisors will be held responsible for this.

83. When an employee removes the cover from an opening in the floor, ground, pit, or sewer, he *must* take such steps as are necessary to guard that opening so that no one will be endangered thereby.

84. Inspector and repairmen are cautioned to securely replace gear shields or other guards when any cause has necessitated their removal. This rule must be carried out.

#### TOOLS

85. Do not use unsafe tools, such as hammers with broken or ill-fitted handles, mushroomed chisels, etc. They are dangerous both to yourself and fellow workmen.

#### MACHINES AND MACHINERY

86. Employees are forbidden to set in motion any machinery without first assuring themselves by a personal investigation that there are no employees in a position to be injured. Employees must not operate valves or close switches controlling electrical current without first assuring themselves that there are no employees in a position to be injured. (See Rules—Machinery and its control.)

87. Operators of shears, punches, presses, or similar machines must exercise care to prevent injury to themselves and others, especially while the machine is in operation. Even when not in operation, care must be exercised, as the treadle is liable to be accidentally tripped. When adjustments or repairs are being made, the power must be shut off and the knives, dies, or tripping device securely blocked.

88. A belt shifter or pole must be used in all cases for shifting belts.

89. Employees are warned against using rags, waste, etc., for cleaning away chips from their machine. *Use a brush.*

#### MECHANICAL DEPARTMENT

##### GENERAL RULES

90. Employees in the mechanical department must thoroughly familiarize themselves with the general rules because many of these rules apply with particular force to employees in the mechanical department. Masters must assure themselves that men in their charge understand and comply with these rules.



91. Employees whose work requires them to enter other departments should familiarize themselves with the rules and dangers of those departments.

92. When employees are doing work in departments other than their own, where such work may interfere with the regular or safe operation of that department, the master of that department must be notified.

### MACHINE SHOP

(See Machinery and its control)

93. Read mechanical department general rules.

94. Machine-shop employees must not wear loose blouses, flowing ties, ragged or torn sleeves.

95. Switches must be pulled open and locked when repairing, cleaning, or oiling machines. When placing work in or on machines and when leaving machines for any reason switches must be pulled open.

96. When lifting objects, similar to shafting, liable to slip, with a crane, the strap chain or cable must be given at least two turns around the object whenever possible.

97. Employees should not wash their hands in oil or drilling compound.

98. Employees must keep their machines clean and at the end of their turn leave them in this condition.

99. Goggles must be worn when grinding, chipping, or when doing any work that endangers the eye.

100. Gloves must not be worn when operating a drill press, lathe, grinding wheel, or other such machines.

### RIGGERS

101. Read mechanical department general rules.

102. When hanging scaffolds, blocks, or making fast any lines, riggers must be sure that the rope or cable used is strong enough for the required purpose and that it is securely tied.

103. When unloading material with a crane, make a hitch that will not slip or cause load to swing and

injure some one. Material that is unloaded must be kept 4 feet 8 inches away from all tracks.

104. Do not stand, ride, or walk under boom of any lift at any time, as it is liable to fall.

105. In erecting machinery of any kind no one is permitted to give signals to cranimen or hoisting engineer except the master or the man he appoints to do so. (See Transportation rules.)

### WOODWORKING

106. Read general rules.

107. Employees are cautioned against using jointer unless the safety guard is over knives.

108. Employees are cautioned to use care in machining pieces less than 12 inches in length.

109. In using jointer never allow hand to pass over knives while on material that is being jointed. Use both hands, keeping them back from knives until piece is started, then work one hand on each side, thereby never allowing hand to be directly over knives.

110. Never start jointer until after trying the cut.

111. Employees are warned to stand clear of material passing through pony planer to avoid being injured by material being kicked back.

112. Never reach over machine to get finished material from other side. Go around to avoid falling on knives.

113. Employees are cautioned in sawing small pieces to use a stick with notch cut in to push piece through saw.

114. In sawing long material, secure help to hold up end before attempting to saw same.

115. Never allow saw to protrude more than one-fourth inch above material being sawed.

116. Employees are cautioned in using band saws to see that the piece being sawed is firm on table.

117. In sawing thick material employees are cautioned to keep their hands out of the line of the travel of the saw. Place hand to the side and to the rear of material being sawed, thereby avoiding being cut should the saw appear before expected.

118. Employees are cautioned about leaving pieces with nails sticking up in them lying on the floor. The nails should be turned down or drawn.

### OXYGEN AND ACETYLENE

#### PRECAUTIONS AND SAFE PRACTICES

119. The few "do's and don'ts" contained herewith are not intended to fully cover the subject, but are high lights for the safe use of oxygen and acetylene equipment and processes, the subject being more fully covered in local regulations.

120. All fires and open lights must be kept away from the gas plant.

121. Electric lights shall be inclosed in guarded, vapor-proof globes and all wiring placed in approved conduit, with junction fittings for all connections, so that no bare terminals are exposed. Switches and controlling devices are to be inclosed and placed outside of generating and charging room at a convenient location.

122. Where fuel gas is piped through the plant a water seal should be interposed between the generator and piping. An individual water seal should be placed at each blowpipe. Water seals should be inspected daily.

123. Piping used to convey the gases should be painted a distinctive color.

124. Unauthorized persons are prohibited from entering the gas plant.

125. Care must be exercised to prevent oil, grease, or other substances containing oil or grease from coming in contact with oxygen tanks or equipment, as the contact of any of these with oxygen under pressure is highly explosive and dangerous. Oxygen tanks should never be handled on the same platform with oil.

126. Oily hands or greasy gloves shall not be used in coupling reducing valves and gauges to oxygen tanks. The hands should be kept clean or clean gloves used.

127. Oxygen or other pressure tanks must never be dropped or handled roughly.

128. Oxygen and other pressure tanks must not be left near a stove, salamander, radiator, furnace, or other sources of heat, and should not be exposed unnecessarily to the direct rays of the sun, as an increase in temperature of the gas will cause a corresponding increase in pressure within the tank; any excess of heat may also soften the fusible plug with which the tank is provided causing it to blow out, thus permitting the gas to escape.

129. All empty tanks should be tagged with yellow tags and black letters "M. T." and the valves securely closed.

130. All fires and lights should be kept away from any place where there is a possibility of the fuel or inflammable gas escaping.

131. Care should be taken to prevent the discharge valve of tanks from being bumped, as this may damage the valve and cause it to leak.

132. Tanks should not be handled by cranes except in specially constructed cradle or container. They should *never* be handled with a magnet.

133. All pressure tanks in use should be inspected at close of the day's work for leaks, etc.

134. All hose should be examined periodically for deterioration or defects. Defective hose should not be used.

135. The oxygen and fuel gas valve at the base of the torch and all connections should be examined daily for leaks before lighting the torch.

136. An open flame must never be used for the purpose of discovering leak in fuel or inflammable gas tanks.

137. When a leak is discovered in a tank of acetylene or other inflammable gas the tanks should be placed in the open air, the valve opened, and all fires and open lights kept away until the gas has escaped.

138. White lead and other similar substances containing oils should never be used for making joints.

139. Gauges and valves must not be tested with oil.

140. Call acetylene by its full name "acetylene" and not by the word "gas." Acetylene is far different from city or furnace gas.

141. Acetylene is a fuel gas and must be kept away from fires.

142. Cylinders should be kept far enough away from the actual welding or cutting operations, forges, or other conditions emitting sparks to prevent any spark or flame from reaching them.

143. Operators should not stand in front of the gauges on the regulator when opening the discharge valve of the tank. If pressure comes on suddenly it may destroy the gauge and blow out glass and parts at the front; also oxygen may come into contact with oily clothing with disastrous results.

144. Under no conditions should acetylene gas be used where the pressure is greater than 15 pounds per square inch.

145. Operators must be properly protected with suitable gloves, goggles, or masks of an approved type.

146. When working in a confined place such as in a boiler, tank, or small inclosure, there must be an assistant stationed just outside for quick action in case of emergency.

147. A fire extinguisher should be near at hand where welding or cutting is being done. It is advisable to carry one as part of the equipment.

148. Vigilance and watchfulness insure safety. Employees must not trust solely to the care exercised by another when their own safety is involved. When in doubt, take the safe course.

149. All cylinders are painted with distinctive markings. Authority in Navy Department General Orders Nos. 38 and 50. It is prohibited to place any cylinder on a charging line other than for which it is marked. To do so is to invite disaster.

150. Oxygen cylinders shall not be tested with compressed air or any other gas, because of their having been compressed by an oil-lubricated compressor and may contain oil.