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5-1961L
Dierdorff
4/27/88

Original sponsors: Zharoff and Szymanski

1 IN THE SENATE

2 CS FOR SENATE BILL NO. 455 ()

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 FIFTEENTH LEGISLATURE - SECOND SESSION

5 A BILL

6 For an Act entitled: "An Act relating to safety equipment for commercial
7 fishing vessels; and providing for an effective
8 date."

9 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

10 * Section 1. AS 16.05 is amended by adding new sections to read:

11 Sec. 16.05.497. IMMERSION SUITS. (a) A vessel subject to
12 AS 16.05.497 - 16.05.509 must be equipped with a United States Coast
13 Guard approved immersion suit for each person on board the vessel. An
14 exposure suit that is Coast Guard approved and is in use on a vessel
15 before January 1, 1989, meets the requirements of this subsection.

16 (b) An immersion suit required under (a) of this section must

17 (1) include an inflatable auxiliary means of buoyancy that
18 is equipped with an inflation tube that meets the United States Coast
19 Guard construction requirements for inflation tubes when used as an
20 integral part of an exposure suit;

21 (2) have a T-handle zipper pull; and

22 (3) be equipped with a United States Coast Guard approved
23 personal flotation device strobe light.

24 Sec. 16.05.499. LIFE RAFTS. (a) A vessel subject to AS 16.05.-
25 497 - 16.05.509 that is 36 feet or longer in overall length on deck is
26 required to be equipped with a life raft capable of accommodating
27 every person on board the vessel.

28 (b) A life raft required under (a) of this section must be

29 (1) equipped with a Class B EPIRB;

1 (2) provided with the minimum equipment that is required by
2 the United States Coast Guard for use in all inflatable life rafts;
3 except as provided in (3) of this subsection, this paragraph does not
4 require the additional equipment that is required by the Coast Guard
5 for life rafts that are intended for use on ocean service or limited
6 service vessels; and

7 (3) equipped with signal devices required under the United
8 States Coast Guard equipment requirements for inflatable life rafts
9 intended for use on limited service vessels.

10 (c) In this section "life raft" means an inflatable life raft
11 that meets the type and size, design, and inspections and tests re-
12 quirements of the United States Coast Guard. A life raft required
13 under this section does not need to meet the Coast Guard requirements
14 for containment, rigid or fabric containers, or launching reinforce-
15 ment.

16 * Sec. 2. AS 16.05 is amended by adding new sections to read:

17 Sec. 16.05.501. CLASS A EPIRBS. (a) A vessel subject to
18 AS 16.05.497 - 16.05.509 that is 36 feet or longer in overall length
19 on deck is required to be equipped with a Class A EPIRB.

20 (b) A Class A EPIRB required under (a) of this section must be
21 stowed in a readily accessible location in a manner that allows it to
22 float free if the vessel sinks.

23 Sec. 16.05.503. REQUIRED MAINTENANCE. Equipment required under
24 AS 16.05.497 - 16.05.509 shall be operative and maintained in good and
25 serviceable condition.

26 Sec. 16.05.505. APPLICABILITY OF AS 16.05.497 - 16.05.509.
27 AS 16.05.497 - 16.05.509 apply to vessels required to be licensed
28 under AS 16.05.490 except for a vessel used in charter service for the
29 recreational taking of fish and shellfish.

1 Sec. 16.05.507. ADMINISTRATION AND ENFORCEMENT. The department
2 may adopt regulations under the Administrative Procedure Act (AS 44.-
3 62) to implement AS 16.05.497 - 16.05.509. The Department of Public
4 Safety and the department shall cooperatively enforce AS 16.05.497 -
5 16.05.509 and the regulations adopted under those sections. The
6 departments may enter into agreements with the United States Coast
7 Guard, the National Marine Fisheries Service, or the United States
8 Fish and Wildlife Service to assist in the enforcement of AS 16.05.-
9 497 - 16.05.509.

10 Sec. 16.05.509. DEFINITION OF EPIRB. In AS 16.05.497 - 16.05.-
11 509 "EPIRB" means an emergency position indicating radio beacon that
12 has been type accepted by the Federal Communications Commission.

13 * Sec. 3. AS 16.05.720(a) is amended to read:

14 (a) Except as modified by (c) of this section, and except as
15 provided in (d) of this section, a person who violates AS 16.05.480 -
16 16.05.690 or the regulations of the department pertaining to commer-
17 cial fisheries is guilty of a misdemeanor and upon conviction is
18 punishable by a fine of not more than \$5,000, or by imprisonment for
19 not more than one year, or by both.

20 * Sec. 4. AS 16.05.720 is amended by adding a new subsection to read:

21 (d) A person who, with criminal negligence, violates AS 16.05.-
22 497 - 16.05.509 or a regulation adopted under those sections is guilty
23 of a class B misdemeanor.

24 * Sec. 5. INTERIM COMMISSION ESTABLISHED; REPORT. (a) There is estab-
25 lished in the Office of the Governor the Fishing Vessel Safety Interim
26 Commission. The commission consists of at least seven members appointed by
27 the governor. Members must be knowledgeable and experienced in the areas
28 of commercial fishing vessels or vessel safety and life-saving methods and
29 systems. At least one member shall represent each of the following:

1 (1) the commercial fishing industry;

2 (2) fishermen's associations;

3 (3) the safety equipment industry, which includes businesses
4 manufacturing, supplying, or servicing marine safety and life-saving equip-
5 ment;

6 (4) the marine insurance industry;

7 (5) education; and

8 (6) the United States Coast Guard.

9 (b) Commission members are entitled to per diem and travel expenses
10 authorized for boards and commissions under AS 39.20.180.

11 (c) The purpose of the commission is to suggest, review, and recom-
12 mend legislation, regulations, guidelines, and standards that address
13 safety equipment requirements and educational programs that contribute to
14 the successful application of safety and life-saving equipment on commer-
15 cial fishing vessels.

16 (d) The commission shall consider and review proposals relating to
17 the development and implementation of educational programs at the high
18 school and community college level to increase the level of awareness among
19 participants and potential participants in the commercial fishing industry
20 with respect to the necessity, application, and use of safety and life-sav-
21 ing equipment on commercial fishing vessels. The commission shall encour-
22 age the involvement of fishermen's associations, processor associations, or
23 other trade associations or industry groups in the implementation of pro-
24 posed educational programs. The commission shall also consider guidelines,
25 requirements, and standards relating to the maintenance, servicing, and
26 upgrading of safety and life-saving equipment and recommend a permanent
27 method for the state to evaluate current and future needs relating to
28 legislation, regulations, guidelines, and standards for commercial fishing
29 vessel safety.

1 (e) The commission shall report its recommendations to the governor
2 and the legislature by January 15, 1989.

3 (f) The commission is terminated January 16, 1989.

4 (g) In this section "commission" means the Fishing Vessel Safety
5 Interim Commission established under (a) of this section.

6 * Sec. 6. Section 5 of this Act takes effect immediately under AS 01.-
7 10.070(c).

8 * Sec. 7. AS 16.05.497(b)(3) and 16.05.499, added by sec. 1 of this
9 Act, and AS 16.05.501, added by sec. 2 of this Act, take effect January 1,
10 1990.

11 * Sec. 8. Except as provided in secs. 6 and 7 of this Act, this Act
12 takes effect January 1, 1989.

SAFETY EQUIPMENT COSTS

Survival Suits

(Prices quoted by Alaska Ship Chandlers, Juneau)

Baily survival suit	\$ 349.98
Imperial survival suit	359.98

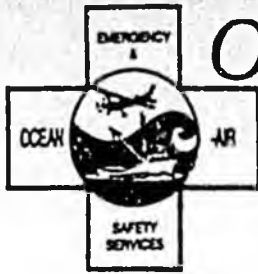
Liferafts

(Prices quoted by Ocean-Air Emergency & Safety Service Co., Kodiak)

4-man raft with valise	\$ 1,965
4-man raft with fiberglass container and cradle	2,205
6-man raft with valise	2,045
6-man raft with fiberglass container and cradle	2,280

4-man rafts actually range in price from \$1,710 to \$2,670 (Seattle prices). The cost in Kodiak of repacking, inspecting, and recertifying a liferaft is \$240.

Note about costs - Mr. Ed Jack, the owner of Ocean-Air Emergency & Safety Service Co. in Kodiak, said the requirement for minimum safety equipment will eventually save money for commercial fishermen. Insurance rates are largely based on statistics. If all vessels of a certain size were required to have safety equipment, it would result in less loss of life and property, less litigation and less costly judgements. Over time, commercial fishermen would realize a savings -- from the requirement that they have safety equipment -- in their insurance rates.



OCEAN-AIR

EMERGENCY & SAFETY SERVICE CO.

P. O. Box 1212, Kodiak, Alaska 99615

Telephone (907) 486-3860 WHG 591-SSB 4125.0

PRICES ACR PRODUCTS

CLASS A EPIRBS			
ACR/RLB-14	LIST-495.00	USCGA	337.00 300.00
CLASS B EPIRBS			(Bulk order)
ACR/RLB-20	LIST 350.00		235.00
ACR/RLB-21	LIST 299.00	Mini-13	202.50 165.00
CLASS C EPIRBS			
ACR/RLB-17	LIST 350.00		235.00
			(Bulk order)
STROBE LIGHTS			
ACR/SM-2	LIST 99.95	USCGA	72.50
ACR/556	LIST 89.95		65.00
ACR/4F	LIST 69.95	USCGA	49.95
ACR/4G	LIST 74.95	USCGA	60.00
ACR/2700	LIST 29.95		29.95
ACR/633	LIST 39.95		35.00
LIGHTS			
ACR/L-15A	LIST 69.95	USCGA	52.50
ACR/L8-2A	LIST 19.95		14.25
ACR/L8-1A			
ACR/631	LIST 7.95		7.95

BATTERIES- ASK FOR QUOTE

QUANTITY DISCOUNTS- ASK FOR A QUOTE !!!!!!!!!!!!!!!

5-1961B

Dierdorff
4/22/88

Original sponsors: Zharoff and Szymanski

1 IN THE SENATE

BY THE LABOR AND
COMMERCE COMMITTEE

2 CS FOR SENATE BILL NO. 455 (L&C)

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 FIFTEENTH LEGISLATURE - SECOND SESSION

5 A BILL

6 For an Act entitled: "An Act relating to safety equipment for commercial
7 fishing vessels; and providing for an effective
8 date."

9 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

10 * Section 1. AS 30 is amended by adding a new chapter to read:

11 CHAPTER 35. SAFETY STANDARDS FOR COMMERCIAL FISHING VESSELS.

12 Sec. 30.35.010. EXPOSURE SUITS. (a) A vessel subject to this
13 chapter must be equipped with a United States Coast Guard approved
14 exposure suit for each person on board the vessel. An exposure suit
15 that is not Coast Guard approved, but is in use on a vessel before
16 January 1, 1989, meets the requirements of this subsection if the
17 exposure suit is similar or identical in design, construction, and
18 function to an approved suit.

19 (b) An exposure suit required under (a) of this section must

20 (1) include an inflatable auxiliary means of buoyancy that
21 is equipped with an inflation tube that meets the United States Coast
22 Guard construction requirements for inflation tubes when used as an
23 integral part of an exposure suit;

24 (2) have a T-handle zipper pull; and

25 (3) be equipped with a United States Coast Guard approved
26 personal flotation device strobe light.

27 Sec. 30.35.020. LIFE RAFTS. (a) A vessel subject to this
28 chapter that is 36 feet or longer in overall length on deck is re-
29 quired to be equipped with a life raft capable of accommodating every

1 person on board the vessel.

2 (b) A life raft required under (a) of this section must be

3 (1) equipped with a Class A or Class B EPIRB that is ap-
4 proved by the United States Coast Guard for use in an inflatable life
5 raft;

6 (2) provided with the minimum equipment that is required by
7 the United States Coast Guard for use in all inflatable life rafts;
8 except as provided in (3) of this subsection, this paragraph does not
9 require the additional equipment that is required by the Coast Guard
10 for life rafts that are intended for use on ocean service or limited
11 service vessels; and

12 (3) equipped with signal devices required under the United
13 States Coast Guard equipment requirements for inflatable life rafts
14 intended for use on limited service vessels.

15 (c) In this section "life raft" means an inflatable life raft
16 that meets the type and size, design, and inspections and tests re-
17 quirements of the United States Coast Guard. A life raft required
18 under this section does not need to meet the Coast Guard requirements
19 for containment, rigid or fabric containers, or launching reinforce-
20 ment.

21 Sec. 30.35.030. CLASS A EPIRBS. (a) A vessel subject to this
22 chapter that is 36 feet or longer in overall length on deck is re-
23 quired to be equipped with a Class A EPIRB.

24 (b) A Class A EPIRB required under (a) of this section must be
25 stowed in a readily accessible location in a manner that allows it to
26 float free if the vessel sinks.

27 Sec. 30.35.040. REQUIRED MAINTENANCE. Equipment required under
28 this chapter shall be operative and maintained in good and serviceable
29 condition.

1 Sec. 30.35.050. APPLICABILITY. This chapter applies to vessels
2 required to be licensed under AS 16.05.490 except for a vessel used in
3 charter service for the recreational taking of fish and shellfish.

4 Sec. 30.35.060. ADMINISTRATION AND ENFORCEMENT. The Department
5 of Fish and Game may adopt regulations under the Administrative
6 Procedure Act (AS 44.62) to implement this chapter. The Department of
7 Public Safety and the Department of Fish and Game shall cooperatively
8 enforce this chapter and the regulations adopted under it. The
9 departments may enter into agreements with the United States Coast
10 Guard, the National Marine Fisheries Service, or the United States
11 Fish and Wildlife Service to assist in the enforcement of this
12 chapter.

13 Sec. 30.35.090. PENALTY. A person who, with criminal negli-
14 gence, violates this chapter is guilty of a class B misdemeanor.

15 Sec. 30.35.095. DEFINITION OF EPIRB. In this chapter "EPIRB"
16 means an emergency position indicating radio beacon that has been type
17 accepted or type approved by the Federal Communications Commission and
18 that is also approved by the United States Coast Guard.

19 * Sec. 2. INTERIM COMMISSION ESTABLISHED; REPORT. (a) There is estab-
20 lished in the Office of the Governor the Fishing Vessel Safety Interim
21 Commission. The commission consists of at least seven members appointed by
22 the governor. Members must be knowledgeable and experienced in the areas
23 of commercial fishing vessels or vessel safety and life-saving methods and
24 systems. At least one member shall represent each of the following:

- 25 (1) the commercial fishing industry;
26 (2) fishermen's associations;
27 (3) the safety equipment industry, which includes businesses
28 manufacturing, supplying, or servicing marine safety and life-saving equip-
29 ment;

1 (4) the marine insurance industry;

2 (5) education; and

3 (6) the United States Coast Guard.

4 (b) Commission members are entitled to per diem and travel expenses
5 authorized for boards and commissions under AS 39.20.180.

6 (c) The purpose of the commission is to suggest, review, and recom-
7 mend legislation, regulations, guidelines, and standards that address
8 safety equipment requirements and educational programs that contribute to
9 the successful application of safety and life-saving equipment on commer-
10 cial fishing vessels.

11 (d) The commission shall consider and review proposals relating to
12 the development and implementation of educational programs at the high
13 school and community college level to increase the level of awareness among
14 participants and potential participants in the commercial fishing industry
15 with respect to the necessity, application, and use of safety and life-sav-
16 ing equipment on commercial fishing vessels. The commission shall encour-
17 age the involvement of fishermen's associations, processor associations, or
18 other trade associations or industry groups in the implementation of pro-
19 posed educational programs. The commission shall also consider guidelines,
20 requirements, and standards relating to the maintenance, servicing, and
21 upgrading of safety and life-saving equipment and recommend a permanent
22 method for the state to evaluate current and future needs relating to
23 legislation, regulations, guidelines, and standards for commercial fishing
24 vessel safety.

25 (e) The commission shall report its recommendations to the governor
26 and the legislature by January 15, 1989.

27 (f) The commission is terminated January 16, 1989.

28 (g) In this section "commission" means the Fishing Vessel Safety
29 Interim Commission established under (a) of this section.

1 * Sec. 3. Section 2 of this Act takes effect immediately under AS 01.-
2 10.070(c).

3 * Sec. 4. AS 30.35.010(b)(3), 30.35.020, and 30.35.030, added by sec. 1
4 of this Act, take effect January 1, 1990.

5 * Sec. 5. Except as provided in secs. 3 and 4 of this Act, this Act
6 takes effect January 1, 1989.

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5-1961B
Dierdorff
4/21/88

Original sponsors: Zharoff and Szymanski

BY THE LABOR AND
COMMERCE COMMITTEE

1 IN THE SENATE

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7 fishing vessels; and providing for an effective
8 date."

9 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

10 * Section 1. AS 30 is amended by adding a new chapter to read:

11 CHAPTER 35. SAFETY STANDARDS FOR COMMERCIAL FISHING VESSELS.

12 Sec. 30.35.010. EXPOSURE SUITS. (a) A vessel subject to this
13 chapter must be equipped with a United States Coast Guard approved
14 exposure suit for each person on board the vessel. An exposure suit
15 that is not Coast Guard approved, but is in use on a vessel before
16 January 1, 1989, meets the requirements of this subsection if the
17 exposure suit is similar or identical in design, construction, and
18 function to an approved suit.

19 (b) An exposure suit required under (a) of this section must

20 (1) include an inflatable auxiliary means of buoyancy that
21 is equipped with an inflation tube that meets the United States Coast
22 Guard construction requirements for inflation tubes when used as an
23 integral part of an exposure suit;

24 (2) have a T-handle zipper pull; and

25 (3) be equipped with a United States Coast Guard approved
26 personal flotation device strobe light.

27 Sec. 30.35.020. LIFE RAFTS. (a) A vessel subject to this
28 chapter that is 32 feet or longer in overall length on deck is re-
29 quired to be equipped with a life raft capable of accommodating every

1 person on board the vessel.

2 (b) A life raft required under (a) of this section must be

3 (1) equipped with a Class A or Class B EPIRB that is ap-
4 proved by the United States Coast Guard for use in an inflatable life
5 raft;

6 (2) provided with the minimum equipment that is required by
7 the United States Coast Guard for use in all inflatable life rafts;
8 except as provided in (3) of this subsection, this paragraph does not
9 require the additional equipment that is required by the Coast Guard
10 for life rafts that are intended for use on ocean service or limited
11 service vessels; and

12 (3) equipped with signal devices required under the United
13 States Coast Guard equipment requirements for inflatable life rafts
14 intended for use on limited service vessels.

15 (c) In this section "life raft" means an inflatable life raft
16 that meets the type and size, design, and inspections and tests re-
17 quirements of the United States Coast Guard. A life raft required
18 under this section does not need to meet the Coast Guard requirements
19 for containment, rigid or fabric containers, or launching reinforce-
20 ment.

21 Sec. 30.35.030. CLASS A EPIRBs. (a) A vessel subject to this
22 chapter that is 32 feet or longer in overall length on deck is re-
23 quired to be equipped with a Class A EPIRB.

24 (b) A Class A EPIRB required under (a) of this section must be
25 stowed in a readily accessible location in a manner that allows it to
26 float free if the vessel sinks.

27 Sec. 30.35.040. REQUIRED MAINTENANCE. Equipment required under
28 this chapter shall be operative and maintained in good and serviceable
29 condition.

1 Sec. 30.35.050. APPLICABILITY. This chapter applies to vessels
2 required to be licensed under AS 16.05.490 except for a vessel used in
3 charter service for the recreational taking of fish and shellfish.

4 Sec. 30.35.060. ADMINISTRATION AND ENFORCEMENT. The Department
5 of Fish and Game may adopt regulations under the Administrative
6 Procedure Act (AS 44.62) to implement this chapter. The Department of
7 Public Safety and the Department of Fish and Game shall cooperatively
8 enforce this chapter and the regulations adopted under it. The
9 departments may enter into agreements with the United States Coast
10 Guard, the National Marine Fisheries Service, or the United States
11 Fish and Wildlife Service to assist in the enforcement of this
12 chapter.

13 Sec. 30.35.090. PENALTY. A person who, with criminal negli-
14 gence, violates this chapter is guilty of a class B misdemeanor.

15 Sec. 30.35.095. DEFINITION OF EPIRB. In this chapter "EPIRB"
16 means an emergency position indicating radio beacon that has been type
17 accepted or type approved by the Federal Communications Commission and
18 that is also approved by the United States Coast Guard.

19 * Sec. 2. INTERIM COMMISSION ESTABLISHED; REPORT. (a) There is estab-
20 lished in the Office of the Governor the Fishing Vessel Safety Interim
21 Commission. The commission consists of at least seven members appointed by
22 the governor. Members must be knowledgeable and experienced in the areas
23 of commercial fishing vessels or vessel safety and life-saving methods and
24 systems. At least one member shall represent each of the following:

- 25 (1) the commercial fishing industry;
26 (2) fishermen's associations;
27 (3) the safety equipment industry, which includes businesses
28 manufacturing, supplying, or servicing marine safety and life-saving equip-
29 ment;

1 (4) the marine insurance industry;

2 (5) education; and

3 (6) the United States Coast Guard.

4 (b) Commission members are entitled to per diem and travel expenses
5 authorized for boards and commissions under AS 39.20.180.

6 (c) The purpose of the commission is to suggest, review, and recom-
7 mend legislation, regulations, guidelines, and standards that address
8 safety equipment requirements and educational programs that contribute to
9 the successful application of safety and life-saving equipment on commer-
10 cial fishing vessels.

11 (d) The commission shall consider and review proposals relating to
12 the development and implementation of educational programs at the high
13 school and community college level to increase the level of awareness among
14 participants and potential participants in the commercial fishing industry
15 with respect to the necessity, application, and use of safety and life-sav-
16 ing equipment on commercial fishing vessels. The commission shall encour-
17 age the involvement of fishermen's associations, processor associations, or
18 other trade associations or industry groups in the implementation of pro-
19 posed educational programs. The commission shall also consider guidelines,
20 requirements, and standards relating to the maintenance, servicing, and
21 upgrading of safety and life-saving equipment and recommend a permanent
22 method for the state to evaluate current and future needs relating to
23 legislation, regulations, guidelines, and standards for commercial fishing
24 vessel safety.

25 (e) The commission shall report its recommendations to the governor
26 and the legislature by January 15, 1989.

27 (f) The commission is terminated January 16, 1989.

28 (g) In this section "commission" means the Fishing Vessel Safety
29 Interim Commission established under (a) of this section.

1 * Sec. 3. Section 2 of this Act takes effect immediately under AS 01.-
2 10.070(c).

3 * Sec. 4. AS 30.35.010(b)(3), 30.35.020, and 30.35.030, added by sec. 1
4 of this Act, take effect January 1, 1990.

5 * Sec. 5. Except as provided in secs. 3 and 4 of this Act, this Act
6 takes effect January 1, 1989.

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* The survival factor

There are no also-rans in the survival business

By IRVING WARNER
Special to the Mirror

Survival is a matter of staying alive. You do, or you don't. There are no also-rans in the deadly serious business of surviving.

Thousands of boats pass through Kodiak waters, and hundreds are permanently home-ported here. While sailing in the waters around the island, sometimes things go wrong. What was meant to keep water out, does not, and the captain and crew are suddenly "in the drink". Then it's a matter of survival until they are rescued.

One of the principal pieces of gear used in these situations is aptly called the survival suit.

The survival suit, in the decade and a half since it became popular, has built itself a strong "rep". Made of neoprene rubber, they have come to be thought of as portable islands of invulnerability against even the coldest waters. Often they are marketed as such.

But marine survival is much more than having a survival suit.

"I've picked up so many dead people in survival suits," says Coast Guard Search and Rescue pilot Lt. Commander Tom Walters. "And I'm not saying anything bad about survival suits. But the fact is, survival is a four part situation."

Talking to Walters about survival at sea is an education. "First," says Walters, "there is

good education before even leaving the dock. People - ALL people - must know what to do when there's trouble."

"Secondly," he continues. "Is to have a good survival suit. One that fits well, and you've gotten into before leaving port. Thirdly, a life raft that you know how to deploy and get

into - in a hurry. And lastly, an EPIRB (E mergency P osition I ndicating R adio B eacon), one that you know how to activate quickly."

Walters nods as he recites each of these four necessary survival ingredients. His last point makes it obvious how important this recipe is. "I have

never picked up anybody dead who had all four of those things going for them."

First, let's examine the subject of survival suits.

Local survival expert Dave Watkins can talk about the subject for hours. Presently the operator of Northstar Survival, Watkins is a retired Coast Guardsman and has been a survival instructor for many years. Survival in coastal Alaska is his specialty. After talking with Dave for two minutes, one realizes it's more a business with him - it's a cause. And a good



NEVER OFF DUTY. Tom Walters discusses a search and rescue operation from his home. Marine safety and survival have become a major concern with him after 16 years as a search and rescue helicopter pilot.

Tom Walters:

'Survival is
4-part situation'

one.

"The very basic design of survival suits hasn't changed a heck of a lot in the last ten years," says Watkins. "Basically, if you're going to buy a (survival) suit, you MUST try it on before buying it."

Though basic characteristics have remained constant, there are differences between brands - some of them not so good. A few makes have been approved by the Coast Guard, others have not. What are some bad points to look out for? "Well," ex-

(See "Watkins," Page 8)

Dave Watkins: 'Remember, you'll have clothes on under the suit,'

(Continued from Page 1)
plains Watkins, "To begin with size. A good sized man, let's say around six foot or over needs a jumbo, and too often they're sold a regular sized suit. A person has to remember that they'll have clothes on under the suit." Watkins explains further that a smaller person, a woman or child, needs a smaller suit. Too large of a suit allows excessive water leakage, and this can be fatal - fast.

Some suits are simply made of thicker material than others, especially around heat loss areas - suit thickness may range anywhere from 1/4 to 5/16th of an inch. And that is a marked difference when it comes to survival in frigid waters. Of course the thicker stouter suits cost more.

Another important aspect of survival suits is the rigging. "They should have a heavy zipper with a toggle that you can work with a mittened hand," warns Watkins. "If the zipper doesn't have a toggle on it, put one on. A zipper is of no use if you can't work it with a mittened hand."

Yet, a good survival suit must have a "high rider" on it - something that keeps the user's head out of the water. Lacking

survival suits are such seams rather than seams that are ONLY glued. Also, the palms of mittens and the soles of the feet must have material that'll make it possible to grip things and walk on slippery decks. In some of the newer models, each mitten can be unzipped for better dexterity.

Lastly, a survival suit should have a whistle and strobe light attached to the outside. At night, the strobe would make it possible for potential rescuers to see the user.

But, the last ingredient is by far the most important.

"My advice is to get into the suit under timed conditions," Watkins advises suit owners that this isn't easy if you have never actually been in a survival suit. In other words, if you have a survival suit and have never gotten into it and jumped in the water, DO IT!

EPIRBs are the next essential ingredient for survival. What is a good EPIRB? Basically, one that will work when you need it, and one that allows the user to activate it easily and quickly. Recent "Wayward Wind" survivors Debra Nielsen and Jay Rasmussen had an EPIRB with them during that horrible night of January 18, 1988. But like

aster, "At that time ships began meeting SOLA (Safety of Life At Sea) regulations."

In the cold water of Alaska, rafts face problem of heat retention and special ballasting for heavy seas. "Of course, early models had no canopy or ballast, and this is a no/no," said Watkins. "The Elliot (inflatable raft) became the first conventional inflatable emergency raft. It had little bags on the bottom for ballast and a drogue chute (sea anchor), plus a canopy."

But since the Elliot, inflatable raft technology has improved, especially the ballast systems - preventing the raft from tumbling in heavy seas. But in any event, all boats should have BOTH emergency rafts and survival suits. "The survival suit just prolongs the inevitable," explains Tom Walters. "Sooner or later, death will result from hypothermia or surface drowning."

Once in the raft, the shipwreck victim increases their chances immensely - especially if they are BOTH in a survival suit and in the raft. Both Watkins and Walters advise that manners must regularly check out their raft launching systems, both manual and automatic. Take nothing for granted.

Lastly is the matter of education - though it comes last in the overall four-part recipe for survival, it must be THE FIRST.

Both Watkins and Walters urge thorough educational program for survival in marine communities. Explains Walters, "There is a strange psychological trick regarding the way people deal with the possibility of mishaps and disasters. People think, 'Well, it can't happen to me. I'm good. I know what I'm doing.' But the fact is, it does. You've got to be ready for it."

Part of being a professional fisherman and mariner is having good survival equipment and

knowing how to maintain it, then training your crew how to deploy and use it.

In Kodiak, an informal committee has been formed to deal with factors of marine safety and survival. "We aren't far enough along to be Ad Hoc as yet," says Walters. This committee has come up with four preliminary opinions.

1) Every fishing vessel over a certain tonnage should have a life raft with an EPIRB. 2) Every person to have a survival suit with a strobe, float collar and personal EPIRB. 3) Every vessel equipped with a Class A EPIRB. 4) That the Governor appoint a task force for an education program, and a marine

survival research and development program.

Because of the advocacy of local concerned citizens, bills concerning marine survival have been introduced in the State House and Senate by Senator Zharoff and Representative Davidson. These bills address matters of compulsory equipment on Alaska fishing boats.

Survival must be the responsibility of each person who goes to sea. Survival suit an accident and it isn't something that must be eventually faced by someone else. Ships and boats are designed well, but mother nature can sometimes change that fast. Sometimes too fast.

Experience has demonstrated that you've got to be ready to survive.



FOR BETTER GRIP. The bottoms of this survival suit's feet are equipped with a heavy tread for better traction.

this, there's trouble. Even death. Rick Laws' experience in April of 1980 is a case in point for a durable and adequate high-rider. "The 27 hours I spent in the sea were a living hell. The tube that blows the flotation pillow (his suit's high-rider) came off in my hand. If I lay back my head would slip under the water."

Though Laws survived because he found a log to keep his head out of the water, too of his shipmates did not. One had a survival suit on, the other did not.

"The inflation valve for the high-rider," continued Watkins, "Absolutely must be manageable with a mittened hand. That's literally a life-saver."

Drowning in a survival suit is common. "The term for drowning in a survival suit is called surface drowning," said Tom Walters. "In heavy seas, mortality results from the person being tossed about inside the wave, much like being in a washing machine." Clearly, the high-rider device will help the user survive this tossing about in heavy seas.

Equally important is the high rider in the flap that covers the face. "When this flap is secured properly, it stops wind and there's water leakage," warns Dave Watkins.

Others point to work for in

others before them. Debra found that switching on the EPIRB with a hand enclosed in a bulky survival suit an agonizing, time-consuming problem. The account of that night should serve as a clear warning.

"Once in the water, Debra grabbed a line. She had water coming into her suit. As Jay held her, she tried desperately to find the switch on the locator device, but her hand would get numb and she would have to pull it back into her suit. After... an hour, she finally was able to find the switch and turn it on."

A recent controversy concerning personal and ship EPIRBs is now being investigated by Watkins and other interested members of the fishing community. Simply put, it's a matter of terminology. Some EPIRBs are being sold as WATERPROOF, but are really SPLASHPROOF. In other words, when submerged they leak and are rendered useless.

So, anyone buying an EPIRB should check it out clearly!

Now for emergency suits ahead braces and slugs.

"Many people are completely unfamiliar with the correct system on their emergency suits," said Watkins. He further explained that raft technology is made back to the "Titanic" dis-

5-1961B
Dierdorff
3/11/88

Original sponsors: Zharoff and Szymanski

1 IN THE SENATE

BY THE LABOR AND
COMMERCE COMMITTEE

2 CS FOR SENATE BILL NO. 455 (L&C)

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 FIFTEENTH LEGISLATURE - SECOND SESSION

5 A BILL

6 For an Act entitled: "An Act relating to safety equipment for commercial
7 fishing vessels; and providing for an effective
8 date."

9 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

10 * Section 1. AS 30 is amended by adding a new chapter to read:

11 CHAPTER 35. SAFETY STANDARDS FOR COMMERCIAL FISHING VESSELS.

12 Sec. 30.35.010. EXPOSURE SUITS. (a) A vessel subject to this
13 chapter must be equipped with a United States Coast Guard approved
14 exposure suit for each person on board the vessel. An exposure suit
15 that is not Coast Guard approved, but is in use on a vessel before
16 January 1, 1989, meets the requirements of this subsection if the
17 exposure suit is similar ^{OR IDENTICAL} in design, construction, and function to an
18 approved suit.

19 (b) An exposure suit required under (a) of this section must

20 (1) include an inflatable auxiliary means of buoyancy that
21 ^{MUST BE} is equipped with an inflation tube that meets the United States Coast
22 Guard construction requirements for inflation tubes when used as an
23 integral part of an exposure suit;

24 (2) have a T-handle zipper pull; and

25 (3) be equipped with a United States Coast Guard approved
26 flashing personal flotation device ^{STROBE} light.

27 Sec. 30.35.020. LIFE RAFTS. (a) A vessel subject to this
28 chapter that is larger than five net tons is required to be equipped
29 with a life raft capable of accommodating every person on board the

MUST BE GOOD STABILITY -
HYDRA ORIBAL LIGHT

CS SB 455 (L&C)

1 vessel.

2 (b) A life raft required under (a) of this section must be

3 (1) equipped with a Class A or Class B EPIRB that is ap-
4 proved by the United States Coast Guard for use in an inflatable life
5 raft;

6 (2) provided with the minimum equipment that is required by
7 the United States Coast Guard for use in all inflatable life rafts;
8 except as provided in (3) of this subsection, this paragraph does not
9 require the additional equipment that is required by the Coast Guard
10 for life rafts that are intended for use on ocean service or limited
11 service vessels; and

12 (3) equipped with signal devices required under the United
13 States Coast Guard equipment requirements for inflatable life rafts
14 intended for use on limited service vessels.

15 (c) In this section "life raft" means an inflatable life raft
16 that meets the type and size, design, and inspections and tests re-
17 quirements of the United States Coast Guard. A life raft required
18 under this section does not need to meet the Coast Guard requirements
19 for containment, rigid or fabric containers, or launching reinforce-
20 ment.

21 Sec. 30.35.030. CLASS A EPIRBS. (a) A vessel subject to this
22 chapter that is larger than five net tons is required to be equipped
23 with a Class A EPIRB.

24 (b) A Class A EPIRB required under (a) of this section must be
25 stowed in a readily accessible location in a manner that allows it to
26 float free if the vessel sinks.

27 Sec. 30.35.040. REQUIRED MAINTENANCE. Equipment required under
28 this chapter shall be operative and maintained in good and serviceable
29 condition.

1 Sec. 30.35.050. APPLICABILITY. This chapter applies to vessels
2 required to be licensed under AS 16.05.490 except for a vessel used in
3 charter service for the recreational taking of fish and shellfish.

4 Sec. 30.35.060. ENFORCEMENT. The Department of Public Safety
5 and the Department of Fish and Game shall cooperatively enforce this
6 chapter and may adopt regulations under the Administrative Procedure
7 Act (AS 44.62) for that purpose. The departments may enter into
8 agreements with the United States Coast Guard, the National Marine
9 Fisheries Service, or the United States Fish and Wildlife Service to
10 assist in the enforcement of this chapter.

11 Sec. 30.35.090. PENALTY. A person who violates this chapter is
12 guilty of a class B misdemeanor.

13 Sec. 30.35.095. DEFINITION OF EPIRB. In this chapter "EPIRB"
14 means an emergency position indicating radiobeacon that has been type
15 accepted or type approved by the Federal Communications Commission and
16 that is also approved by the United States Coast Guard.

17 * Sec. 2. ^{INVESTIGATION COMMISSION} ~~ADVISORY COUNCIL~~ ESTABLISHED; REPORT. (a) There is estab-
18 lished in the Office of the Governor the Fishing Vessel Safety ^{INVESTIGATION} ~~Advisory~~
19 ^{COMMISSION} Council. The council consists of at least seven members appointed by the
20 governor. Members must be knowledgeable and experienced in the areas of
21 commercial fishing vessels or vessel safety and life-saving ^{METHODS} methods and
22 systems. At least one member shall represent each of the following:

- 23 (1) the commercial fishing industry;
- 24 (2) fishermen's associations;
- 25 (3) the safety equipment industry, which includes businesses
26 manufacturing, supplying, or servicing marine safety and life-saving equip-
27 ment;
- 28 (4) the marine insurance industry;
- 29 (5) education; and

1 (6) the United States Coast Guard.

2 (b) Council members are entitled to per diem and travel expenses
3 authorized for boards and commissions under AS 39.20.180.

4 (c) The purpose of the council is to suggest, review, and recommend
5 legislation, regulations, and guidelines that address safety equipment
6 requirements and educational programs that contribute to the successful
7 application of safety and life-saving equipment on commercial fishing
8 vessels.

9 (d) The council shall consider and review proposals relating to the
10 development and implementation of educational programs at the high school
11 and community college level to increase the level of awareness among par-
12 ticipants and potential participants in the commercial fishing industry
13 with respect to the necessity, application, and use of safety and life-sav-
14 ing equipment on commercial fishing vessels. The council shall evaluate
15 *ENCOURAGE THE INVOLVEMENT OF* the utility of involving fishermen's associations, processor associations,
16 or other trade associations or industry groups in the implementation of
17 proposed educational programs. The council shall also consider guidelines
18 and requirements relating to the maintenance, servicing, and upgrading of
19 safety and life-saving equipment and recommend a permanent method for the
20 state to evaluate current and future needs relating to legislation, regula-
21 tions, and guidelines for commercial fishing vessel safety.

22 (e) The council shall report its recommendations to the governor and
23 the legislature by January 15, ¹⁹⁸⁹ 1991.

24 (f) The council is terminated January 16, ¹⁹⁸⁹ 1991.

25 (g) In this section "council" means the Fishing Vessel Safety Advi-
26 sory Council established under (a) of this section.

27 * Sec. 3. AS 30.35.010(b)(3), 30.35.020, and 30.35.030, added by sec. 1
28 of this Act, take effect January 1, 1990.

29 * Sec. 4. Except as provided in sec. 3 of this Act, this Act takes

LANGUAGE FOR

① COMMISSION TO
ESTABLISH
WORK AT A SAFETY

EQUIPMENT STANDARDS

② COMMISSION TO LOOK AT
WNO TEAM ADVISORY GROUP
ON VESSEL SAFETY

1 effect January 1, 1989.

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STATE OF ALASKA
THE LEGISLATURE

POUCH Y STATE CAPITOL
JUNEAU ALASKA 99811
907-465-3800

LEGISLATIVE AFFAIRS AGENCY

MEMORANDUM

March 15, 1988

SUBJECT: Federal Preemption (CSSB 455 (L&C))
TO: Senator Fred Zharoff
FROM: David R. Dierdorff 
Revisor of Statutes

You have asked whether enactment by Congress of the latest version of H.R. 1841 would preempt the state's safety standards for fishing vessels, assuming that CSHB 455 (L&C) became law.

Because the enactment of CSSB 455 (L&C) is a proper exercise of the state's police power, to the extent that it neither conflicts with or interferes with the enforcement of the federal law, it is not preempted by the federal enactment. The state's power to protect and promote safety on matters properly within its jurisdiction can not be taken away by federal legislation. See generally, 81A C.J.S. States sec. 25. Both federal and state law relating to safety on fishing vessels should be given effect, and only where they conflict would the federal law supersede the state's.

I have reviewed the February 24, 1988, mark-up of H.R. 1841. In the first instance, the federal law would not apply to certain vessels, depending upon their usage, their size, the crew size, the area of operation, and future regulations adopted by the Secretary of the Treasury. To the extent that federal law does not apply to those vessels, state law applicable to the vessels is not preempted. Even assuming that the federal law could preempt a valid exercise of the state's police power, it is my opinion that preemption with respect to those vessels would require an express statement in the federal law that the state may not impose safety requirements on vessels exempted under the federal law. Recall the situation in Baranof, in which the federal law gave authority for federal regulation, but the federal regulatory agency had not exercised that authority. Because the court

Senator Fred Zharoff

Page 2

March 15, 1988

ruled that the FCMA scenario did not amount to preemption, it should be clear that the proposed safety standards would not be preempted with respect to vessels exempt from the federal safety law as currently proposed.

With respect to vessels that would be subject to the federal law, the federal law imposes fewer (and quite different) requirements on certain vessels, and more stringent requirements on others. There is no language expressly declaring that a state may not impose identical (or more stringent) requirements on vessels under its jurisdiction. However, as discussed in my memo to Representative Davidson, it is not necessary for preemption to be express - it may be inferred from the enactment of a comprehensive regulatory scheme that demonstrates an intent to occupy the field. The question then is whether H.R. 1841 is such a comprehensive scheme.

It appears that the minimum requirements set out in sec. 4502(a) merely reenact existing federal law (see 46 U.S.C. 4102) that applies to uninspected vessels, relating to fire extinguishers, p.f.d.'s, distress signals, etc. There are no conflicts between the requirements of CSSB 455 (L&C) and this part of the federal law, although the state law imposes additional requirements. The additional state requirements reflect the state's legitimate interest in safety requirements suited to the state's unique conditions. I believe a court would most likely hold that a fishing vessel covered by sec. 4502(a) and CSSB 455 (L&C) would have to comply with both laws.

The additional federal requirements set out in sec. 4502(b) and (c) for certain vessels are more comprehensive than those under CSSB 455 (L&C). To the extent that federal and state laws require the same equipment, there are some differences in specifics (for example, the federal law requires only EPIRBS, while state law requires Class A's for certain vessels and Class A or B's for life rafts; state law exempts life rafts from certain Coast Guard standards that may well be incorporated under federal law). It is clear that a vessel complying with the federal law would also comply with the state law (with the possible exception of EPIRBS), but a vessel complying with state law would not meet all of the federal requirements. In any event, where both federal and state law address the same subject, federal law prevails. Thus, the state's laws would be preempted by the federal law as to those vessels subject to sec. 4502(b)

Senator Fred Zharoff

Page 3

March 15, 1988

and (c) to the extent that they acquire the same equipment, or conflict.

You have also asked for my general comments on the interaction between state and federal law and the potential for problems for the commercial fishing fleet. The only potential problem is one that the preemption doctrine solves. That is, with respect to a category of equipment required by both state and federal law for the same vessel, but for which equipment different specifications are required under the respective laws, the federal law would govern. That may create some confusion for vessel operators. The confusion could be minimized by providing in CSSB 455 (L&C) that compliance with applicable federal law requiring the same equipment on a vessel exempts the vessel from the requirements of state law as to that equipment.

One final comment. I noted when reviewing the federal legislation that we may have overlooked a necessary ingredient in CSSB 455 (L&C). Although we do impose a duty, and provide for a penalty, we don't address the question of responsibility. Perhaps you should consider an amendment that would make the vessel operator and/or owner responsible for compliance. Compare secs. 4504 and 4507(a) of H.R. 1841.

If I can be of further assistance, please advise.

DRD:bb

b4/015

BILL NO: CSSB 455 (L&C)
(3/11/88 Work Draft)

DATE: 3/18/88

TITLE: Safety equipment for
commercial fishing
vessels

CONTACT: Lt. Bill Valentine
Fish & Wildlife Protection
789-2161

DEPARTMENT OF
PUBLIC SAFETY

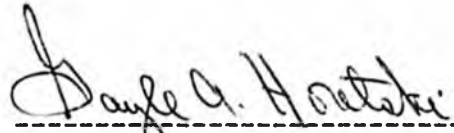
This bill adds a new chapter to AS 30 to require certain safety equipment on some commercial fishing vessels. The Department supports this bill, because the increased availability of safety equipment on these vessels should help to save lives in an emergency.

The Department recommends that the following amendments be made to the 3/11/88 work draft of CSSB 455 (L&C):

- Page 1, line 28. Delete "larger than five net tons" and substitute "32 feet or more in overall length".
- Page 2, line 21. Add a new subsection to read:
 "(d) For the purposes of this section "overall length" means the straight-line measurement between the extremities of the vessel, but does not include rollers used in the deployment or retrieval of nets or anchors."
- Page 2, line 22. Delete "larger than five net tons" and substitute "32 feet or more in overall length".
- Page 2, line 27. Add a new subsection to read:
 "(c) For the purposes of this section "overall length" means the straight-line measurement between the extremities of the vessel, but does not include rollers used in the deployment or retrieval of nets or anchors."
- Page 3, lines 2 & 3. Place a period after "AS 16.05.490" and delete the rest of the sentence.
- Page 3, lines 4-7. Delete first sentence of section and insert:
 "The Department of Fish and Game may adopt regulations under the Administrative Procedure Act (AS 44.62) to implement this chapter. The Department of Fish and Game and the Department of Public Safety shall cooperatively enforce this chapter and the regulations adopted under it."
- Page 3, line 11. Change language to read: "A person who, with criminal negligence, violates this chapter is".
- The bill as presently drafted places the new safety equipment requirements in AS 30. The Department suggests that they instead be placed in AS 16, where other provisions relating to commercial fishing vessels are located.

Position Paper, CSSB 455 (L&C)
Department of Public Safety

The changes suggested above will strengthen the Department's ability to enforce the safety requirements included in the bill.



for Arthur English
Commissioner

FISCAL NOTE

REQUEST: _____

Revision Date: _____ Agency Affected: Public Safety
 Title: "An act relating to safety equipment for commercial fishing vessels..." BRU: Fish & Wildlife Protection
 Sponsor: Zharoff and Symanski Components: Marine Enforcement
 Requestor: Senate Labor & Commerce Enforcement

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS						
OTHER						
TOTAL	0	0	0	0	0	0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME						
TEMPORARY						

ANALYSIS : (Attach a separate page if necessary)

No fiscal impact is anticipated.

Prepared by: Captain Conrad G. Seibel Phone: 269-5509
 Division: Fish & Wildlife Protection Date: 2/24/88
 Approved by Commissioner: S. Hoetski, Dep. Comm. Date: 3-14-88
 Agency: Department of Public Safety

Distribution (by preparer):

- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)

FISCAL NOTE

REQUEST: -

Revision Date: _____ Agency Affected: Public Safety
Title: "An act relating to safety equipment for commercial fishing vessels..." BRU: Fish & Wildlife Protection
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EXPENDITURES/REVENUES: (Thousands of Dollars)

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EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS						
OTHER						
TOTAL	0	0	0	0	0	0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME						
TEMPORARY						

ANALYSIS : (Attach a separate page if necessary)

No fiscal impact is anticipated.

Prepared by: Captain Conrad G. Seibel Phone: 269-5509
Division: Fish & Wildlife Protection Date: 2/24/88
Approved by Commissioner: S. Hoelski, Dep. Comm. Date: 3-14-88
Agency: Department of Public Safety

Distribution (by preparer):

- Legislative Finance
- Legislative Sponsor
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- Office of Management and Budget
- Impacted Agency(ies)



SENATOR FRED F. ZHAROFF
ALASKA STATE LEGISLATURE

P.O. BOX 405, KODIAK, ALASKA 99615 (907) 486-6259

DURING SESSION:

P.O. BOX V, JUNEAU, ALASKA 99811 • (907) 465-3473 • 465-3474

DISTRICT N

ALASKA PENINSULA • ALEUTIAN CHAIN • BRISTOL BAY • KODIAK ISLAND • LAKE CLARK/LAKE ILIAMNA • PRIPILOF ISLANDS • SHUMAGIN ISLANDS

MEMORANDUM

TO: Senator Tim Kelly
Chairman
Senate Labor and Commerce Committee

FROM: Senator Fred F. Zharoff *F. Zharoff*

DATE: March 2, 1988

RE: Bills in committee

I respectfully request that the following bills, now pending in the Senate Labor and Commerce Committee, be scheduled for hearings at your earliest convenience.

Senate Bill 433 - "An Act relating to fisheries business tax credits; and providing for an effective date."

Senate Bill 454 - "An Act relating to the allocation of fisheries business taxes to municipalities by the Department of Community and Regional Affairs; and providing for an effective date."
Not in committee

Senate Bill 455 - "An Act relating to safety equipment for commercial fishing vessels; and providing for an effective date."

For background information on the above bills, please contact Mr. Karl Ohls in my office, 465-4972.

I wish to specifically request that SB 454 be scheduled, if possible, for a hearing on March 18. A delegation from the City of Dillingham will be in Juneau March 17-18, and they would like to attend and testify at the hearing on SB 454. The bill has a direct impact on the city.

In addition, I wish to request that my staff be allowed to work with your staff to prepare a committee substitute for SB 455. The bill was prepared at the request of a grass roots movement in Kodiak that is concerned about safety standards in the commercial fishing industry. Since SB 455 was introduced, the people involved have held more meetings and have discussed the proposed standards with equipment manufacturers and the Coast Guard. They have provided me with proposed language for a series of amendments that would enable the bill to better meet the actual needs of the fishing industry. A committee substitute would be the cleanest way to incorporate this new information.

Thank you for your consideration.



Alaska State Legislature

Senator Mike Szymanski

While in Session:
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165 E. Parks Hwy.
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(907) 376-MIKE

MEMORANDUM

To: George Utermohle; Drafter, SB 487
Legislative Legal Services

Via: Senator Tim Kelly
Senate Labor & Commerce Committee

From: Senator Mike Szymanski *MS*

Date: March 18, 1988

Subject: Proposed new Senate L & C CS for SB 487

I would like to request a draft CS drawn up for Senate L & C Committee, with the approval of Senate L & C. In the interests of time (since SB 487 will be heard in Senate L&C Committee at 3:30 on Monday, March 21), I am submitting this memo directly to you with the approval of Senate Labor and Commerce. The proposed changes are based on the 3/17 version of the House L&C CS for HB 472 which passed out of House Labor and Commerce Committee on 3/18. If you have any further questions, please contact my aide, Roger Poppe.

PROPOSED CS SB 487

A) Please delete all language in the proposed Senate L&C CS for SB 487 that exists in the 3/18 version, and replace it with the language of the current House L&C CS for HB 472 (3/17 version)

B) page 5, line 22. Insert after 'revoked or suspended, may be renewed,' the following language: "on a date set by the department" 'upon proof of continued competency.'

(NOTE: I understand that the actual period of time the license is valid for is covered in generic language at the beginning of this part of the statutes, but it does make it clear that the Department has the authority to specify the period of time the licensing covers. Phrase was taken directly from the statutes covering electrical administrators, see AS 08.40.135).

C) page 9, lines 10-24 through page 10 lines 1-8. Delete and replace with the following:

Section 08.40.390. Exclusions. (a) AS 108.40.210-.0840.490 do not apply to a utility or municipality whose employees are

engaged in mechanical work on an integral part of a system owned and operated by that utility or municipality.

(NOTE: The language in the 3/17 version appears to have been borrowed from AS 08.40.190 and elsewhere. I am nervous that we are getting too specific here by detailing electrical and fuel gas utility problems. Since it is already spelled out for electrical people in AS 08.40.190, I would rather see the current language simplified as much as possible. The language suggested above, or a close approximation to it, has been read and approved by the head of the Mechanical Contractors of Fairbanks. He feels it accomplishes what he was trying to say originally, though he indicated he would be happy with either the old version or this new version. Basically, we are assuming that either version specifically means that any contracting work done by a utility or municipality that relates to mechanical work on an integral system will be covered by the bill, which is what we want. There is a lot of conflict in this area right now with some utilities submitting bids on contracts not immediately germane to their systems, and intruding on the prerogatives of the electricians, etc.)

D) page 12, line 8. Insert a new section 12 and renumber the subsequent sections.. New section will read:

Section 12. Upon application to the Board (Department?), persons who have functioned in the state in a mechanical administrator capacity may request exemption from part or all of the mechanical administrator's licensing and/or examination. Exemption may be granted if the following requirements are met:

a) The person has operated in Alaska in one of the mechanical administrator categories established by Board (Department) regulations for at least the two years prior to the effective date of this act, and

b) The person meets the minimum additional qualifications for licensing as established by the Board (Department?) through regulation.

(NOTE: I don't know if authority for this should be given to the Board or the Department, whatever is appropriate. Basically, we are trying allow grandfathering in for those people who have already been functioning in the state for at least two years, because they have already had direct experience with the unique mechanical contracting aspects of operating in a northern environment. Reciprocity with other states is covered on page 5 under the examination of the applicant so that all requirements could be waived except those relating to the peculiarities of the trade relating to Alaska.

It will be up to the Board to determine what constitutes two years of experience in Alaska thru regulation. The person may have functioned in a particular category for two

years, but if he only did two jobs, is that the same as having done 20 jobs? The regs will establish this and other criteria.

A related problem here is that the Board is planning on having 7 different categories of mechanical administrators (electrical administrators have four categories). Determination of the categories, how many there are, the requirements for each, etc., is assumed to be done by the Department through regulation. I gather this does not have to be stated directly in the statute, as long as the Department has the regulatory authority to do so. If the proposed bill or CS or other statutes do not currently allow this, could you include language on it in an appropriate place?

Also tied into this, the actual license will list which of the 7 categories the person is eligible to operate and practice in; some may be eligible for three or four categories. The proposed two-year requirement for actual operating experience in the state should apply to each category separately, so that just because a person has 2 years experience in one category doesn't make him eligible in another category. However, the experience can be in several categories simultaneously, not serially. Again, I assume that can be left to Board regulation.

I am assuming that the language of b) above does give authority to the Board to develop all regulations deemed necessary for minimum requirements to be met in order to be licensed. The mechanical contractors are already thinking about regulations that would include licensing based on experience of either a managerial or practical nature, on basic and continuing education, etc. similar to those required under regulation for the electrical administrators).

E) page 10, lines 18-19. I am awaiting a propose language change that would delete these two lines and substitute other language. As soon as that material arrives, I will deliver it to you. Hopefully we can get this in the proposed Senate L&C CS for SB 487 before the Senate L&C hearing on Monday afternoon at 3:30 pm.

§ 160.071-3 Applicable regulations and standards incorporated by reference.

(a) This subpart makes reference to the following Coast Guard regulations:

(1) Subpart 161.012 of this chapter (Personal Flotation Device Lights).

(2) Subpart 164.018 of this chapter (Retro-reflective Material for Livesaving Equipment).

(b) The following standards of the American Society for Testing and Materials are incorporated by reference into this subpart:

(1) ASTM B 117-73 (Reapproved 1970), Standard Method of Salt Spray (Fog) Testing.

(2) ASTM C 177-76, Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Guarded Hot Plate.

(3) ASTM C 518-76, Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter.

(4) ASTM D 1004-86 (Reapproved 1978), Tear Resistance of Plastic Film and Sheeting.

(c) The following Federal Standards are incorporated by reference into this subpart:

(1) Federal Test method Standard No. 191a dated July 20, 1978, Method 5304.1, Abrasion Resistance of Cloth; Oscillatory Cylinder (Wyzenbeek) Method, dated July 9, 1971.

(2) Federal Standard No. 751a, Stitches, Seams, and Stitchings, dated January 25, 1965.

(d) Underwriters Laboratories Standard UL 1191, FIRST EDITION (Standard for Components for Personal Flotation Devices), as revised March 20, 1977, has been incorporated by reference into this subpart.

(e) The standards listed in paragraphs (b), (c), and (d) of this section may be obtained as follows:

(1) ASTM standards may be purchased from the American Society for Testing and Materials, 1916 Race St. Philadelphia, PA 19103.

(2) The Federal Standards may be purchased from Customer Service, Naval Publications Forms Center, 5801 Labor Avenue, Philadelphia, PA 19120.

(3) The UL Standard may be purchased from Underwriters Laborato-

ries, 2606 Tampa East Blvd., Tampa, FL 33619.

(f) The documents listed in this section are also on file in the Federal REGISTER library.

(g) When changes are made to a standard incorporated by reference into this subpart, the effective date for its use will be the effective date by the issuing authority unless otherwise determined by the Coast Guard.

(h) Notice will be published in the FEDERAL REGISTER of any change made to a standard incorporated by reference into this subpart.

(i) Approval to incorporate by reference the materials listed in this section was obtained from the Director of the FEDERAL REGISTER on November 13, 1979.

§ 160.071-5 Independent laboratory.

(a) The approval and production tests in this subpart must be conducted by an independent laboratory accepted by the Coast Guard under Subpart 159.010 of this chapter.

§ 160.071-7 Approval procedure.

(a) *General.* An exposure suit is approved by the Coast Guard under the procedures in Subpart 159.005 of this chapter.

(b) *Approval testing.* Each approval test must be conducted in accordance with § 160.071-17 or § 160.071-19.

(c) *Approval of child size and oversize adult suits.* No child size or oversize adult sized suit will be approved unless the adult size of the suit has been approved.

(46 U.S.C. 3308(c), 46 U.S.C. 4102(b), 49 CFR 1.46)

[CGD 76-033a, 45 FR 24478, Apr. 10, 1980, as amended by CGD 82-075a, 49 FR 486, Feb. 7, 1984]

§ 160.071-9 Construction.

(a) *General.* Each exposure suit must be constructed primarily of a closed-cell flexible foam that meets the buoyancy and thermal insulation requirements in § 160.071-11 (a) and (c). Each suit must be designed to cover the wearer's entire body, except for the area of the nose and eyes.

(b) *Impact resistance and body strength.* The body of each adult size

must be designed so that it is not damaged when tested as prescribed in § 160.071-17 (c)(11) and 17(1). The body of each child size suit must be designed so that it is not damaged when tested as prescribed in § 160.071-19(c).

(c) *Seams.* Stitching used in each structural seam of an exposure suit must be lock type stitching that meets the requirements in Federal Standard No. 751a for one of the following:

(1) Class 300 Lockstitch.

(2) Class 400 Multithread chain stitch.

(3) Class 700 Single thread lockstitch.

(d) *Seam strength.* Each seam must have a strength of at least 225 N(50 lb.).

(e) *Closures and seals.* Each closure and seal must be designed so that the suit can meet the water penetration requirements of § 160.071-11(f).

(f) *Hardware.* All hardware of an exposure suit must be of a size and design that allows ease of operation by the wearer. The hardware must be attached to the suit in a manner that allows the wearer to operate it easily and that prevents it from attaining a position in which it can be operated improperly.

(g) *Metal parts.* Each metal part of an exposure suit must be—

(1) 410 stainless steel or have salt water and salt air corrosion characteristics equal or superior to 410 stainless steel; and

(2) Galvanically compatible with each other metal part in contact with it.

(h) *Suit exterior.* The primary color of the exterior surface of each suit must be international orange. The exterior surface of the suit must not tear or abrade when tested as prescribed in § 160.071-17 (n) and (o).

(i) *Buoyant materials and compartments.* Buoyant materials used in a suit must not be loose or granular. The suit must not have an inflated or inflatable chamber, except as prescribed in § 160.071-11(a)(2).

(j) *Hand and arm construction.* The hand of each suit must be a glove that allows sufficient dexterity for the wearer to pick up a 9.5 mm (3/8 in.) diameter wooden pencil from a table and write with it. The glove may not be re-

moveable unless it is attached to the arm and unless it can be secured to the arm or stowed in a pocket on the arm when not in use. A removeable glove must be designed so that only a small amount of water can enter the glove during use. Each arm with a removeable glove must have a wristlet seal that meets paragraph (e) of this section.

(k) *Leg construction.* Each suit must be designed to prevent air from becoming trapped in its legs when the wearer enters the water headfirst.

(l) *Foot construction.* Each leg of a suit must have a foot that has a hard sole or enough room for a work shoe to be worn inside. The sole of each foot must be—

(1) Natural or synthetic rubber that is ribbed or bossed for skid resistance; and

(2) Designed to prevent the wearer from slipping when the suit is tested as prescribed in § 160.071-17(c)(5).

(m) *Size.* Each adult suit must fit persons ranging in weight from 50 kg (110 lb.) to 150 kg (330 lb.) and in height from 1.5 m (59 in.) to 1.9 m (75 in.). Each child size suit must fit children ranging in weight from 20 kg (44 lb.) to 50 kg (110 lb.) and in height from 1.0 m (39 in.) to 1.5 m (59 in.). An oversize adult suit is intended for persons too large for the standard adult suit. Each suit must be capable of being worn comfortably over clothing and must not restrict the wearer's motion. The suit size and design must allow successful completion of the mobility tests prescribed in §§ 160.071-17 (c)(2) through (c)(7).

(n) *Retroreflective material.* Each exposure suit must be fitted with Type I retroreflective material that meets subpart 164.018 of this chapter. When the wearer of an exposure suit is in the face-up, stable floating position described in § 160.071-11(a)(2), at least 200 cm² (31 sq. in.) of the material must be visible above water to observers at water level directly in front of the wearer.

(o) *PFD light.* Each exposure suit must be designed so that a light meeting the requirements of Subpart 161.012 of this chapter can be attached to its front shoulder area and so that the light when attached does

TABLE 1—Accept and Reject Criteria for Operational Test Lots

Lot size	Individual sample size	Sample	Cumulative sample size	Accept ¹	Reject
260 or less	8	First	8	(1)	4
		Second	16	1	5
		Third	24	2	6
		Fourth	32	3	7
		Fifth	40	5	8
		Sixth	48	7	9
		Seventh	56	9	10
281 to 500	13	First	13	(1)	4
		Second	26	1	6
		Third	39	3	8
		Fourth	52	5	10
		Fifth	65	7	11
		Sixth	78	10	12
		Seventh	91	13	14
501 to 1,700	20	First	20	(1)	5
		Second	40	3	6
		Third	60	6	10
		Fourth	80	8	13
		Fifth	100	11	15
		Sixth	120	14	17
		Seventh	140	18	19
1,201 to 3,200	32	First	32	1	7
		Second	64	4	10
		Third	96	8	13
		Fourth	128	12	17
		Fifth	160	17	20
		Sixth	192	21	23
		Seventh	224	25	26
More than 3,200	50	First	50	2	9
		Second	100	7	14
		Third	150	13	19
		Fourth	200	19	25
		Fifth	250	25	29
		Sixth	300	31	33
		Seventh	350	37	38

¹ Cumulative number of failures.
² Lot may not be accepted. Next sample must be tested.

§ 160.066-13 Technical tests.

(a) The following conditions apply to technical tests as described in this section:

(1) A total of nine signals must be selected at random from the lot being tested;

(2) If the signals are protected by sealed packaging, then the conditioning for the technical tests must be conducted with the signal in the sealed packaging;

(3) If signals in the test sample fail to pass one of the technical tests, the entire lot is rejected;

(4) Signals from "reject lots" may be reworked by the manufacturer to correct the deficiency for which they were rejected and be resubmitted for inspection. Records shall be kept of the reasons for rejection, the rework-

ing performed on the "reject lot", and the result of the second test. Signals from "reject lots" may not, unless subsequently accepted, be sold or offered for sale as being in compliance with this specification.

(b) The Elevated Temperature, Humidity, and Storage Test must be conducted in the following manner:

(1) Select three signals from nine;

(2) Place each signal in a thermostatically controlled even-temperature oven held at 55 Degrees C (131 Degrees F), and at not less than 90% relative humidity, for at least 72 hours (for any reason it is not possible to operate the oven continuously for the 72 hour period, it may be operated at the required temperature and humidity for 8 hours of each 24 during the 72 hour conditioning period.);

(3) After removal from the oven immediately place each signal in a chamber:

(i) At a temperature of at least 25 degrees C (68 degrees F) but not more than 25 degrees C (77 degrees F);

(ii) At not less than 65% relative humidity;

(iii) For ten days;

(4) Then remove each signal from any sealed packaging and fire it.

(5) The test sample fails the test if:

(i) Any signal ignites or decomposes before firing;

(ii) Any signal when fired malfunctions in a manner that would cause burns or injury to an unprotected person firing the signal, or;

(iii) Two or more of the signals fail to project and ignite the pyrotechnic candle.

(c) The Spontaneous Combustion Test must be performed in the following manner:

(1) Select three signals from the remaining six signals and place them in a thermostatically controlled even temperature oven for 48 hours at a temperature of 75 degrees C (167 degrees F).

(2) The test sample fails the test if any signal ignites or decomposes during the test.

(d) The Luminous Intensity and Chromaticity Test must be performed in the following manner:

(1) Remove the pyrotechnic candle and the remaining three signals.

(2) Ignite, measure, and record the intensity of the burning candle with a photometer or equivalent photometric device or automatic recorder;

(3) While the specimen is supported in a horizontal position and the photometer is at right angles to the axis of the specimen,

(i) At a distance of at least 3 m (10 ft);

(ii) Calculate the Intensity of the candle as in § 160.066-7(c).

(4) Measure and record the chromaticity of the burning candle as specified in § 160.021-4(d)(4).

(5) The test sample fails the test if more than one signal has a luminous intensity of less than 10,000 candela, or more than one signal is not "vivid red".

§ 160.066-15 Production testing.

(a) Production tests must be performed under the procedures in Subpart 159.007 of this chapter.

(b) The operational tests in § 160.066-12 must be performed for every lot of signals produced.

(c) The technical tests in § 160.066-13 must be performed at least once every twelve months, or at least once every 10 lots, whichever occurs first.

(d) If a lot is rejected on the basis of the technical tests, then each subsequent lot produced must be tested according to the technical tests until samples from a lot pass these tests.

(e) An independent laboratory acceptable to the Commandant must perform or directly supervise:

(1) Each technical test, and

(2) All operational tests for at least four lots in a 12 month period, unless fewer than four lots are produced in a 12 month period. If less than four lots are produced in a 12 month period, each operational test must be performed or directly supervised by the independent laboratory.

(f) If a lot selected by the independent laboratory for an operational test is rejected, then the operational tests for the next lot produced, and the rejected lot, if reworked, must be performed or directly supervised by the independent laboratory. The tests required by this paragraph must not be

counted for the purpose of meeting the requirements of paragraph (e).

(g) The independent laboratory selects the lots upon which technical tests are performed.

(h) If the manufacturer produces more than four lots within a 12 month period, the independent laboratory selects the lots for which it performs or directly supervises the operational tests.

(i) The operational test performed or directly supervised by the independent laboratory must occur at least once during each quarterly period, unless no lots are produced during that period.

(j) The independent laboratory, when it performs or directly supervises the technical tests required by paragraph (c) or (d) of this section, must inspect the signals selected for testing and compare them with the approved plans. Each signal inspected must conform to the plans.

§ 160.066-18 Recognized independent laboratories.

(a) The following are independent laboratories acceptable to the Commandant for approval and production testing under this subpart:

(b) Revised copies of this list may be obtained from Commandant (G-MV1), U.S. Coast Guard, Washington, D.C. 20593.

(14 U.S.C. 632; 46 U.S.C. 369, 375, and 416; 49 U.S.C. 1855(b); 49 CFR 1.46(b))
 (CGD 76-183a, 44 FR 73050, Dec. 17, 1979, as amended by CGD 82-083b, 48 FR 4782, Feb. 3, 1983)

Subpart 160.071—Exposure Suits

AUTHORITY: 46 U.S.C. 375, 391a, 416, and 481; 49 U.S.C. 1855(b); 49 CFR 1.46.

SOURCE: CGD 76-033a, 45 FR 24478, Apr. 10, 1980, unless otherwise noted.

§ 160.071-1 Scope.

This subpart contains construction and performance requirements, and approval tests for adult and child exposure suits that are designed to prevent shock upon entering cold water and lessen the effect of hypothermia (body heat loss during long periods of immersion).

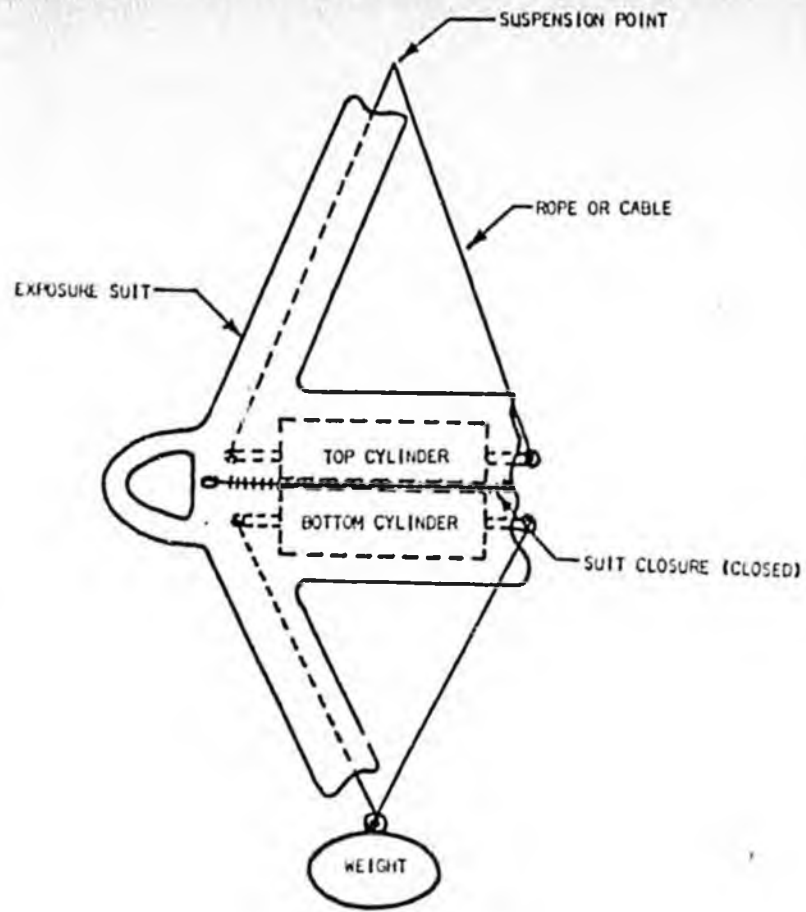


Figure 160.071-17(1)(1). Body strength test apparatus.

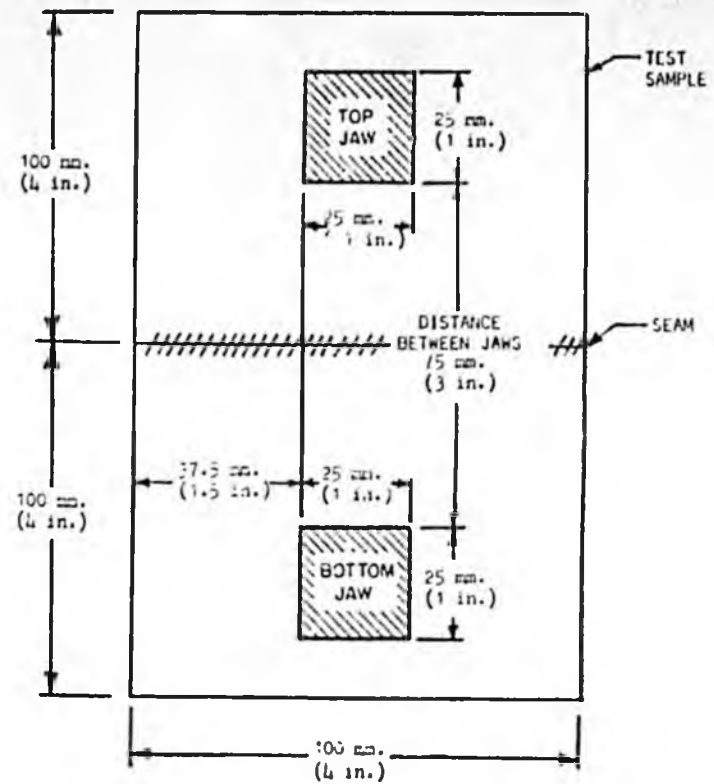


Figure 160.071-17(m)(3).

Method of mounting sample for seam strength test.

§ 160.071-23 Marking.

(a) Each suit must be marked with the name of the manufacturer, the date of manufacture, the model, the size, and the Coast Guard approval number.

(b) Each storage case must be marked with the words "exposure suit" and the size.

(c) The markings for the child size exposure suits required under paragraphs (a) and (b) of this section must also include the following statements in print smaller than the word "Child": "(Small Adult Under 50 kg (110 lb.))", and "Children. Require Adult Assistance for Donning and Use."

(d) If an auxiliary means of buoyancy is removable and is needed to meet § 160.071-11(a)(2), the marking on the suit must indicate that the suit is not considered Coast Guard approved unless the auxiliary means of buoyancy is attached.

(46 U.S.C. 3308(a), 46 U.S.C. 4102(b); 49 CFR 1.46)
[CGD 78-033a, 45 FR 24478, Apr. 18, 1980, as amended by CGD 82-075a, 49 FR 4487, Feb. 7, 1984]

§ 160.071-25 Production testing.

(a) Exposure suit production testing is conducted under the procedures in this section and Subpart 159.007 of this chapter.

(b) One out of every 100 exposure suits produced must be tested as prescribed in § 160.071-17(g) and must be given a complete visual examination.

The suit must be selected at random from a production lot of 100 suits and tested by or under the supervision of the independent laboratory. A suit fails this test if:

(1) The measured buoyancy of the suit differs by more than 10% from the measured buoyancy of the suit tested for approval.

(2) The adjusted buoyancy of the suit calculated using the buoyancy loss factor determined during approval testing, is less than that required in § 160.071-11(a)(1), or

(3) The visual examination shows that the suit does not conform to the approved design.

(c) If the suit fails to pass the test as prescribed in paragraph (b)(1) or (b)(2) of this section, 10 additional suits from the same lot must be selected at random and subjected to the test. If a defect in the suit is detected upon visual examination, 10 additional suits from the same lot must be selected at random and examined for the defect.

(d) If one or more of the 10 suits fails to pass the test or examination, each suit in the lot must be tested or examined for the defect for which the lot was rejected. Only suits that pass the test or that are free of defects may be sold as Coast Guard approved.

(e) The manufacturer must ensure that the quality control procedure described in the test plans previously submitted for approval under § 160.071-7 (f) and (g) is followed.

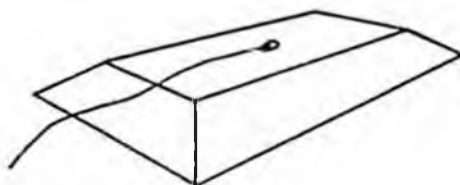


Figure 160.071(e)(1)(i). Water can for insulation test shown with thermistor lead.

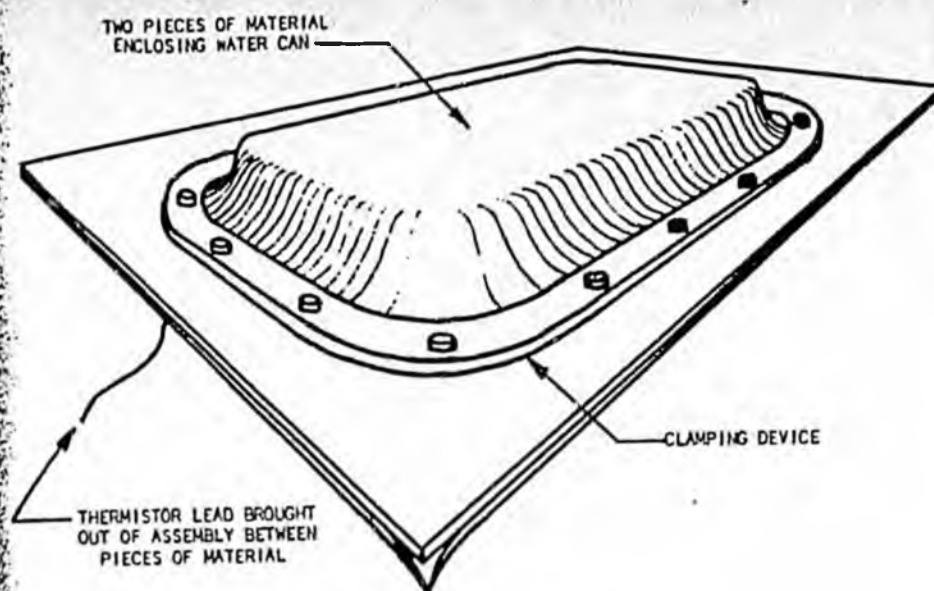


Figure 160.071-17(e)(1)(v). Insulation test assembly.

buoyancy as described in paragraph (h) of this section.

(h) *Adjusted buoyancy.* The adjusted buoyancy of a suit is its measured buoyancy reduced by the percentage buoyancy loss factor of the buoyant suit material. The percentage buoyancy loss factor is part of the buoyancy rating code determined in accordance with UL 1191, except that the minimum number of samples required to determine each property is 10 instead of 75.

(i) *Suit flame exposure.* The suit's resistance to flame must be tested under the following conditions and procedures:

(1) *Test equipment.* The following equipment is required for this test:

(i) A metal pan that is at least 300 mm (12 in.) wide, 450 mm (18 in.) long, and 60 mm (2½ in.) deep. The pan must have at least 12 mm (½ in.) of water on the bottom with approximately 40 mm (1½ in.) of gasoline floating on top of the water.

(ii) An arrangement to hold the suit over the gasoline.

(2) *Test procedure.* A suit is held from its top by the holding arrangement. The gasoline is ignited and allowed to burn for approximately 30 seconds in a draft-free location. The suit is then held with the lowest part of each foot 240 mm (9.5 in.) above the surface of the burning gasoline. After two seconds, measured from the moment the flame first contacts the suit, the suit is removed from the fire. If the suit is burning, it is allowed to continue to burn for six seconds before the flames are extinguished. If the suit sustains any visible damage other than scorching, it must then be subjected to the stability test described in paragraph (c)(8) of this section, except that only one subject need be used, the impact test described in paragraph (c)(11) of this section, except that only one subject need be used, the thermal protection test described in paragraph (d) of this section, and the buoyancy test described in paragraph (g) of this section, except that the buoyancy test need be conducted only for 2 hours.

(j) *Storage case flame exposure.* The storage case must be tested using the same equipment required for the suit

flame exposure test. The exposure suit must be inside the storage case for this test. The storage case is held from its top by the holding arrangement. The gasoline is ignited and allowed to burn for approximately 30 seconds in a draft-free location. The storage case is then held with its lowest part 240 mm (9.5 in.) above the surface of the burning gasoline. After two seconds, measured from the moment the flames first contact the case, the case is removed from the fire. If the case is burning, it is allowed to continue to burn for six seconds before the flames are extinguished. The storage case material must not burn through at any point in this test and the exposure suit must not sustain any visible damage.

(k) *Corrosion resistance.* Each metal part of a suit that is not 410 stainless steel, or for which published evidence of salt-spray corrosion resistance equal to or greater than 410 stainless steel is not available, must be tested as described in ASTM B 117. A sample of each metal under test and a sample of 410 stainless steel must be tested for 720 hours. At the conclusion of the test, each sample of test metal must show corrosion resistance equal to or better than the sample of 410 stainless steel.

(l) *Body strength.* The body strength of a suit must be tested under the following conditions and procedures:

(1) *Test equipment.* The test apparatus shown in Figure 160.071-17(j)(1) must be used in this test. This apparatus consists of—

(i) Two rigid cylinders each 125 mm (5 in.) in diameter, with an eye or ring at each end;

(ii) A weight of 135 kg (300 lb.); and

(iii) Ropes or cables of sufficient length to allow the suit to be suspended as shown in Figure 160.071-17(j)(1).

(2) *Test procedure.* The suit is cut at the waist and wrists, or holes are cut into it as necessary to accommodate the test apparatus. The suit is immersed in water for at least two minutes. The suit is then removed from the water and immediately arranged on the test apparatus, using each closure as it would be used by a person wearing the suit. The 135 kg (300 lb.) load is applied for 5 minutes. No part of the suit may tear or break during

this test. The suit must not be damaged in any way that would allow water to enter or that would affect the performance of the suit.

(m) *Seam strength.* The strength of each different type of seam used in a suit must be tested under the following conditions and procedures:

(1) *Test equipment.* The following equipment must be used in this test:

(i) A chamber in which air temperature can be kept at 23° C. (73.4° F) ± 2° C (1.8° F) and in which relative humidity can be kept at 50% ± 5%.

(ii) A device to apply tension to the seam by means of a pair of top jaws and a pair of bottom jaws. Each set of jaws must grip the material on both sides so that it does not slip when the load is applied. Each jaw must be 25mm (1 in.) wide by 25mm (1 in.) long. The distance between the jaws before the load is applied must be 75mm (3 in.).

(2) *Test samples.* Each test sample must consist of two pieces of suit material, each of which is a 100mm (4 in.) square. The two pieces are joined by a seam as shown in figure 160.071-17(m)(3). For each type of seam, 5 samples are required. Each sample may be cut from the suit or may be prepared specifically for this test. One type of seam is distinguished from another by the type and size of stitch or other joining method used and by the type and thickness of the materials joined at the seam.

(3) *Test procedure.* Each sample is conditioned for at least 40 hours at 23° C ± 2° C and 50% ± 5% relative humidity. Immediately after conditioning, each sample is mounted individually in the tension device as shown in figure 160.071-17(m)(3). The jaws are separated at a rate of 5mm/second (12 in./minute). The force at rupture is recorded. The average force at rupture must be at least 225 N (50 lb.).

(n) *Tear resistance.* The tear resistance of suit material must be determined by the method described in ASTM D 1004. If more than one material is used, each material must be tested. If varying thicknesses of a material are used in the suit, samples representing the thinnest portion of the material must be tested. If multiple layers of a material are used in the

suit, samples representing the layer on the exterior of the suit must be tested. Any material which is a composite formed of two or more materials bonded together is considered to be a single material. The average tearing strength of each material must be at least 45 N (10 lb.).

(o) *Abrasion resistance.* The abrasion resistance of each type of suit material on the exterior of the suit must be determined by the method described in Federal Test Method Standard 191, Method 5304.1. If varying thicknesses of exterior suit material are used, samples representing the thinnest portion of the material must be tested. If exterior material has multiple layers, samples of the layer on the outside surface of the suit must be tested. Any exterior material which is a composite formed of two or more materials bonded together is considered to be a single material and the abradant must be applied to the surface that is on the exterior of the suit. The residual breaking strength of each material must be at least 225 N (50 lb.).

(46 U.S.C. 3306(a), 46 U.S.C. 4102(b); 49 CFR 1.46)

[CGD 76-033a, 45 FR 24478, Apr. 10, 1980, as amended by 46 FR 23428, Apr. 27, 1981; CGD 82-075a, 49 FR 4487, Feb. 7, 1984]

§ 160.071-19 Approval testing for child size exposure suit.

A child size suit must pass the following tests:

(a) The stability test prescribed in § 160.071-17(c)(8), except that only six children need be used as test subjects and they can be either sex. The subjects must be within the ranges of weight and height prescribed in § 160.071-9(m). The heaviest subject must weigh at least 10 kg (22 lb.) more than the lightest subject.

(b) The buoyancy test prescribed in § 160.071-17(g).

(c) The body strength test prescribed in § 160.071-17(k), except that the cylinders must be 50mm (2 in.) in diameter and the test weight must be 55 kg (120 lb.).

the anus, a thermistor or thermocouple on the tip of the index finger, and a thermistor or thermocouple on the tip of the great toe. Each thermistor or thermocouple must have an accuracy of 0.1°C (0.18°F).

(3) *Test procedure.* A physician must be present during this test. Before donning the suit, each subject rests quietly in a room with a temperature between 10°C (50°F) and 25°C (77°F) for 15 minutes. The rectal temperature is then recorded as the initial rectal temperature. The subject dons a suit as rapidly as possible without damaging the instrumentation and immediately enters the water. The subject assumes a face-up, stable floating position. No auxiliary means of buoyancy may be used during this test. The subject remains in the water engaging in activity that maintains the heart rate between 50 and 140 per minute for the first hour, and between 50 to 120 per minute during the remainder of the test, except that no attempt is made to control heart rate if the subject is shivering. Each thermistor or thermocouple reading is recorded at least every 10 minutes.

(4) *Completion of testing.* Testing of a subject ends six hours after he first enters the water, unless terminated sooner.

(5) *Termination of test.* Testing of a subject must be terminated before completion if any of the following occurs:

(i) The physician determines that the subject should not continue.

(ii) The subject requests termination due to discomfort or illness.

(iii) The subject's rectal temperature drops more than 2°C (3.6°F) below the initial rectal temperature, unless the physician determines that the subject may continue.

(iv) The subject's finger or toe temperature drops below 5°C (41°F), unless the physician determines that the subject may continue.

(6) *Test results.* The test results must be prepared as follows:

(i) The total rectal temperature drop during the test period and the average finger and toe temperature at the end of the test must be determined for each subject in the test, except subjects who did not complete testing for

a reason stated in paragraph (d)(5)(i) or (d)(5)(ii) of this section. These temperatures and temperature drops must then be averaged. The average drop in rectal temperature must not be more than 2°C (3.6°F), and the average toe and finger temperature must not be less than 5°C (41°F). Data from at least four subjects must be used in making these temperature calculations.

(ii) Rates of toe, finger, and rectal temperature drop for each subject who did not complete testing for a reason stated in paragraph (d)(5)(iii) or (d)(5)(iv) of this section must be determined using the highest temperature measured and the temperature measured immediately before testing was terminated. These rates must be used to extrapolate to 6 hours the estimated rectal, finger, and toe temperature at the end of that time. These estimated temperatures must be the temperatures used in computing the average temperatures described in paragraph (d)(6)(i) of this section.

(e) *Insulation.* Suit material must be tested under the following conditions and procedures, except that if the suit material meets the requirements for the control sample in paragraph (e)(1)(iii) of this section, the test procedure in paragraph (e)(2) of this section is not required:

(1) *Test equipment.* The following equipment is required for this test:

(i) A sealed copper or aluminum can that has at least two parallel flat surfaces and that contains at least two liters (two quarts) of water and no air. One possible configuration of the can is shown in Figure 160.071-17(e)(1)(i).

(ii) A thermistor or a thermocouple that has an accuracy of $\pm 0.1^{\circ}\text{C}$ (0.18°F) and that is arranged to measure the temperature of the water in the can.

(iii) A control sample of two flat pieces of 4.75 mm (3/16 in.) thick closed-cell neoprene foam of sufficient size to enclose the can between them. The control sample must have a thermal conductivity of not more than 0.055 watt/meter- $^{\circ}\text{K}$ (0.38 Btu-in./hr. sq.ft.- $^{\circ}\text{F}$). The thermal conductivity of the control sample must be determined in accordance with the procedures in ASTM C 177 or ASTM C 618.

(iv) Two flat pieces of suit material of sufficient size to enclose the can between them. The surface covering, surface treatment, and number of layers of the material tested must be the same as those of material used in suit. If the material used in the suit varies in thickness or number of layers, the material tested must be representative of the portion of the suit having the least thickness or number of layers.

(v) A clamping arrangement to form a watertight seal around the edges of the material when the can is enclosed inside. A sealing compound may be used. Figure 160.071-17(e)(1)(v) shows one possible configuration of the clamping arrangement.

(vi) A container of water deep enough to hold the entire assembly of the can, material, and clamp at least 1 m (39 in.) below the surface of the water.

(vii) A means to control the temperature of the water in the container between 0°C (32°F) and 1°C (33.8°F).

(viii) A thermistor or thermocouple that has an accuracy of $\pm 0.1^{\circ}\text{C}$ (0.18°F) and that is arranged to measure the temperature of the water in the container at the depth at which the can material, and clamp are held.

(2) *Test Procedure.* The can is held under water (which can be at room temperature) and clamped between the two pieces of the neoprene control sample so that the assembly formed conforms as closely as possible to the shape of the can, and so that water fills all void spaces between the can and the sample. When the water temperature in the can is at or above 45°C (113°F), the assembly is then placed in the container and submerged to a depth of 1 m (39 in.) at the highest point of the assembly. The water temperature in the container must be between 0°C (32°F) and 1°C (33.8°F) and must be maintained within this temperature range for the remainder of the test. No part of the assembly may touch the bottom or sides of the container. Every two minutes the assembly is shaken and then inverted from its previous position. The time for the water inside the can to drop from 45°C to 33°C (91°F) is recorded. This procedure is performed three times and then repeated three additional times using

the suit material instead of the neoprene control sample. The shortest time for the drop in water temperature when the suit material is used must be greater than or equal to the shortest time when the neoprene control sample is used.

(f) *Storage temperature.* A suit in its storage case is placed in a chamber with a temperature of $60^{\circ}\text{C}\pm 3^{\circ}\text{C}$ ($140^{\circ}\pm 5.4^{\circ}\text{F}$) for 24 hours. A test subject then enters the chamber and dons the suit. This procedure is repeated at a temperature of minus 20°C (minus 4°F), $\pm 3^{\circ}\text{C}$. The subject may wear protective clothing for this test. Under each condition, the subject must be able to don the suit without damaging it.

(g) *Measured buoyancy.* The buoyancy of a suit must be measured under the following conditions and procedures:

(1) *Test equipment.* The following equipment is required for this test:

(i) A mesh basket that is large enough to hold a folded suit, and that is weighted sufficiently to overcome the buoyancy of the suit when placed in the basket.

(ii) A tank of water that is large enough to contain the basket submerged with its top edge 50 mm (2 in.) below the surface of the water.

(iii) A scale or load cell that has an accuracy of 0.15 N ($1/4$ oz.) and that is arranged to support and weigh the basket in the tank.

(2) *Test procedure.* The basket is submerged so that its top edge is 50 mm (2 in.) below the surface of the water. The basket is then weighed. Thereafter, a suit is submerged in water and then filled with water, folded, and placed in the submerged basket. The basket is tilted 45° from the vertical for five minutes in each of four different directions to allow all entrapped air to escape. The basket is then suspended with its top edge 50 mm (2 in.) below the surface of the water for 24 hours. At the end of this period, the basket and suit are weighed underwater. The measured buoyancy of the suit is the difference between this weight and the weight of the basket as determined at the beginning of the test. The measured buoyancy is used to determine adjusted

ries, within 60 seconds, the subject removes the suit, examines the instructions for another minute, and again attempts to don the suit. At least nine of the ten subjects must be able to don the suit completely in 60 seconds in at least one of the two attempts.

(3) *Field of vision.* The exposure suit's field of vision must be tested as follows:

(i) While wearing a suit, each subject stands upright and faces straight ahead. An observer is positioned to one side of the subject at an angle of 60° away from the subject's straight-ahead line of sight. The observer must be able to see the subject's closest eye at this position. The observer then walks past the front of the subject to a position on the subject's other side that is at an angle of 60° away from the subject's straight-ahead line of sight. The suit must not obstruct the observer's view of the subject's eyes at any point between the two positions.

(ii) While wearing the suit, each subject stands upright and faces straight ahead. An observer is positioned to one side of the subject at an angle of 90° away from the subject's straight-ahead line of sight. The subject then turns his or her head through an arc of 30° toward the position of the observer. This procedure is repeated with the observer positioned on the other side of the subject at an angle of 90° away from the subject's straight-ahead line of sight. The suit must not obstruct the observer's view of the subject's eyes when the subject's head is turned 30° toward the observer.

(iii) While wearing the suit, each subject stands upright and faces straight ahead. Through a combination of head and eye movement, the subject looks first at a spot directly overhead, then looks at a spot on or between the feet. An observer must verify that the subject can make the necessary head and eye movements while wearing the suit.

(4) *Hand dexterity.* While wearing a suit, including a removable glove if any, each subject must be able to pick up a 9.5 mm (3/8 in.) diameter wooden pencil from a flat hard surfaced table using only one hand. Still using only one hand, the subject must be able to position the pencil and write with it.

At least eight of the ten test subjects must be able to complete this test.

(5) *Walking.* A 30 m (100 ft.) long walking course must be laid out on a smooth linoleum floor. The finish on the floor must allow water to lie on it in a sheet rather than in beads. The course may have gradual turns, but must not have any abrupt change in direction. Each subject is timed walking the course two times at a normal pace with the floor dry. Each subject then dons a suit and is timed again walking the course two times with the floor wet. The subject is given adequate rest periods between trials to avoid fatigue. The subject must not slip on the wet floor when wearing the suit. The average time for each subject to walk the course while wearing the suit must be not more than 1.25 times the subject's average time to walk the course without the suit.

(6) *Climbing.* A vertical ladder extending at least 5 meters (17 feet) above a level floor must be used for this test. Each subject is timed two times climbing the ladder to a rung at least 3 meters (10 feet) above the floor. The subject then dons a suit and is again timed two times climbing to the same rung. The subject is given adequate rest periods between trials to avoid fatigue. The average time for each subject to climb the ladder while wearing the suit must be not more than 1.25 times the subject's average time to climb the ladder without the suit.

(7) *Water emergence.* A pool with a wooden platform at one side must be used for this test. The platform must be 300 mm (1 ft.) above the water surface and must not float on the water. The platform must have a smooth painted surface. Each subject enters the water without a suit and swims or treads water for approximately two minutes. The subject must then be able to emerge from the pool onto the platform using only his or her hands on top of the platform as an aid and without pushing off of the bottom of the pool. Any subject unable to emerge onto the platform within 30 seconds is disqualified for this test. At least five subjects must qualify and be used for this test. If less than five subjects of the original ten qualify, substi-

tute subjects may be used. Each qualified subject dons the suit with all closures open and without any auxiliary means of buoyancy. The subject then enters the water feet first and swims or treads water for two minutes, during this period the subject allows water to enter the suit but does not attempt to flood the suit to its capacity. After the two minute period, the subject closes each of the suit closures. The subject must then be able to emerge from the pool onto the platform using only his or her hands on top of the platform as an aid, and without pushing off the bottom of the pool.

(8) *Stability and retroreflective material.* While wearing the suit in water without any auxiliary means of buoyancy, each subject assumes a face-up position and then allows his or her body to become limp. The distance from the water surface to the lowest part of the subject's mouth or nose is measured. This procedure is repeated using the auxiliary means of buoyancy, if one is provided. For each test subject, the stable position and the distance of the mouth and nose above the water must be as prescribed in §§ 160.071-11(a)(2) and 160.071-11(a)(3). During this test, each subject must be viewed by observers at water level from the front and back to determine whether the retroreflective material of the suit meets § 160.071-9(n).

(9) *Righting.* Each subject while wearing a suit in water without any auxiliary means of buoyancy takes a deep breath, assumes a face-down position, allows his or her body to become limp, and slowly expels air. The suit must cause the subject to turn face up within 10 seconds; or if the suit does not turn the subject within 10 seconds, the subject must be able to turn face up under his or her own power within 5 seconds. The procedure is repeated using the auxiliary means of buoyancy, if one is provided.

(10) *Water and air penetration.* Each subject is weighed while wearing a completely dry suit without any auxiliary means of buoyancy. The subject jumps into water from a height that will cause the subject to be completely immersed. The subject swims or treads water for approximately one minute

emerges from the water, and is weighed within 10 seconds after emerging. The procedure is repeated with the subject entering the water headfirst. As the subject enters the water head-first, air that accumulates in the leg must be expelled automatically. At the end of this test, the weight of the subject in the wet suit must not exceed the dry weight of the subject and suit by more than 5 kg (11 lb.).

(11) *Impact.* While wearing a suit without any auxiliary means of buoyancy, each subject jumps into water feet first six times from a height of 3 m (10 ft.) above the water surface. Each subject must be able to assume a face up stable position without assistance after each jump. The suit must not tear, separate at any seam, or exhibit any characteristic that would render it unsafe or unsuitable for use in water.

(d) *Thermal protection.* The thermal protection capability of a suit must be tested under the following conditions and procedures:

(1) *Test subjects.* Male subjects must be used for this test. Each subject must be familiarized with the test procedure before starting the test. Each subject must be between 1.65 m (65 in.) and 1.85 m (73 in.) tall and must not be more than 10 percent overweight or underweight for his height and physical type as determined by a physician or physiologist or from published physiological data. Each subject must have had a normal night's sleep the night before the test, a well-balanced meal 1 to 5 hours before the test, and no alcoholic beverages for 24 hours before the test. In addition to the suit, each subject must wear a tee shirt and shorts, a long sleeved cotton shirt, denim trousers, athletic socks, and oxford type shoes if the suit is designed for shoes to be worn inside.

(2) *Test equipment.* The test must be conducted in calm water with a temperature between 0° C (32° F) and 3° C (37.4° F). The air temperature 300 mm (1 ft.) above the water surface must be between minus 10° C (14° F) and 20° C (68° F). Each subject must be instrumented with an electrocardiograph, a thermistor or thermocouple in the rectum placed 150 mm (6 in) beyond

not damage the suit and cannot adversely affect its performance. If the manufacturer of the suit designates a specific location for the light, or designates a specific model light, this information must be clearly printed on the suit or in the instructions prescribed by § 160.071-15(c).

(p) *Inflation tube.* If the suit has an inflatable auxiliary means of buoyancy, each joint in the oral inflation tube must be joined with a clamping device. A flange connection between the tube and the inflatable chamber must be reinforced so that the flange on the inflation tube is secured between the material of the inflatable section and the reinforcement.

(46 U.S.C. 3306(a), 46 U.S.C. 4102(b); 49 CFR 1.46)

[CGD 76-033a, 45 FR 24478, Apr. 10, 1980, as amended by CGD 82-075a, 49 FR 4486, Feb. 7, 1984]

§ 160.071-11 Performance.

(a) *Buoyancy.* Each suit must meet the following buoyancy requirements as measured in the test conducted under § 160.071-17(h):

(1) The adjusted buoyancy of each adult and each oversize adult size suit must be at least 100 N (22 lb.). The adjusted buoyancy of each child size suit must be at least 50 N (11 lb.).

(2) Each suit must have a stable floating position in which the wearer's head must be tilted to a position between 30° and 80° above the horizontal, with the mouth and nose at least 100 mm (4 in.) above the surface of the water. If necessary, this position may be obtained through use of an auxiliary means of buoyancy such as an inflatable bladder behind the wearer's head.

(3) If an auxiliary means of buoyancy is necessary to meet paragraph (a)(2) of this section, the suit must have a stable floating position without the auxiliary means of buoyancy in which the mouth and nose of the wearer are at least 50 mm (2 in.) above the surface of the water.

(4) The buoyancy of any auxiliary means of buoyancy must not be counted when determining the buoyancy of the suit.

(b) *Righting.* The suit must be designed to turn the wearer from a face-

down position to a face-up position within 10 seconds or to allow the wearer without assistance to turn from a face-down position to a face-up position within 5 seconds. If a suit has an auxiliary means of buoyancy, the suit must be designed to meet this requirement when the auxiliary means of buoyancy is used and when it is not used.

(c) *Thermal protection.* The suit must be designed to protect against loss of body heat as follows:

(1) The thermal conductivity of the suit material when submerged 1 m (39 in.) in water must be less than or equal to that of a control sample of 4.75 mm (3/16 in.) thick, closed-cell neoprene foam. The control sample of foam must have a thermal conductivity of not more than 0.050 watt/meter-K (0.346 Btu-in./hr.-sq.ft.-°F).

(2) The suit must be able to pass the thermal protection test prescribed in § 160.071-17(d)(6).

(d) *Donning time.* Each suit must be designed so that a person can don the suit correctly within one minute after reading the donning and use instructions described in § 160.071-15(a).

(e) *Vision.* Each suit must be designed to allow unrestricted vision throughout an arc of 60° to either side of the wearer's straight-ahead line of sight when the wearer's head is turned to any angle between 30° to the right and 30° to the left. Each suit must be designed to allow a standing wearer to move head and eyes up and down far enough to see both feet and a spot directly overhead.

(f) *Water penetration.* An exposure suit must not retain more than 5 kg (11 lb.) of water when tested for water penetration as prescribed in § 160.071-17(c)(10).

(g) *Splash protection.* Each suit must have a means to prevent water spray from directly entering the wearer's mouth.

(h) *Storage temperature.* Each suit must be designed so that it will not be damaged by storage in its storage case at any temperature between minus 20° C (minus 4° F) to 60° C (140° F).

(i) *Flame exposure.* Each suit must be designed to be useable after two seconds contact with a gasoline fire.

(46 U.S.C. 3306(a), 46 U.S.C. 4102(b); 49 CFR 1.46)

[CGD 76-033a, 45 FR 24478, Apr. 10, 1980, as amended by CGD 82-075a, 49 FR 4486, Feb. 7, 1984]

§ 160.071-13 Storage case.

(a) Each suit must have a storage case made of vinyl coated cloth or material that provides an equivalent measure of protection to the suit.

(b) Each storage case must be designed so that it is still useable after two seconds contact with a gasoline fire.

§ 160.071-15 Instructions.

(a) Each suit must have instructions for its donning and use in an emergency. The instructions must be in English and must not exceed 50 words. Illustrations must be used in addition to the words.

(b) The instructions required by paragraph (a) of this section must be on the exterior of the storage case or printed on a waterproof card attached to the storage case or to the suit. These instructions must also be available in a form suitable for mounting on a bulkhead of a vessel.

(c) In addition to the instructions required by paragraph (a) of this section, each suit must have instructions on care and repair of the suit and any additional, necessary information concerning stowage and use of the suit on a vessel.

(d) If the suit has an inflatable auxiliary means of buoyancy and if the instructions required by paragraph (a) of this section do not cover the use of the inflation valve, separate instructions covering operation of the inflation valve must be provided on the suit near the valve or on a waterproof card attached near the valve.

(46 U.S.C. 3306(a), 46 U.S.C. 4102(b); 49 CFR 1.46)

[CGD 76-033a, 45 FR 24478, Apr. 10, 1980, as amended by CGD 82-075a, 49 FR 4486, Feb. 7, 1984]

§ 160.071-17 Approval testing for adult size exposure suit.

CAUTION: During each of the in-water tests prescribed in this section, a person ready to render assistance when needed should be near each subject in the water.

(a) *General.* An adult size exposure suit must be tested as prescribed in this section. If the suit is also made in a child size, a child size suit must be tested as prescribed in § 160.071-19. If the suit is also made in an oversize adult size, an oversize adult suit must be tested as prescribed in § 160.071-17(g) to determine the measured buoyancy for the suit. No additional testing will be required if the oversize adult suit is of the same design as the adult suit except for extra material to provide for larger persons.

(b) *Test samples.* Each test prescribed in this section may be performed by using as many exposure suits as are needed to make efficient use of the test subjects and test equipment, except that each subject in the impact test described in § 160.071-17(c)(11) must not use more than one suit during the test.

(c) *Mobility and flotation tests.* The mobility and flotation capabilities of each exposure suit must be tested under the following conditions and procedures:

(1) *Test subjects.* Seven males and three females must be used in the tests described in this paragraph. The subjects must represent each of the three physical types (ectomorphic, endomorphic, and mesomorphic). Each subject must be in good health. The heaviest male subject must weight at least 25 kg (55 lb.) more than the lightest male subject. The heaviest female subject must weight at least 25 kg (55 lb.) more than the lightest female subject. Each subject must be unfamiliar with the specific suit under test. Each subject must wear a swimming suit for the in-water tests and ordinary street clothing or work clothing for the other tests.

(2) *Donning time.* Each subject is removed from the view of the other subjects and allowed one minute to examine a suit and the manufacturer's instructions for donning and use of the suit in an emergency. At the end of this period, the subject attempts to don the suit as rapidly as possible without the aid of a chair or any support to lean on; however, the subject may sit on the floor. If the subject does not don the suit completely, including gloves and any other accesso-

(c) The storage life of the power source of a light must be twice as long as the period between the date of manufacture and the expiration date of the power source.

(d) Each light, prior to activation, must be capable of preventing leakage from its container of any chemicals it contains or produces.

(e) Each component of a light must be designed to remain serviceable in a marine environment for at least as long as the storage life of the light's power source.

(f) No light may have a water pressure switch.

(g) Each light must be designed so that when attached to a PFD, its light beam, at a minimum, is visible in an arc of 180 degrees above or in front of the wearer.

(h) Each light, including its power source, must fit into a cylindrical space that is 150 mm (6 in.) long and 75 mm (3 in.) in diameter.

(i) Each light, including its power source, must not weigh more than 225g (8 oz.).

(j) Each light that is designed to operate while detached from a PFD must have a lanyard that can be used to connect it to the PFD. The lanyard must be at least 750 mm (30 in.) long.

(k) Each light designed to operate while detached from a PFD must be capable of floating in water with its light source at or above the surface of the water.

§ 161.012-9 Performance.

(a) If a light is a flashing light, its flash rate when first activated, or within five minutes thereafter, must be between 50 and 70 flashes per minute.

(b) Each light must—(1) Begin to shine within 2 minutes after activation; and

(2) Within 5 minutes after activation be capable of being seen from a distance of at least one nautical mile on a dark clear night.

(c) Each light must be designed to operate underwater continuously for at least 8 hours at a water temperature of $15^{\circ}\pm 5^{\circ}\text{C}$ ($59^{\circ}\pm 9^{\circ}\text{F}$). However, if the light needs air to operate, underwater operation is required only for 50

or more seconds during each minute of the eight hour period.

(d) Each light must be designed to operate both in sea water and in fresh water.

(e) A light that concentrates its light beam by means of a lens or curved reflector must not be a flashing light.

(f) Each light must be designed to operate in accordance with this section after storage for 24 hours at a temperature of $65^{\circ}\pm 2^{\circ}\text{C}$ ($149^{\circ}\pm 4^{\circ}\text{F}$) and after storage for 24 hours at $-30^{\circ}\pm 2^{\circ}\text{C}$ ($-22^{\circ}\pm 4^{\circ}\text{F}$).

§ 161.012-11 Approval tests.

(a) The approval tests described in this section must be conducted for each light submitted for Coast Guard approval. The tests must be conducted by a laboratory that has the equipment, personnel, and procedures necessary to conduct the approval tests required by this subpart, and that is free of influence and control of the applicant and other manufacturers, suppliers, and vendors of PFD lights.

(b) A sample light must be activated at night under clear atmospheric conditions. However, two lights must be used if the power source is water activated, and one light must be activated in fresh water and the other in salt water having the approximate salinity of sea water. The light, or lights, must begin to shine within 2 minutes after activation and, within 5 minutes after activation, must be seen from a distance of at least one nautical mile against a dark background.

(c) At least ten sample lights must be selected at random from a group of at least 25. Each sample light must be kept at a constant temperature of $65^{\circ}\pm 2^{\circ}\text{C}$ ($149^{\circ}\pm 4^{\circ}\text{F}$) for 24 hours. Each sample light must then be kept at a constant temperature of minus $30^{\circ}\pm 2^{\circ}\text{C}$ (minus $22^{\circ}\pm 4^{\circ}\text{F}$) for 24 hours. Five samples must then be submerged in salt water having the approximate salinity of sea water and the five other samples must be submerged in fresh water. The temperature of the water must be $15^{\circ}\pm 5^{\circ}\text{C}$ ($59^{\circ}\pm 9^{\circ}\text{F}$). The lights must then be activated and left submerged for eight hours. However, if their power sources need a supply of air to operate, the lights may be

brought to their normal operating positions at the surface of the water for up to 10 seconds per minute during the eight hour period. At least nine of the ten lights must operate continuously over the eight hour period. If the lights are flashing lights, at least nine of ten must have a flash rate of between 50 and 70 flashes per minute when first activated or within five minutes thereafter.

(d) Individual tests must be conducted on a sample light to determine whether the light meets the requirements of § 161.012-7, except that technical data showing compliance with § 160.012-7(c) may be submitted with the application for approval in lieu of performing an individual test.

§ 161.012-13 Production tests and inspections.

(a) The manufacturer of approved lights must randomly select a sample of ten lights from each lot of lights produced. Each lot must not exceed 1,000 lights. At least nine of the ten lights, when tested in accordance with the test described in § 161.012-11(c), must meet the test criteria prescribed by that section. If less than nine lights meet the test criteria, another random sample of ten lights must be taken and tested. If less than nine of these lights meet the test criteria, none of the lights in the lot may be sold as Coast Guard approved equipment.

(b) The Coast Guard does not inspect lights approved under this subpart on a regular schedule. However, the Commandant may select samples and conduct tests and examinations whenever necessary to determine whether the lights are being manufactured in compliance with the requirements in this subpart.

§ 161.012-15 Markings.

(a) Each light manufactured under Coast Guard approval must be permanently and legibly marked with:

(1) The manufacturer's name or trade mark that clearly identifies the model designation;

(2) The Coast Guard approval number assigned to light; and

(3) Instructions on how to activate the light.

(b) The power source of each light must be permanently and legibly marked with its date of manufacture and expiration date. Each date must include the month and year.

§ 161.012-17 Instructions.

(a) Each light must have instructions on how to attach it to a PFD in a manner that complies with § 161.012-7(a). However, in the case of lights that are to be attached by a PFD manufacturer, only one set of instructions need be provided for each shipment of lights.

(b) If a light is designed to be attached to a finished PFD, any attachment materials that are not supplied with the light must be clearly identified in the instructions. If a light is to be attached to a finished PFD by a PFD purchaser, any attachment materials not supplied with the light must be generally available for purchase.

(c) Each set of instructions must—

- (1) Clearly identify the kind of PFD construction (for example fabric covered or vinyl dipped) to which the light can be attached; and
- (2) Not require penetration of the buoyant material of the PFD.

Subpart 161.013—Electric Distress Light for Boats

AUTHORITY: Section 5, 85 Stat. 215 as amended, 46 U.S.C. 1454; 49 CFR 1.46(n)(1).

SOURCE: CGD 78-183a, 44 FR 73054, Dec. 17, 1979, unless otherwise noted.

§ 161.013-1 Applicability.

(a) This subpart establishes standards for electric distress lights for boats.

§ 161.013-3 General performance requirements.

(a) Each electric light must:

- (1) Emit a white light which meets the intensity requirements of § 161.013-5;
- (2) Be capable of automatic signaling in a manner which meets the requirements of § 161.013-7;
- (3) Contain an independent power source which meets the requirements of § 161.013-9;

SUBCHAPTER C—UNINSPECTED VESSELS

PART 24—GENERAL PROVISIONS

Subpart 24.01—Authority and Purpose

Sec.

- 24.01-1 Purpose of regulations.
24.01-5 Assignment of functions.
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Subpart 24.05—Application

- 24.05-1 Vessels subject to the requirements of this subchapter.
24.05-5 Specific application noted in text.

Subpart 24.10—Definition of Terms Used in This Subchapter

- 24.10-1 Approved.
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24.10-3 Carrying passengers for hire.
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24.10-7 Commandant.
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24.10-11 Headquarters.
24.10-13 International voyage.
24.10-15 Marine inspector or inspector.
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24.10-19 Motor vessel.
24.10-20 Oceanographic research vessel.
24.10-21 Officer in Charge, Marine Inspection.
24.10-23 Passenger.
24.10-27 Vessel.

Subpart 24.15—Equivalents

- 24.15-1 Conditions under which equivalents may be used.
24.15-5 Canadian pleasure craft temporarily using navigable waters of the United States.

Subpart 24.20—General Marine Engineering Requirements

- 24.20-1 Marine engineering details.

Authority: R.S. 4405, as amended, 4462, as amended, sec. 17, 54 Stat. 166, as amended, sec. 6(b) (1), 80 Stat. 938; 46 U.S.C. 375, 416, 526p, 49 U.S.C. 1655(b); 49 CFR 1.4(a) (2). Additional authority is cited in parentheses following the sections affected.

Source: CGFR 65-50, 30 FR 16650, Dec. 30, 1965, unless otherwise noted.

Subpart 24.01—Authority and Purpose

- § 24.01-1 Purpose of regulations.

The purpose of the regulations in this subchapter is to set forth uniform

minimum requirements for uninspected commercial vessels, certain motor vessels, vessels propelled by said carrying passenger for hire, and barges carrying passengers for hire in accordance with the intent of the Motorboat Act of 1940, as amended (54 Stat. 163; 46 U.S.C. 526-526t) and the Federal Boat Safety Act of 1971 (85 Stat. 213; 46 U.S.C. 1451-1489). The regulations are necessary to carry out the provisions of the Motorboat Act of 1940, and the Federal Boat Safety Act of 1971 and such regulations have the force of law.

(54 Stat. 166, as amended, secs. 5 and 39, 85 Stat. 215, 228, sec. 6(b) (1), 80 Stat. 937 (46 U.S.C. 1454, 1488); 49 CFR 1.46(b) and (c) (1))

[CGD 72-172R, 38 FR 8116, Mar. 28, 1973]

§ 24.01-5 Assignment of functions.

(a) The Department of Transportation Act (Pub. L. 89-670, 80 Stat. 931-950, 49 U.S.C. 1651-1659), transferred to and vested in the Secretary of Transportation " * * * all functions, powers, and duties, relating to the Coast Guard, of the Secretary of the Treasury and of other officers and offices of the Department of the Treasury" (subsection 6(b) (1), 49 U.S.C. 1655(b)). This transfer is subject to certain conditions, modifications, and exceptions as set forth in such act. By rule in 49 CFR 1.4(a), the Secretary of Transportation delegated to the Commandant, U.S. Coast Guard, authority to exercise certain functions, powers, and duties as set forth in subsections 6(a) (4), 6(b) (1), and 6(g) of such act (49 U.S.C. 1655), subject to conditions, exceptions and modifications as described in 49 CFR Part 1. By a rule in 49 CFR 1.9 the Secretary of Transportation continued in effect actions taken prior to April 1, 1967.

(b) The Commandant, U.S. Coast Guard, in a notice dated March 31, 1967, and effective April 1, 1967 (32 FR 5611), approved the continuation of orders, rules, regulations, policies, procedures, privileges, waivers, and other actions, which had been made, allowed, granted, or issued prior to April 1, 1967, and provided that they

shall continue in effect according to their terms until modified, terminated, repealed, superseded, or set aside by appropriate authority.

[CGFR 68-32, 33 FR 5711, Apr. 12, 1968]

§ 24.01-10 Authority for regulations.

(a) *General.* The authority to prescribe regulations generally is set forth in R.S. 4405, as amended (46 U.S.C. 375) and R.S. 4462, as amended (46 U.S.C. 416) and in section 17 of the Motorboat Act of 1940, as amended (54 Stat. 166; 46 U.S.C. 526p) and sections 5 and 39 of the Federal Boat Safety Act of 1971 (85 Stat. 215, 228; 46 U.S.C. 1454, 1488).

(b) *Lifesaving appliances.* The regulations regarding lifesaving appliances interpret or apply section 6 of the Motorboat Act of 1940, as amended (54 Stat. 164; 46 U.S.C. 526e) and section 5(a) of the Federal Boat Safety Act of 1971 (85 Stat. 215; 46 U.S.C. 1454(a)).

(c) *Fire protection equipment.* (1) The regulations regarding fire protection equipment interpret or apply section 8 of the Motorboat Act of April 25, 1940, as amended (46 U.S.C. 526g).

(d) *Flame arresters.* (1) The regulations regarding flame arresters interpret or apply section 10 of the Motorboat Act of April 25, 1940, as amended (46 U.S.C. 526l).

(e) *Ventilation of bilges.* (1) The regulations regarding ventilation of bilge interpret or apply section 11 of the Motorboat Act of April 25, 1940, as amended (46 U.S.C. 526j).

(Secs. 5 and 39, 85 Stat. 215, 228, sec. 6(b) (1), 80 Stat. 937 (46 U.S.C. 1454, 1488); 49 CFR 1.46(b) and (c) (1))

[CGFR 65-50, 30 FR 16650, Dec. 30, 1965, as amended by CGD 72-172R, 38 FR 8116, Mar. 28, 1973]

Subpart 24.05—Application

- § 24.05-1 Vessels subject to the requirements of this subchapter.

(a) This subchapter shall be applicable to all vessels indicated in Column (c) of Table 24.05-1 (a), and shall apply to all such United States flag vessels, and to all such foreign vessels, except as follows:

(1) Any vessel operating exclusively on inland waters which are not navigable waters of the United States.

(2) Any vessel while laid up and dismantled and out of commission.

(3) With the exception of vessels of the U.S. Maritime Administration, any vessel with title vested in the United States and which is used for public purposes.

TABLE 24.05-1(a)

Method of propulsion	Size or other limitations ¹	Classes of vessels (including motorboats) examined or inspected under various Coast Guard regulations ¹					
		Vessels inspected and certificated under Subchapter D—Tank Vessels ²	Vessels inspected and certificated under either Subchapter H—Passenger Vessels ^{3,4,5} or Subchapter T—Small Passenger Vessels ^{3,6}	Vessels inspected and certificated under Subchapter I—Cargo and Miscellaneous Vessels ⁷	Vessels subject to provisions of Subchapter C—Uninspected Vessels ^{8,9,10}	Vessels subject to provisions of Subchapter U—Oceanographic Vessels ^{11,12}	Vessels subject to the provisions of Subchapter O—Certain Bulk Dangerous Cargoes ¹³
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Steam.....	Vessels not over 65 feet in length.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers. ¹	All tugboats and towboats.	All vessels except those covered by columns 3, 4, 5, and 7.	None.....	All vessels carrying in bulk the cargoes listed in Table I of Pt. 153 and Table 4 of Pt. 154. ^{13,14}
	Vessels over 65 feet in length.	All vessels carrying combustible or flammable liquid cargo in bulk. ¹⁵	<ol style="list-style-type: none"> 1. All vessels carrying more than 12 passengers on an international voyage, except yachts. 2. All vessels of not over 15 gross tons which carry more than 6 passengers.¹ 3. All other vessels carrying passengers,¹ except: <ol style="list-style-type: none"> a. Yachts. b. Documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew. 	All vessels except those covered by columns 3 and 4.	None.....	All vessels engaged in oceanographic research.	Do.

Motor.....	Vessels not over 15 gross tons	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers. ¹	Those vessels carrying dangerous cargoes when required by 46 CFR Part 98 or 145.	All vessels except those covered by columns 3, 4, 5, and 7.	None.....	Do.
	Vessels over 15 gross tons except seagoing motor vessels of 300 gross tons and over.	All vessels carrying combustible or flammable liquid cargo in bulk. ¹⁵	<ol style="list-style-type: none"> 1. All vessels carrying more than 12 passengers on an international voyage, except yachts. 2. All vessels not over 65 feet in length which carry more than 6 passengers.¹ 3. All other vessels of over 65 feet in length carrying passengers for hire except documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew. 	All vessels carrying freight for hire except those covered by columns 3 and 4.	All vessels except those covered by columns 3, 4, 5, and 7.	None.....	Do.

TABLE 24.05-1(a)—Continued

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Method of propulsion	Size or other limitations ¹	Classes of vessels (including motorboats) examined or inspected under various Coast Guard regulations ¹					
		Vessels inspected and certificated under Subchapter D—Tank Vessels ²	Vessels inspected and certificated under either Subchapter H—Passenger Vessels ^{3,4,5} or Subchapter T—Small Passenger Vessels ^{3,4}	Vessels inspected and certificated under Subchapter I—Cargo and Miscellaneous Vessels ^{3,4}	Vessels subject to provisions of Subchapter C—Uninspected Vessels ^{3,4,5,6}	Vessels subject to provisions of Subchapter U—Oceanographic Vessels ^{3,4,5,6}	Vessels subject to the provisions of Subchapter O—Certain Bulk Dangerous Cargoes ¹⁰
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
	Seagoing motor vessels of 300 gross tons and over	All vessels carrying combustible or flammable liquid cargo in bulk ⁸	1. All vessels carrying more than 12 passengers on an international voyage, except yachts 2. All other vessels carrying passengers, ⁷ except: a. Yachts b. Documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.	All vessels except those covered by columns 3 and 4, and those engaged in the fishing, oystering, clamming, crabbing, or any other branch of the fishery, kelp, or sponge industry.	All vessels except those covered by columns 3, 4, 5, and 7.	All vessels engaged in oceanographic research.	None
Sail.....	Vessels not over 700 gross tons	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers. ⁷	Those vessels carrying dangerous cargoes when required by 46 CFR Part 98 or 146.	All vessels carrying 6 or less passengers for hire. ⁷	None.....	All vessels carrying in bulk the cargoes listed in Table I of Pt. 153 and Table 4 of Pt. 154. ^{11,12}

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	Vessels over 700 gross tons	All vessels carrying combustible or flammable liquid cargo in bulk	All vessels carrying passengers for hire	Those vessels carrying dangerous cargoes when required by 46 CFR Part 98 or 146	None.....	None.....	Do
Non-self-propelled.....	Vessels less than 100 gross tons	All vessels carrying combustible or liquid cargo in bulk	All vessels carrying more than 6 passengers. ⁷	Those vessels carrying dangerous cargoes when required by 46 CFR Part 146	All barges carrying passengers except those covered by column 4.	None.....	All tank barges carrying in bulk the cargoes listed in Table 151.05 of this chapter. ^{11,12,13}
	Vessels 100 gross tons or over.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying passengers for hire	All seagoing barges except those covered by columns 3 and 4, and those inland barges carrying dangerous cargoes when required by 46 CFR Part 146	All barges carrying passengers except those covered by columns 4 and 7.	All seagoing barges engaged in oceanographic research	

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¹ Where length is used in this table it means the length measured from end to end over the deck, excluding sheer. This expression means a straight line measurement of the overall length from the foremost part of the vessel to the aftermost part of the vessel, measured parallel to the centerline.

² Subchapters E (Load Lines), F (Marine Engineering), J (Electrical Engineering), and N (Dangerous Cargoes) of this chapter may also be applicable under certain conditions. The provisions of 46 U.S.C. 170 and Subchapter N (Dangerous Cargoes) of this chapter apply whenever explosives or dangerous articles or substances are on board vessels (including motorboats), except when specifically exempted by law.

³ Public nautical schoolships, other than vessels of the Navy and Coast Guard, shall meet the requirements of Part 167 of Subchapter R (Nautical Schools) of this chapter. Civilian nautical schoolships, as defined by 46 U.S.C. 1331, shall meet the requirements of Subchapter H (Passenger Vessels) and Part 166 of Subchapter R (Nautical Schools) of this chapter.

⁴ Subchapter H (Passenger Vessels) of this chapter covers only those vessels of 100 gross tons or more. Subchapter T (Small Passenger Vessels) of this chapter covers only those vessels of less than 100 gross tons.

⁵ Vessels covered by Subchapter H (Passenger Vessels) or I (Cargo and Miscellaneous Vessels) of this chapter, where the principal purpose or use of the vessel is not for the carriage of liquid cargo, may be granted a permit to carry a limited amount of flammable or combustible liquid cargo in bulk. The portion of the vessel used for the carriage of the flammable or combustible liquid cargo shall meet the requirements of Subchapter D (Tank Vessels) in addition to the requirements of Subchapter H (Passenger Vessels) or I (Cargo and Miscellaneous Vessels) of this chapter.

⁶ Any vessel on an international voyage is subject to the requirements of the International Convention for Safety of Life at Sea, 1960.

⁷ The meaning of the term "passenger" is as defined in the Act of May 10, 1956 (56 Stat. 151; 46 U.S.C. 300). On oceanographic vessels scientific personnel on board shall not be deemed to be passengers nor seamen, but for calculations of lifesaving equipment, etc., shall be counted as persons.

⁸ Boilers and machinery are subject to examination on vessels over 40 feet in length.

⁹ Under 46 U.S.C. 441, an "oceanographic research vessel" is a vessel "being employed exclusively in instruction in oceanography or limnology, or both, or exclusively in oceanographic research." Under 46 U.S.C. 443, "an oceanographic research vessel shall not be deemed to be engaged in trade or commerce" if or when an oceanographic vessel engages in trade or commerce, such vessel cannot operate under its certificate of inspection as an oceanographic vessel, but shall be inspected and certificated for the service in which engaged, and the scientific personnel aboard then become persons employed in the business of the vessel.

¹⁰ Bulk dangerous cargoes are cargoes specified in table 151.01-10(b), in table I of Part 153, and in table 4 of Part 154 of this chapter.

¹¹ For manned tank barges see § 151.01-10(e) of this chapter.

¹² Lifesaving device requirements of Subpart 25.25 only.

¹³ Except those cases excluded under 46 U.S.C. 170 or 391a.

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§ 24.05-5 Specific application noted in text.

(a) At the beginning of the various parts, subparts, and sections, a more specific application is generally given for the particular portion of the text involved. This application sets forth the types, sizes, or services of vessels to which the text pertains, and in many cases limits the application of the text to vessels contracted for before or after a specific date. As used in this subchapter, the term "vessels contracted for" includes not only the contracting for the construction of a vessel, but also the contracting for a material alteration to a vessel, the contracting for the conversion of a vessel to a passenger vessel, and the changing of service or route of a vessel if such change increases or modifies the general requirements for the vessel or increases the hazards to which it might be subjected.

Subpart 24.10—Definition of Terms Used in This Subchapter

EDITORIAL NOTE: Nomenclature changes affecting Subpart 24.10 appear at 45 FR 64586, Sept. 30, 1980.

§ 24.10-1 Approved.

This term means approved by the Commandant unless otherwise stated.

§ 24.10-2 Barge.

This term means any vessel not equipped with means of self-propulsion.

[CGFR 68-32, 33 FR 5711, Apr. 12, 1968]

§ 24.10-3 Carrying passengers for hire.

The carriage of any person or persons by a vessel for a valuable consideration, whether directly or indirectly flowing to the owner, charterer, operator, agent or any other person interested in the vessel.

§ 24.10-5 Carrying freight for hire.

The carriage of any goods, wares, or merchandise or any other freight for a valuable consideration, whether directly or indirectly flowing to the owner, charterer, operator, agent, or any other person interested in the vessel.

§ 24.10-7 Commandant.

This term means the Commandant of the Coast Guard.

§ 24.10-9 Coast Guard District Commander.

This term means an officer of the Coast Guard designated as such by the Commandant to command all Coast Guard activities within his district, which include the inspection, enforcement, and administration of Title 52, Revised Statutes, and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 24.10-11 Headquarters.

This term means the Office of the Commandant, Washington, D.C.

§ 24.10-13 International voyage.

(a) The term "international voyage," as used in this subchapter, shall have the same meaning as that contained in Regulation 2(d), Chapter I, of the International Convention for Safety of Life at Sea, 1960; i.e., "International voyage" means a voyage from a country to which the present Convention applies to a port outside such country, or conversely; and for this purpose every territory for the international relations of which a Contracting Government is responsible or for which the United Nations is the administering authority is regarded as a separate country."

(b) The International Convention for Safety of Life at Sea, 1960, does not apply to vessels "solely navigating the Great Lakes of North America and the River St. Lawrence as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63d Meridian." Accordingly, such vessels shall not be considered as being on an "international voyage" for the purpose of this subchapter.

(c) For the purposes of this subchapter the term "territory" as used in paragraph (a) of this section shall be considered to include the Commonwealth of Puerto Rico, all possessions of the United States, and all lands held by the United States under a protectorate or mandate.

(d) Although voyages between the continental United States and Hawaii or Alaska, and voyages between Hawaii and Alaska are not "international voyages" under the provisions of the International Convention for Safety of Life at Sea, 1960, such voyages are similar in nature and shall be considered as "international voyages" and subject to the same requirements for the purposes of this subchapter.

(E.O. 11239, July 31, 1965, 30 FR 9671, 3 CFR, 1965 Supp.)

§ 24.10-15 Marine inspector or inspector.

These terms mean any person from the civilian or military branch of the Coast Guard assigned under the superintendence and direction of an Officer in Charge, Marine Inspection, or any other person as may be designated for the performance of duties with respect to the inspection, enforcement, and administration of Title 52, Revised Statutes, and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 24.10-17 Motorboat.

(a) This term means any vessel indicated in column 6 of Table 24.05-1(a), 65 feet in length or less which is equipped with propulsion machinery (including steam). The length shall be measured from end to end over the deck excluding sheer. This term includes a boat temporarily or permanently equipped with a detachable motor, since such a boat is also subject to the Act of April 25, 1940, as amended (46 U.S.C. 526-526u), and the regulations promulgated thereunder. For the purpose of this subchapter, motorboats are included under the term "vessel" unless specifically noted otherwise. The various classes of motorboats are as follows:

Class A—Any motorboat less than 16 feet in length.

Class 1—Any motorboat 16 feet or over and less than 26 feet in length.

Class 2—Any motorboat 26 feet or over and less than 40 feet in length.

Class 3—Any motorboat 40 feet or over and not more than 65 feet in length.

(b) The expression "length shall be measured from end to end over the deck excluding sheer" means a straight line measurement of the over-

all length from the foremost part of the vessel to the aftermost part of the vessel, measured parallel to the centerline. Bow sprits, bumpkins, rudder outboard motor brackets, and similar fittings or attachments, are not to be included in the measurement. Length shall be stated in feet and inches.

[CGFR 65-50, 30 FR 16650, Dec. 30, 1965, amended by CGFR 69-18, 34 FR 5723, M. 27, 1969]

§ 24.10-19 Motor vessel.

This term means any vessel more than 65 feet in length, which is propelled by machinery other than steam.

§ 24.10-20 Oceanographic research vessel.

"An oceanographic research vessel is a vessel which the U.S. Coast Guard finds is employed exclusively in one or more of the following:

- (a) Oceanographic instruction;
- (b) Limnologic instruction;
- (c) Oceanographic research; or
- (d) Limnologic research."

(46 U.S.C. 441-445, 49 U.S.C. 1655(b), 4 CFR 1.46(b))

[CGD 77-0811, 46 FR 56204 Nov. 16, 1981]

§ 24.10-21 Officer in Charge, Marine Inspection.

This term means any person from the civilian or military branch of the Coast Guard designated as such by the Commandant and who, under the superintendence and direction of the Coast Guard District Commander, is in charge of an inspection zone for the performance of duties with respect to the inspections, enforcement, and administration of Title 52, Revised Statutes, and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 24.10-23 Passenger.

A passenger is every person, other than the master and the members of the crew or other persons employed or engaged in any capacity on board a vessel in the business of that vessel. In the case of a vessel on an international voyage a child under one year of age is not counted as a passenger.

§ 24.10-27 Vessel.

Where the word "vessel" is used in this subchapter, it shall be considered to include all vessels indicated in Column 6 of Table 24.05-1(a), except as otherwise noted in this subpart.

Subpart 24.15—Equivalents

§ 24.15-1 Conditions under which equivalents may be used.

(a) Where in this subchapter it is provided that a particular fitting, material, appliance, apparatus, or equipment, or type thereof, shall be fitted or carried in a vessel, or that any particular provision shall be made or arrangement shall be adopted, the Commandant may accept in substitution therefor any other fitting, material, apparatus, or equipment, or type thereof, or any other arrangement: *Provided*, That he shall have been satisfied by suitable trials that the fitting, material, appliance, apparatus, or equipment, or type thereof, or the provision or arrangement is at least as effective as that specified in this subchapter.

(b) In any case where it is shown to the satisfaction of the Commandant that the use of any particular equipment, apparatus, or arrangement not specifically required by law is unreasonable or impracticable, the Commandant may permit the use of alternate equipment, apparatus, or arrangement to such an extent and upon such conditions as will insure to his satisfaction, a degree of safety consistent with the minimum standards set forth in this subchapter.

§ 24.15-5 Canadian pleasure craft temporarily using navigable waters of the United States.

(a) Uninspected Canadian pleasure craft (uninspected vessels) temporarily using navigable waters of the United States may carry in lieu of the equipment required by the Motorboat Act of 1940 (46 U.S.C. 526-526u) and the regulations in this subchapter, the equipment as required by the laws of the Dominion of Canada and the regulations of the Department of Transport, Ottawa, Canada.

(Sec. 7, 72 Stat. 1757; 46 U.S.C. 527d)

Subpart 24.20—General Marine Engineering Requirements

§ 24.20-1 Marine engineering details.

(a) All marine engineering details relative to the design, construction, and testing of boilers and machinery on steam-propelled motorboats of over 40 feet in length will be found in Subchapter F (Marine Engineering) of this chapter.

(R.S. 4418, as amended, sec. 1, 54 Stat. 103, as amended; 46 U.S.C. 392, 526)

PART 25—REQUIREMENTS

Subpart 25.01—Application

Sec.

25.01-1 Applicable to all vessels.

Subpart 25.25—Life Preservers and Other Lifesaving Equipment

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25.25-3 Definitions.

25.25-5 Life preservers and other lifesaving equipment required.

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Subpart 25.30—Fire Extinguishing Equipment

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25.30-90 Vessels contracted for prior to November 19, 1952.

Subpart 25.35—Backfire Flame Control

25.35-1 Requirements.

Subpart 25.40—Ventilation

25.40-1 Tanks and engine spaces.

Subpart 25.45—Liquefied Petroleum Gas

25.45-1 Prohibited on vessels carrying passengers for hire.

AUTHORITY: 46 U.S.C. 4104 and 4302; 49 CFR 1.46, unless otherwise noted.

Source: CFR 65-50, 30 FR 16853, Dec. 30, 1965, unless otherwise noted.

Subpart 25.01—Application

§ 25.01-1 Applicable to all vessels.

(a) The provisions of this part shall apply to all vessels except as specifically noted.

Subpart 25.25—Life Preservers and Other Lifesaving Equipment

AUTHORITY: R.S. 4405 as amended (46 U.S.C. 375); R.S. 4462 as amended (46 U.S.C. 410); c. 155, sec. 17, 54 Stat. 166 as amended (46 U.S.C. 526p); sec. 5, 39, 85 Stat. 215, 228 (46 U.S.C. 1454, 1480); sec. 6(b)(1), 80 Stat. 938 (49 U.S.C. 1655(b)(1)); 49 CFR 1.46(b).

Source: CGD 72-172R, 38 FR 8117, Mar. 28, 1973, unless otherwise noted.

§ 25.25-1 Application.

This subpart applies to each vessel to which this part applies, except:

(a) Vessels used for noncommercial use;

(b) Vessels leased, rented, or chartered to another for the latter's non-commercial use;

(c) Commercial vessels propelled by sail not carrying passengers for hire; or

(d) Commercial barges not carrying passengers for hire.

§ 25.25-3 Definitions.

As used in this subpart:

(a) "Approved" means approved under Subchapter Q of this chapter.

(b) "Use" means operate, navigate, or employ.

§ 25.25-5 Life preservers and other lifesaving equipment required.

(a) No person may operate a vessel to which this subpart applies unless it meets the requirements of this subpart.

(b) Each vessel not carrying passengers for hire, less than 40 feet in length must have at least one life preserver (Type I PFD), buoyant vest (Type II PFD), or marine buoyant device intended to be worn (Type III PFD), approved under Subchapter Q of a suitable size for each person on board. Kapok and fibrous glass life preservers that do not have plastic-

covered pad inserts as required by Subparts 160.062 and 160.005 of this chapter are not acceptable as equipment required by this paragraph.

(c) Each vessel carrying passengers for hire and each vessel 40 feet in length or longer not carrying passengers for hire must have at least one life preserver approved under Subchapter Q of a suitable size for each person on board. Kapok and fibrous glass life preservers which do not have plastic-covered pad inserts as required by Subparts 160.002 and 160.005 of this chapter are not acceptable as equipment required by this paragraph.

(d) In addition to the equipment required by paragraph (b) or (c) of this section, each vessel 26 feet in length or longer must have at least one approved ring life buoy, constructed in accordance with Subpart 160.050 of this chapter; except a ring life buoy that was approved under former Subpart 160.009 of this chapter may be used as long as it is in good and serviceable condition.

(e) Each vessel not carrying passengers for hire may substitute an exposure suit for a life preserver, buoyant vest, or marine buoyant device required under paragraphs (b) or (c) of this section. Each exposure suit carried in accordance with this paragraph must be of a type approved under Subpart 160.071 of this chapter.

(f) On each vessel, regardless of length and regardless of whether carrying passengers for hire, an approved commercial hybrid PFD may be substituted for a life preserver, buoyant vest, or marine buoyant device required under paragraphs (b) or (c) of this section. Each hybrid PFD is accepted as meeting the requirements of paragraphs (b) or (c) of this section only if it is—

(1) Worn when the vessel is underway and the intended wearer is not within an enclosed space;

(2) Used in accordance with the conditions marked on the PFD and in the owner's manual; and

(3) Labeled for use on uninspected commercial vessels.

ICGD 72-172R, 38 FR 8117, Mar. 28, 1973, as amended by CGD 77-081, 47 FR 1055, Mar. 11, 1982; CGD 82-075a, 49 FR 446

Feb. 7, 1984; CGD 78-174A, 51 FR 4350, Feb. 4, 1986)

§ 25.25-7 Marking.

The lifesaving equipment required by this subpart must be legibly marked as specified in Subchapter Q of this chapter.

§ 25.25-9 Storage.

(a) The lifesaving equipment designed to be worn required in § 25.25-5 (b), (c) and (e) must be readily accessible.

(b) Lifesaving equipment designed to be thrown required in § 25.25-5(d) must be immediately available.

(CGD 72-172R, 38 FR 8117, Mar. 28, 1973, as amended by CGD 82-075a, 49 FR 4483, Feb. 7, 1984)

§ 25.25-11 Condition.

The lifesaving equipment required by this subpart must be in serviceable condition.

§ 25.25-13 Personal flotation device lights.

(a) This section applies to vessels described in § 25.25-1 that engage in ocean, coastwise, or Great Lakes voyages.

(b) Each exposure suit carried in accordance with § 25.25-5(e), each life preserver, each marine buoyant device intended to be worn, and each buoyant vest must have a personal flotation device light that is approved under Subpart 161.012 of this chapter.

(c) Each personal flotation device light required by this section must be securely attached to the front shoulder area of the exposure suit, life preserver, or other personal flotation device.

(d) If a personal flotation device light has a non-replaceable power source, the light must be replaced on or before the expiration date of the power source. If the light has a replaceable power source, the power source must be replaced on or before its expiration date and the light must be replaced when it is no longer serviceable.

(44 FR 38783, July 2, 1979, as amended by CGD 82-075a, 49 FR 4483, Feb. 7, 1984)

§ 25.25-16 Retroreflective material for personal flotation devices.

(a) Each life preserver, each marine buoyant device intended to be worn, and each buoyant vest carried on a vessel must have Type I retroreflective material that is approved under Subpart 164.018 of this chapter.

(b) Each item required to have retroreflective material must have at least 200 sq. cm (31 sq. in.) of material attached to its front side, at least 200 sq. cm of material on its back side, and, if the item is reversible, at least 200 sq. cm of material on each of its reversible sides. The material attached on each side of the item must be divided equally between the upper quadrants of the side, and the material in each quadrant must be attached as closely as possible to the shoulder area of the item.

(CGD 76-028, 44 FR 38783, July 2, 1979, as amended by CGD 82-075a, 49 FR 4483, Feb. 7, 1984)

Subpart 25.30—Fire Extinguishing Equipment

§ 25.30-1 Application.

(a) The provisions of this subpart, with the exception of § 25.30-90, shall apply to all vessels contracted for on or after November 19, 1952. Vessels contracted for prior to that date shall meet the requirements of § 25.30-90.

§ 25.30-5 General provisions.

(a) Where equipment in this subpart is required to be of an approved type, such equipment requires the specific approval of the Commandant. Such approvals are published in the FEDERAL REGISTER, and in addition, are contained in Coast Guard publication CG-190, "Equipment Lists."

(b) All hand portable fire extinguishers, semiportable fire extinguishing systems, and fixed fire extinguishing systems shall be of an approved type.

§ 25.30-10 Hand portable fire extinguishers and semiportable fire extinguishing systems.

(a) Hand portable fire extinguishers and semiportable fire extinguishing

systems are classified by a combination letter and number symbol. The letter indicating the type of fire which the unit could be expected to extinguish, and the number indicating the relative size of the unit.

(b) For the purpose of this subchapter, all required hand portable fire extinguishers and semiportable fire extinguishing systems are of the "B" type; i.e., suitable for extinguishing fires involving flammable liquids, greases, etc.

(c) The number designations for size will start with "I" for the smallest to "V" for the largest. For the purpose of this subchapter, only sizes I through III will be considered. Sizes I and II are considered hand portable fire extinguishers and sizes III, IV, and V are considered semiportable fire extinguishing systems which shall be fitted with suitable hose and nozzle or other practicable means so that all portions of the space concerned may be covered. Examples of size graduations for some of the typical hand portable fire extinguishers and semiportable fire extinguishing systems are set forth in Table 25.30-10(c).

TABLE 25.30-10(c)

Classification		Foam, gallons	Carbon Dioxide, pounds	Dry chemical, pounds
Type	Size			
B	I	1½	4	2
B	II	2½	15	10
B	III	12	35	20

(d) All hand portable fire extinguishers and semiportable fire extinguishing systems shall have permanently attached thereto a metallic name plate giving the name of the item, the rated capacity in gallons, quarts, or pounds, the name and address of the person or firm for whom approved, and the identifying mark of the actual manufacturer.

(e) Vaporizing-liquid type fire extinguishers containing carbon tetrachloride or chlorobromomethane or other toxic vaporizing liquids are not acceptable as equipment required by this subchapter.

(f) Hand portable or semiportable extinguishers which are required on their name plates to be protected from

freezing shall not be located where freezing temperatures may be expected.

(g) The use of dry chemical, stored pressure, fire extinguishers not fitted with pressure gauges or indicating devices, manufactured prior to January 1, 1965, may be permitted on motorboats and other vessels so long as such extinguishers are maintained in good and serviceable condition. The following maintenance and inspections required for such extinguishers:

(1) When the date on the inspect record tag on the extinguishers shows that 6 months have elapsed since the weight check ashore, then such extinguisher is no longer accepted as meeting required maintenance conditions until reweighed ashore and found to be in a serviceable condition within required weight conditions.

(2) If the weight of the container is ¼ ounce less than that stamped on the container, it shall be serviced.

(3) If the outer seal or seals (which indicate tampering or use when broken) are not intact, the board officer or marine inspector will inspect such extinguisher to see that the fireable disc in neck of the container is intact; and if such disc is not intact the container shall be serviced.

(4) If there is evidence of damage, use, or leakage, such as dry chemical powder observed in the nozzle or elsewhere on the extinguisher, the container shall be replaced with a new one and the extinguisher properly serviced or the extinguisher replaced with another approved extinguisher.

(h) The dry chemical, stored pressure, fire extinguishers without pressure gauges or indicating devices manufactured after January 1, 1965, shall not be labeled with the marine type label bed in § 162.028-4 of this title unless such extinguishers manufactured after January 1, 1965, be carried aboard motorboats or other vessel required equipment.

(CGFR 65-50, 30 FR 16653, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5711, 12, 1968; CGFR 69-18, 34 FR 5723, Mar. 1969)

§ 25.30-15 Fixed fire extinguishing systems.

(a) When a fixed fire extinguishing system is installed, it shall be of an approved carbon dioxide type, designed and installed in agreement with the applicable provisions of Subpart 76.15 of Subchapter H (Passenger Vessels) of this chapter.

§ 25.30-20 Fire extinguishing equipment required.

(a) *Motorboats.* (1) All motorboats shall carry at least the minimum number of hand portable fire extinguishers set forth in Table 25.30-20(a)(1), except that motorboats less than 26 feet in length, propelled by outboard motors and not carrying passengers for hire, need not carry such portable fire extinguishers if the construction of such motorboats will not permit the entrapment of explosive or flammable gases or vapors.

TABLE 25.30-20(a)(1)

Class of motor boat	Length, feet	Minimum number of B-I hand portable fire extinguishers required ¹	
		No fixed fire extinguishing system in machinery space	Fixed fire extinguishing system in machinery space
A	Under 16	1	0
1	16 and over, but under 26	1	0
2	26 and over, but under 40	2	1
3	40 and over, but not over 65	3	2

¹ One B-II hand portable fire extinguisher may be substituted for two B-I hand portable fire extinguishers.

Fire extinguishers are required if any one or more of the following conditions exist (numbers identifying conditions are the same as those placed in Figure 25.30-20(a1)):

1. Closed compartment under thwarts and seats wherein portable fuel tanks may be stored.
2. Double bottoms not sealed to the hull or which are not completely filled with flotation material.
3. Close living spaces.

(2) The intent of this regulation is illustrated in Figure 25.30-20(a1) where fire extinguishers are required if any one or more of the specified conditions exist, and in Figure 25.30-20(a2) where specified conditions do not, in themselves, require that fire extinguishers be carried.



FIGURE 25.30-20(a1)

4. Closed stowage compartments in which combustible or flammable materials are stowed.
5. Permanently installed fuel tanks.

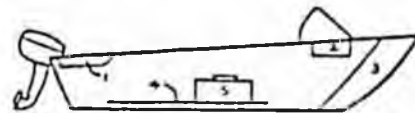


FIGURE 25.30-20(a2)

The following conditions do not, in themselves, require that fire extinguishers be carried (numbers identifying conditions are the same as those placed in Figure 25.30-20(a2)):

1. Bait wells.
2. Glove compartments.
3. Buoyant flotation material.
4. Open slatted flooring.
5. Ice chests.

(b) *Motor vessels.* (1) All motor vessels shall carry at least the minimum number of hand portable fire extinguishers set forth in Table 25.30-20(b)(1).

TABLE 25.30-20(b)(1)

Gross tonnage—		Minimum number of B-II hand portable fire extinguishers
Over	Not over	
50	100	1
100	500	2
500	1,000	3
1,000		6
		8

(2) In addition to the hand portable fire extinguishers required by paragraph (b)(1) of this section, the following fire-extinguishing equipment shall be fitted in the machinery space:

(i) One Type B-II hand portable fire extinguisher shall be carried for each 1,000 B. H. P. of the main engines or fraction thereof. However, not more than 6 such extinguishers need be carried.

(ii) On motor vessels of over 300 gross tons, either one Type B-III semi-portable fire-extinguishing system shall be fitted, or alternatively, a fixed fire-extinguishing system shall be fitted in the machinery space.

(3) The frame or support of each Type B-III fire extinguisher required by paragraph (b)(2)(ii) of this section

must be welded or otherwise permanently attached to a bulkhead or

(4) If an approved semiportable extinguisher has wheels and is not required by this section, it must be securely stowed when not in use to prevent it from rolling out of the compartment under heavy sea conditions.

(c) *Barges carrying passengers.* Every barge of 65 feet in length or more while carrying passengers when towed or pushed by a motorboat, motor vessel, or steam vessel shall be fitted with hand portable fire extinguishers as required by Table 25.30-20(a)(1) pending upon the length of the barge.

(2) Every barge of over 65 feet in length while carrying passengers when towed or pushed by a motorboat, motor vessel, or steam vessel shall be fitted with hand portable fire extinguishers as required by Table 25.30-20(b)(1), depending upon the gross tonnage of the barge.

[CGFR 65-50, 30 FR 16653, Dec. 30, 1966, amended by CGD 77-039, 44 FR 34132, 14, 1979]

§ 25.30-90 Vessels contracted for prior November 19, 1952.

(a) Vessels contracted for prior November 19, 1952, shall meet the applicable provisions of §§ 25.30-20 through 25.30-20 insofar as the number and general type of equipment is concerned. Existing items of equipment and installations previously approved but not meeting the applicable requirements for type approval may be continued in service so long as they are in good condition. All new installations and replacements shall meet the requirements of §§ 25.30-20 through 25.30-20.

Subpart 25.35—Backfire Flame Control

§ 25.35-1 Requirements.

(a) Every gasoline engine installed in a motorboat or motor vessel after April 25, 1940, except outboard motors, shall be equipped with an acceptable means of backfire flame control.

(b) Installations made before November 19, 1952, need not meet the detailed requirements of this subpart and may be continued in use as long as they are serviceable and in good condition. Replacements shall meet the applicable conditions in this section.

(c) Installations consisting of backfire flame arresters bearing basic Approval No. 162.015 may be continued in use as long as they are serviceable and in good condition. Replacements shall meet the applicable conditions in this section.

(d) Installations consisting of engine air and fuel induction system and given a basic Approval No. 162.015 may be continued in use as long as they are serviceable and in good condition. Replacements shall meet the applicable conditions in this section.

(e) The following are acceptable means of backfire flame control for gasoline engines:

(1) A backfire flame arrester constructed in accordance with the specification regulations contained in Subpart 162.041 of Subchapter Q (Specifications) of this chapter and it shall be specifically approved by the Commandant. The flame arrester shall be suitably secured to the air intake with flame-tight connection.

(2) An engine air and fuel induction system which provides adequate protection from propagation of backfire flame to the atmosphere equivalent to that provided by an approved backfire flame arrester. A gasoline engine utilizing an air and fuel induction system, and operated without an approved backfire flame arrester shall have such installation tested and labeled in accordance with the specifications contained in Subpart 162.042 of Subchapter Q (Specifications) of this chapter and such system shall be specifically approved by the Commandant.

(3) Any attachment to the carburetor or location of the engine air induction system by means of which flames caused by engine backfire will be dispersed to the atmosphere outside the vessel in such a manner that the flames will not endanger the vessel, persons on board, or nearby vessel and structures. All attachments shall be of metallic construction with flame-tight connections and firmly secured to withstand vibration, shock, and engine backfire. Such installations do not require formal approval and labeling, but will be accepted by Coast Guard law enforcement officers on the basis of compliance with this subpart.

(4) Where manufacturers wish to produce vessels having an integrated engine-vessel design, a pre-market approval of an engine air induction system is available. Such an installation shall be tested and labeled in accordance with the specifications contained in Subpart 162.043 of Subchapter Q (Specifications) of this chapter and such system shall be specifically approved by the Commandant.

Subpart 25.40—Ventilation

§ 25.40-1 Tanks and engine spaces.

(a) All motorboats or motor vessels, except open boats and as provided in paragraphs (d) and (e) of this section, the construction or decking over of which is commenced after April 25, 1940, and which use fuel having a flashpoint of 110° F., or less, shall have at least two ventilator ducts, fitted with cowls or their equivalent, for the efficient removal of explosive or flammable gases from the bilges of every engine and fuel tank compartment. There shall be at least one exhaust duct installed so as to extend from the open atmosphere to the lower portion of the bilge and at least one intake duct installed so as to extend to a point at least midway to the bilge or at least below the level of the carburetor air intake. The cowls shall be located and trimmed for maximum effectiveness and in such a manner so as to prevent displaced fumes from being recirculated.

(b) As used in this section, the term "open boats" means those motorboats

or motor vessels with all engine and fuel tank compartments, and other spaces to which explosive or flammable gases and vapors from these compartments may flow, open to the atmosphere and so arranged as to prevent the entrapment of such gases and vapors within the vessel.

(c) Where alterations are needed for existing motorboats or motor vessels to comply with the requirements in this section, such alterations shall be accomplished as soon as practicable but in any case shall be completed by June 1, 1966.

(d) Boats as defined in the Federal Boat Safety Act of 1971 built after July 31, 1980 or which are in compliance with 33 CFR Part 183 are exempted from these requirements.

(e) Boats, as defined in the Federal Boat Safety Act of 1971, built after July 31, 1978 are excepted from the requirements of paragraph (a) for fuel tank compartments that:

(1) Contain a permanently installed fuel tank if each electrical component is ignition protected in accordance with 33 CFR 183.410(a); and

(2) Contain fuel tanks that vent to the outside of the boat.

(CGFR 65-50, 30 FR 16653, Dec. 30, 1965, as amended by CGD 76-082A, 44 FR 73047, Dec. 17, 1979; CGD 76-082A, 45 FR 7551, Feb. 4, 1980)

Subpart 25.45—Liquefied Petroleum Gas

§ 25.45-1 Prohibited on vessels carrying passengers for hire.

(a) On vessels carrying passengers for hire, the use of liquefied petroleum gases and certain flammable liquids for cooking, heating, or lighting is prohibited by Parts 146 and 147 of Subchapter N (Dangerous Cargoes) of this chapter.

PART 26—OPERATIONS

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26.30-10 Stowage.

AUTHORITY: R.S. 4405, as amended, 46 U.S.C. 4405, as amended, sec. 17, 54 Stat. 166, as amended, sec. 6(b)(1), 80 Stat. 938; 46 U.S.C. 4405, 416, 526p, 49 U.S.C. 1655(b); 49 CFR 1.46 (35 FR 4959). Additional authority is cited in parentheses following the sections affected, unless otherwise noted.

SOURCE: CGFR 65-50, 30 FR 16656, I 30, 1965, unless otherwise noted.

Subpart 26.01—Application

§ 26.01-1 Applicable to all vessels.

(a) The provisions of this part shall apply to all vessels except as specifically noted.

Subpart 26.03—Special Operating Requirements

§ 26.03-1 Safety orientation.

(a) Before getting underway in any vessel carrying 6 or fewer passengers for hire, the operator in charge shall ensure that suitable public announcements, instructive placards or both are provided in a manner which affords all passengers the opportunity to become acquainted with:

(1) Stowage locations of life preservers;

(2) Proper method of donning and adjusting life preservers of the type(s) carried on the vessel;

(3) The type and location of all life-saving devices carried on the vessel; and

(4) The location and contents of the "Emergency Checkoff List" required by § 26.03-2.

(b) Vessels subject to this subpart engaged in tender service at yacht clubs and marinas, and vessels being demonstrated for a potential purchaser by a yacht broker, are excluded from the requirements of § 26.03-1 and § 26.03-2.

[CGD 78-009, 45 FR 11109, Feb. 19, 1980]

§ 26.03-2 Emergency instructions.

(a) The operator in charge of each vessel carrying 6 or fewer passengers for hire shall ensure that an emergency checkoff list is posted in a conspicuous, continuously accessible place to serve as a notice to the passengers and a reminder to the crew of precautionary measures which may be necessary in the event of an emergency situation.

(b) Except where any part of the emergency instructions are deemed unnecessary by the Officer in Charge, Marine Inspection, the emergency checkoff list must contain not less than the applicable portions of the

sample emergency checkoff list which follows:

SAMPLE EMERGENCY CHECKOFF LIST

Measures to be considered in the event of:
(a) *Rough weather at sea or crossing hazardous bars.*

- All weathertight and watertight doors, hatches and airports closed to prevent taking water aboard.
- Bilges kept dry to prevent loss of stability.
- Passengers seated and evenly distributed.
- All passengers wearing life preservers in conditions of very rough seas or if about to cross a bar under hazardous conditions.
- An international distress call and a call to the Coast Guard over radiotelephone made if assistance is needed (if radiotelephone equipped).

(b) *Man overboard.*

- Ring buoy thrown overboard as close to the victim as possible.
- Lookout posted to keep the victim in sight.
- Crewmember, wearing a life preserver and lifeline, standing by ready to jump into the water to assist the victim back aboard.
- Coast Guard and all vessels in the vicinity notified by radiotelephone (if radiotelephone equipped).
- Search continued until after radiotelephone consultation with the Coast Guard, if at all possible.

(c) *Fire at Sea.*

- Air supply to the fire cut off by closing hatches, ports, doors, and ventilators, etc.
- Portable extinguishers discharged at the base of the flames of flammable liquid or grease fires or water applied to fires in combustible solids.
- If fire is in machinery spaces, fuel supply and ventilation shut off and any installed fixed firefighting system discharged.
- Vessel maneuvered to minimize the effect of wind on the fire.
- Coast Guard and all vessels in the vicinity notified by radiotelephone of the fire and vessel location (if radiotelephone equipped).
- Passengers moved away from fire and wearing life preservers.

(c) When in the judgment of the cognizant Officer in Charge, Marine Inspection, the operation of any vessel subject to this section does not present the hazards listed on the emergency checkoff list or when any vessel has no suitable mounting surface, an exclu-

sion from the requirements of § 26.03-2(a) and (b) is granted by letter.

[CGD 78-009, 45 FR 11109, Feb. 19, 1980]

§ 26.03-5 Action required after accident.

(a) Whenever an undocumented vessel is involved in a collision, accident, or other casualty, the operator shall:

(1) Comply with requirements in subsection 13(b) of the Act of April 25, 1940, as amended (46 U.S.C. 5261), which reads as follows:

In the case of collision, accident, or other casualty involving a motorboat or other vessel subject to this Act, it shall be the duty of the operator, if and so far as he can do so without serious danger to his own vessel, or persons aboard, to render such assistance as may be practicable and necessary to other persons affected by the collision, accident, or other casualty in order to save them from danger caused by the collision, accident, or casualty. He shall also give his name, address, and identification of his vessel to any person injured and to the owner of any property damaged. The duties imposed by this subsection shall be in addition to any duties otherwise provided by law.

(b) See Subpart 173.01 of Part 173 of Subchapter S (Numbering of Undocumented Vessels, Statistics on Numbering, and "Boating Accident Reports" and Accident Statistics) of this chapter for requirements governing "boating accident reports."

§ 26.03-10 Signaling light.

(a) All vessels of over 150 gross tons, when engaged on an international voyage, shall be equipped with an efficient daylight signaling lamp in accordance with the requirements of Subchapter J (Electrical Engineering) of this chapter.

(Sec. 633, 63 Stat. 545; 14 U.S.C. 633; E.O. 11239, 3 CFR, 1965 Supp.)

[CGFR 68-32, 33 FR 5711, Apr. 12, 1968]

Subpart 26.08—Notice of Marine Casualty and Voyage Records

AUTHORITY: Sec. 10, 18 Stat. 128 (33 U.S.C. 361); R.S. 4450, as amended (46 U.S.C. 239); R.S. 4405 (46 U.S.C. 375); 80 Stat. 938 (49 U.S.C. 1655(b)(1)); 49 CFR 1.46(b).

SOURCE: CGD 76-170, 45 FR 77442, Nov. 24, 1980, unless otherwise noted.

§ 26.08-1 Notice of marine casualty.

The owner, agent, or person in charge of a vessel, as soon as possible to the Coast Guard Marine Safety Inspection Office whenever the vessel is involved in any of the following:

(a) All accidental occurrences which result in the death of any intentional ground crew member or creates a hazard to the environment, or the destruction of a vessel;

(b) Loss of main propulsion, steering, or any essential equipment or control system which causes a reduction in maneuvering capabilities. Loss means that system, parts, sub-systems, or components do not perform the required function;

(c) An occurrence which results in the loss of thickness or fitness for service, including but not limited to, cracking, or failure or damage to the extinguishing system;

(d) Loss of life;

(e) Injury causing a person to remain incapacitated for an excess of 72 hours;

(f) An occurrence not covered by the above criteria which results in damage to property in excess of \$25,000. Damage cost includes the value of labor and materials which existed prior to the occurrence but does not include the cost of wage, cleaning, gas freight, or demurrage.

(Sec. 10, 18 Stat. 128 (33 U.S.C. 4450, as amended (46 U.S.C. 239); (46 U.S.C. 375); 80 Stat. 938 (49 U.S.C. 1655(b)(1)); 49 CFR 1.46(b); 49 U.S.C. 1548))

[CGD 76-170, 45 FR 77442, Nov. 24, 1980, amended by CGD 82-069, 45 FR 77442, 7, 1983]

§ 26.08-3 Reporting exclusion.

(a) Vessels subject to this subpart are excluded from the requirements of Subpart 26.08 of this part.

(b) Vessels excluded from the requirements of § 4.05-1 (d) and (e) with respect to the death or injury of shipyard or harbor workers when such accidents are not the result of either a vessel casualty (e.g. collision) or a vessel equipment casualty (e.g. cargo boom failure) and are subject to the reporting requirements of OSHA under 29 CFR Part 1904.

(CGD 76-170, 47 FR 39684, Sept. 9, 1982)

§ 26.08-5 Substance of marine casualty notice.

The notice required in § 26.08-1 shall show the name and official number of the vessel involved, the name of the vessel's owner or agent, the nature and circumstances of the casualty, the locality in which it occurred, the nature and extent of injury to persons, and the damage to property.

§ 26.08-10 Report by person in charge of vessel.

(a) In addition to the notice required by § 26.08-1, the person in charge of the vessel shall, as soon as possible, report in writing to the Officer in Charge, Marine Inspection, at the port in which the casualty occurred or nearest the port of first arrival. The written report required for vessel or personnel accidents shall be made on Form CG-2692. The Form CG-2692A (Barge Addendum) may be used as needed and appended to Form CG-2692.

(b) If filed without delay, the Form CG-2692 may also provide the notice required by 26.08-1.

(Approved by the Office of Management and Budget under control number 2115-0003).

(CGD 82-023, 47 FR 35747, Aug. 16, 1982, and 48 FR 43328, Sept. 23, 1983)

§ 26.08-15 Voyage records, retention of.

(a) The owner, agent, master, or person in charge of any vessel involved in a marine casualty shall retain such voyage records as are maintained by the vessel, such as both rough and smooth deck and engine room logs, bell books, navigation charts, navigation work books, compass deviation cards, gyro records, stowage plans, records of draft, aids to mariners,

night order books, radiograms sent and received, radio logs, crew and passenger lists, articles of shipment, official logs and other material which might be of assistance in investigating and determining the cause of the casualty. The owner, agent, master, other officer or person responsible for the custody thereof, shall make these records available upon request, to a duly authorized investigating officer, administrative law judge, officer or employee of the Coast Guard.

§ 26.08-20 Report of accident to aid to navigation.

Whenever a vessel collides with a lightship, buoy, or other aid to navigation under the jurisdiction of the Coast Guard, or is connected with any such collision, it shall be the duty of the person in charge of such vessel to report the accident to the nearest Officer in Charge, Marine Inspection. No report on Form CG 2692 is required unless one of the results listed in § 26.08-1 occur.

§ 26.08-25 Reports when state of war exists.

During the period when a state of war exists between the United States and any foreign nation, communications in regard to casualties or accidents will be handled with caution and the reports shall not be made by radio or by telegram.

Subpart 26.10—Assessment, Collection, Mitigation, Remission of Fines or Penalties

§ 26.10-1 General.

(a) The assessment, collection, mitigation, and remission of any fine, penalty, or forfeiture incurred under the Act of April 25, 1940, as amended, are authorized by section 17 (46 U.S.C. 526p), which reads in part as follows:

... The Commandant of the Coast Guard or any officer of the Coast Guard authorized by the Commandant may, upon application therefor, remit or mitigate any fine, penalty or forfeiture incurred under this Act or any regulations thereunder relating to motorboats or vessels, except the penalties provided in section 14 hereunder.

(b) The assessment, collection, mitigation, and remission of penalties incurred under the Federal Boating Act of 1958 are authorized by subsection 8(b) (46 U.S.C. 527e), which reads as follows:

The Secretary may assess and collect any penalty incurred under this Act or any regulations prescribed pursuant to section 7 of this Act. The Secretary may, in his discretion, remit or mitigate any penalty imposed under this section, or discontinue prosecution therefor on such terms as he may deem proper.

§ 26.10-5 Procedures.

(a) Violations of maritime safety, navigation and vessel inspection laws, as well as rules and regulations prescribed thereunder, administered and enforced by the Coast Guard are reported by Coast Guard personnel detecting such violations to the Commander of the Coast Guard district in which the alleged violations occurred. The alleged offender will be informed of the nature of the nature of the violation.

(b) The procedures for the assessment, collection, remission, or mitigation are set forth in 33 CFR Part 1.

(CGFR 65-50, 30 FR 16656, Dec. 30, 1965, as amended by CGD 74-68, 39 FR 19481, June 3, 1974)

Subpart 26.15—Boarding

§ 26.15-1 May board at any time.

(a) In addition to any other authority provided by law, the boarding of vessels is authorized by subsection 8(c) of the Federal Boating Act of 1958 (46 U.S.C. 527e(c)), which reads as follows:

Commissioned, warrant, and petty officers of the Coast Guard may board any vessel required to be numbered under this Act at any time such vessel is found upon the navigable waters of the United States, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and the District of Columbia, or on the high seas, address inquiries to those on board, require appropriate proof of identification therefrom, examine the certificate of number issued under this Act, or in the absence of such certificate require appropriate proof of identification of the owner of the vessel, and, in addition, examine such vessel for compliance with this Act, the Act of April 25, 1940, as amended, and the applicable rules of the road.

(b) To facilitate the boarding of vessels by the commissioned, warrant, and petty officers of the Coast Guard in the exercise of their authority every vessel subject to the Federal Boating Act of 1958, or the Act of April 25, 1940, as amended (46 U.S.C. 526-526u), if under way and being hailed by a Coast Guard cutter or patrol boat, shall stop immediately and lay to, or shall maneuver in such way as to permit the boarding officer to come aboard. Failure to stop permit a boarding officer to board a vessel or refusal to comply will subject the operator or owner to penalties provided in these laws.

(c) Coast Guard boarding vessels shall be identified by the display of the Coast Guard ensign as a symbol of authority and the Coast Guard personnel will be dressed in Coast Guard uniform. The Coast Guard boarding officer upon boarding a vessel will identify himself to the master, owner, or operator and explain his mission.

(Interpret or apply sec. 7, 72 Stat. 175 U.S.C. 527d; R.S. 4427, as amended U.S.C. 405(b)); 49 CFR 1.46(a)(3))

(CGFR 65-50, 30 FR 16656, Dec. 30, 1965, as amended by CGD 72-132R, 38 FR 10000, Mar. 2, 1973)

Subpart 26.20—Exhibition of Motorboat Operator's License

§ 26.20-1 Must be available.

(a) Any person to whom a license for a motorboat operator has been issued shall have such license in his possession and available for immediate production to any Coast Guard boarding officer at all times during which the vessel which he is operating is carrying passengers for hire.

(Sec. 7, 54 Stat. 165, as amended; 46 U.S.C. 526f)

Subpart 26.25—Crew Requirements

§ 26.25-1 Licensed personnel.

(a) Every motorboat, as defined in the Act of April 25, 1940, as amended (46 U.S.C. 526), and any other vessel fifteen gross tons or less propelled by machinery other than steam, and carrying passengers for hire, shall

operated or navigated by a person duly licensed for such service by the Coast Guard. This licensed operator shall be in charge of such motorboat or vessel, regardless of whether or not the passengers carried for hire are on such motorboat or vessel or are carried on a nonself-propelled vessel being towed or pushed by such motorboat or vessel. See § 157.30-30 of Subchapter P (Manning of Vessels) for special provisions with regard to use of superior licenses for motorboat operator's license.

(b) Certain uninspected vessels of 200 gross tons and upward are required to carry licensed officers. For details of these provisions see Subchapter P (Manning of Vessels) of this chapter, and the applicable law.

(c) An uninspected towing vessel, as defined in section (b)(1) of R.S. 4427, as amended (86 Stat. 423; 46 U.S.C. 405(b)) shall, while underway, be under the actual direction and control of a person licensed by the Coast Guard. For details of these provisions, see 46 U.S.C. 405(b) and the implementing regulations contained in Subparts 10.16, 157.01, 157.10, and 157.30 of this chapter.

(R.S. 4427, as amended (46 U.S.C. 405(b)); 49 CFR 1.46(c)(3))

(CGFR 65-50, 30 FR 16656, Dec. 30, 1965, as amended by CGD 72-132R, 38 FR 5750, Mar. 2, 1973)

§ 26.25-5 Manning.

(a) Certain provisions with regard to requirements for able seamen, division of crew into watches, and citizenship of crew which are contained in various

navigation and vessel inspection laws may apply to uninspected vessels operating on ocean, coastwise or Great Lakes waters. For details of these provisions see Subchapter P (Manning of Vessels) of this chapter and the applicable law.

Subpart 26.30—Work Vest

Source: CGFR 68-65, 33 FR 19982, Dec. 28, 1968, unless otherwise noted.

§ 26.30-1 Approved unicellular plastic foam work vests.

(a) Buoyant work vests carried under the permissive authority of this subpart shall be of an approved type, and shall be constructed, listed, and labeled in accordance with Subpart 160.053 of Subchapter Q (Specifications) of this chapter.

§ 26.30-5 Use.

(a) Approved buoyant work vests are considered to be items of safety apparel and may be carried aboard vessels to be worn by crew members when working near or over the water under favorable working conditions.

(b) When carried, approved buoyant work vests shall not be accepted in lieu of any portion of the required number of approved lifesaving appliances required by § 25.25-10 of this subchapter.

§ 26.30-10 Stowage.

(a) The approved buoyant work vests shall be stowed separately from the regular stowage of required lifesaving equipment.

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(40 U.S.C. 375, 416, 481; 49 U.S.C. 1655(b); 49 CFR 1.4(b), and 1.46)

(CGFR 59-26, 24 FR 5548, July 9, 1959, as amended by CGFR 65-04, 31 FR 562, Jan. 18, 1966; CGD 75-186, 41 FR 10437, Mar. 11, 1976)

§ 160.051-9 Procedure for approval.

(a) *Preliminary plans and specifications.* Inflatable liferafts for use on vessels subject to Coast Guard inspection are approved only by the Commandant, U.S. Coast Guard, Washington, D.C. 20593. Before any action is taken on any design arrangement and construction of the inflatable liferaft, material specifications, and a description of construction methods with a list of servicing facilities and their qualified employees, must be submitted to the Commandant through the Coast Guard District in which the inflatable liferafts are built.

(b) *Pre-approval inspections and tests.* If the drawings and specifications are satisfactory, the Commander of the Coast Guard District in which the inflatable liferaft is to be built shall be notified in writing when fabrication is to commence. A marine inspector will be assigned to observe the construction in accordance with the plans and specifications, and upon completion will witness the tests described by § 160.051-5(c)(1) through (4). The raft shall then be forwarded to the Field Testing and Development Center, Coast Guard Yard, Curtis Bay, Baltimore, Md. 21226, for testing in accordance with § 160.051-5(e)(1) through (12). The commandant will bill the manufacturer for the costs of the tests performed.

(c) *Final plans and specifications.* After the tests have been successfully completed, the manufacturer shall present to the inspector four copies of the plans and specifications including any corrections, changes or additions which may have been found necessary since the original submittal.

(d) *Commandant's approval action.* Upon receipt of the inspector's report of the examinations and tests conduct-

ed at the manufacturer's plant, four copies of corrected drawings and specifications, and a report of the pre-approval tests conducted at the Coast Guard Yard, the Commandant will determine compliance of the inflatable liferaft with the requirements of this subpart and its suitability for type or brand approval for use on inspected vessels. Suitable documentary evidence of compliance with the requirements of § 160.051-6 will be required before approvals are issued.

(CGFR 59-26, 24 FR 5548, July 9, 1959, as amended by CGFR 65-64, 31 FR 562, Jan. 18, 1966; CGFR 66-33, 31 FR 15297, Dec. 6, 1966; CGD 72-133R, 37 FR 17042, Aug. 24, 1972)

Subpart 160.052—Specification for a Buoyant Vest, Unicellular Plastic Foam, Adult and Child

AUTHORITY: Secs. 6 and 17, 54 Stat. 164, as amended, 166, as amended, 46 U.S.C. 526e, 526p. Treasury Department Order 120, July 31, 1950, 15 FR 6521.

§ 160.052-1 Incorporation by reference.

(a) *Specifications and Standards.* This subpart makes reference to the following documents.

- (1) [Reserved]
- (2) Military specification:

MIL-W-530F—Webbing, Textile, Cotton, General Purpose, Natural and in Colors.

- (3) Federal Standards:

No. 191—Textile Test Methods.
No. 751A—Stitches, Seams, and Stitching.

- (4) Coast Guard specifications:

160.055—Life Preservers, Unicellular Plastic Foam, Adult and Child.

164.015—Plastic Foam, Unicellular, Buoyant Sheet and Molded Shapes.

(b) *Plans.* The following plans, of the issue in effect on the date buoyant vests are manufactured, form a part of this subpart:

- Dwg. No. 160.052-1:
- Sheet 1—Cutting Pattern and General Arrangement, Model AP.
- Sheet 2—Cutting Pattern and General Arrangement, Model CPM.
- Sheet 3—Cutting Pattern and General Arrangement, Model CPS.
- Sheet 4—Insert Patterns.

(c) *Copies on file.* The manufacturer shall keep a copy of each specification and plan required by this section on file together with the certificate of approval. Plans and specifications may be obtained as follows:

(1) The Coast Guard plans and specifications may be obtained upon request from the Commandant (G-MTH), U.S. Coast Guard, Washington, DC 20593, or a recognized laboratory listed in § 160.052-8b.

(2) The Federal Specifications and Standards may be purchased from the Business Service Center, General Services Administration, Washington, D.C. 20407.

(3) The military specification may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, PA 19120.

(14 U.S.C. 632; 46 U.S.C. 369, 375, and 416; 49 U.S.C. 1655(b); 49 CFR 1.46(b))

(CGFR 65-37, 30 FR 11588, Sept. 10, 1965, as amended by CGD 72-90R, 37 FR 10837, May 31, 1972; CGD 72-163R, 38 FR 8120, Mar. 28, 1973; CGD 78-012, 43 FR 27153, 27154, June 22, 1978; CGD 82-063b, 48 FR 4782, Feb. 3, 1983)

§ 160.052-2 Size and model.

(a) A standard buoyant vest is manufactured in accordance with a plan specified in § 160.052-1(b) and is a:

- (1) Model AP, adult (for persons over 90 pounds);
- (2) Model CPM, child, medium (for persons weighing from 50 to 90 pounds); or
- (3) Model CPS, child, small (for persons weighing less than 50 pounds).

(b) A nonstandard buoyant vest is:

- (1) Manufactured in accordance with the manufacturer's approved plan;
- (2) Equivalent in performance to the standard buoyant vest; and
- (3) Assigned a model designation by the manufacturer for the following sizes:

- (i) Adult (for persons weighing over 90 pounds);
- (ii) Child, medium (for persons weighing from 50 to 90 pounds);
- (iii) Child, small (for persons weighing less than 50 pounds).

(CGD 72-163R, 38 FR 8120, Mar. 28, 1973)

§ 160.052-3 Materials—Standard vests.

(a) *General.* All materials used in the construction of buoyant vests shall be obtained from a supplier who furnishes an affidavit certifying that the material meets the requirements of the applicable reference specifications. The requirements for materials specified in this section are minimum requirements, and consideration will be given to the use of alternate materials in lieu of those specified. Detailed technical data and samples of all proposed alternate materials shall be submitted for approval prior to being incorporated in the finished product.

(b) *Unicellular plastic foam.* The unicellular plastic foam shall be all new material complying with the requirements of specification Subpart 164.015 of this subchapter for Type A or B foam.

(c) *Envelope.* The buoyant vest envelope, or cover, shall be made from 39", 2.85 cotton jeans cloth, with a thread count of approximately 96 x 64. The finished goods shall weigh not less than 4.2 ounces per square yard, shall have thread count of not less than 94 x 60, and shall have a breaking strength of not less than 85 pounds in the warp and 50 pounds in the filling. Other cotton fabrics having a weight and breaking strength not less than the above will be acceptable. There are no restrictions as to color, but the fastness of the color to laundering, water, crocking, and light shall be rated "good" when tested in accordance with Federal Test Method Standard No. 191, Methods 5610, 5630, 5650, and 5660.

(d) *Tie tapes and body strap loops.* The tie tapes and body strap loops for both adult and child sizes must be 3/4-inch cotton webbing meeting the requirements of military specification MIL-T-43566 (Class I) for Type I webbing.

(d-1) *Body straps.* The complete body strap assembly, including hardware, must have a minimum breaking strength of 150 pounds for an adult size and 115 pounds for a child size. The specifications for the webbing are as follows:

- (1) For an adult size vest, the webbing must be 1 inch;

be exerted. Such straps shall be a web material of adequate strength. The righting strap shall run the full width of the liferaft and shall be secured to the buoyancy chamber on both sides of the raft.

(11) *Sea anchor.* Two sea anchors in accordance with Military Specifications, MIL-L-19496 or equivalent, each fitted with 50 feet of 1/2-inch diameter braided nylon line or equivalent; one anchor to be stowed inside the raft and ready for use and the other stowed outside the raft which will stream automatically without entanglement when the raft is inflated.

(12) *Towing connection.* A suitable towing connection at each end of the raft.

(13) *Instruction card.* A plastic card suspended from the inside canopy showing the immediate steps to be taken by survivors on entering a raft as recommended by Intergovernmental Maritime Consultative Organization Resolution 181, dated October 29, 1969. This card shall also explain the noise that can be expected to accompany the operation of any CO₂ relief valves that may be installed.

(c) *Ocean service equipment.* Equipment for liferafts intended for ocean service shall be stowed in watertight containers which are tied to the inside of the raft with short lengths of nylon line webbing, or equivalent. The contents of each watertight equipment container shall be listed on a plastic card attached to the container's opening. The following ocean service equipment shall be provided:

(1) *Batteries.* Batteries shall be of flexible material not less than 6 inches in diameter, one of which shall be provided on rafts accommodating 12 persons or less, and two on rafts accommodating 13 persons or more.

(2) *Drinking cup.* A flexible plastic drinking cup graduated in ounces.

(3) *First-aid kit.* An approved first-aid kit in accordance with Subpart 160.054 of this Subchapter Q (Specifications).

(4) *Flashlight.* An approved size No. 3 flashlight constructed in accordance with Subpart 161.008 of this chapter. Three spare cells (or one 3-cell battery) and two spare bulbs in a waterproof container shall be provided with

each flashlight. Batteries shall be replaced at each servicing of the liferaft.

(5) *Mirror, signaling.* One signaling mirror of an approved type.

(6) *Provisions.* One pound of hard bread or its approved equivalent for each person. Provisions to be packaged in hermetically sealed cans of an approved type.

(7) *Repair kit.* A repair kit consisting of six sealing clamps in accordance with Military Specification MIL-L-19496; five 2-inch diameter tube patches and cement compatible with the raft fabric together with a roughing tool. Repair kit cement shall be replaced when a raft undergoes its annual servicing. A tube of cement shall show by a date of manufacture on its exterior, or by an accompanying affidavit, that it has been manufactured within 18 months of the time that the cement is packed in a raft.

(8) *Signals.* Two hand-held rocket-propelled parachute red flare distress signals constructed in accordance with Subpart 160.036 of this Subchapter Q (Specifications), and six hand red flare distress signals constructed in accordance with Subpart 160.021 or Subpart 160.023 of this Subchapter Q (Specifications). All overage signals are to be replaced when a raft undergoes its annual servicing. A signal previously in service in a raft can be packed if its allowed 3-year period of service has not expired.

(9) *Sponge, cellulose.* Two Type 1, Size 10 cellulose sponges.

(10) *Water.* One and one-half quarts of drinking water per person in approved hermetically sealed containers constructed and filled in accordance with Subpart 160.026 of this Subchapter Q (Specifications). Service life of this equipment shall be limited to 5 years from date of packing. One pint of this equipment per person may be replaced by a drinking kit(s) approved with Subpart 160.058 of this Subchapter Q (Specifications), that shall be capable of producing an equal amount of fresh water. A container of drinking water with a date of manufacture showing that its allowed 5-year period of service has not expired can be packed in a raft.

(11) *Jackknife.* On rafts accommodating 13 persons or more, an ap-

proved jackknife shall be provided in addition to that required by paragraph (b)(4) of this section.

(12) *Signal whistle.* One signal whistle of the ball type, made of corrosion-resistant construction, with a 36-inch lanyard attached, and in good working order.

(13) *Can openers.* Three means of opening hermetically sealed containers shall be provided. Special blade(s) on the approved jackknives are accepted in this accounting in addition to any can opener(s) the blades or cutting edges of which shall be sheathed to prevent damage to the raft and its equipment.

(14) *Fishing tackle.* One emergency fishing tackle kit in accordance with Subpart 160.061 of this Subchapter Q (Specifications).

(15) *Antiseasickness tablets.* Six antiseasickness medicinal tablets for each person the raft is rated to carry.

(d) *Limited service equipment.* Equipment for liferafts intended for limited service shall be stowed in water-tight containers which are tied to the inside of the raft with short lengths of nylon line, webbing or equivalent. The contents of each water-tight equipment container shall be listed on a plastic card attached to the container's opening. The following limited service equipment shall be provided:

(1) *Batter.* One flexible plastic batter not less than 6 inches in diameter.

(2) *Flashlight.* An approved type 1, size 3 flashlight constructed in accordance with Subpart 161.008 of this Subchapter Q (Specifications). Three spare cells (or one 3-cell battery) and two spare bulbs in a waterproof container shall be provided with each flashlight. Batteries shall be replaced at each servicing of the liferaft.

(3) *Repair kit.* A repair kit consisting of six sealing clamps in accordance with Military Specification MIL-L-19496, five 2-inch diameter tube patches and cement compatible with the raft fabric together with a roughing tool. Repair kit cement shall be replaced when a raft undergoes its annual servicing. A tube of cement shall show by a date of manufacture on its exterior, or by an accompanying affidavit, that it has been manufac-

tured within 18 months of the time that the cement is packed in a raft.

(4) *Signals.* One hand-held rocket-propelled parachute red flare distress signal constructed in accordance with Subpart 160.036 of this Subchapter Q (Specifications), and two hand red flare distress signals or two hand combination flare and smoke distress signals constructed in accordance with Subpart 160.021 or Subpart 160.023 of this Subchapter Q (Specifications). All overage signals are to be replaced when a raft undergoes its annual servicing. A signal previously in service can be packed in a raft if its allowed 3-year period of service has not expired.

(5) *Sponge, cellulose.* One type 1 Size 10 cellulose sponge.

(CGFR 59-26, 24 FR 5547, July 9, 1959, as amended by CGFR 65-9, 30 FR 11480, Sept. 8, 1965; CGFR 70-143, 35 FR 19965, Dec. 31, 1970; CGD 72-133R, 37 FR 17041, Aug. 24, 1972; CGD 72-133, 38 FR 5338, Feb. 21, 1973; CGD 73-201R, 38 FR 31297, Nov. 1, 1973)

§ 160.051-8 Nameplate and marking.

(a) *Nameplate.* Each inflatable liferaft and container shall have permanently attached a substantial nameplate of compatible material on which is embossed or imprinted the name of the manufacturer, the approval number, the manufacturer's model number and serial number, the number of persons for which the inflatable liferaft is approved, and the lot number. In addition, the container shall be marked "Ocean Service Equipment" or "Limited Service Equipment" as applicable, together with the Marine Inspection Office identification letters, the date, and the letter "USCG". A raft container shall also be provided with a stainless steel plate of 0.032-inch minimum thickness of sufficient size for showing a stamped record of the data of the annual inspections and the gas inflation test described respectively in §§ 160.051-6(e) and 160.051-6(f)(2).

(b) *Marking.* Marking shall be clearly and legibly applied in a color contrasting to its background, using materials which are permanent for the life of the inflatable liferaft as follows: Instructions for inflating; directions for righting if the raft inflates in an in-

servicing certificate shall be furnished to the marine inspector.

(f) *Special 5th-year inspection tests.* In addition to the above annual inspection requirements, an inflatable liferaft shall undergo the following special tests at 5-year intervals after its date of manufacture:

(1) *Inflation cylinders.* The inflation cylinders shall be retested and marked in accordance with the regulations of the Department of Transportation as noted in § 147.04-1 of Subchapter N (Dangerous Cargoes) of this chapter.

(2) *Gas inflation.* An inflatable liferaft, at 5-year intervals after its date of manufacture, on its arrival at a servicing facility, shall be removed from its container and, while still folded, shall be inflated by the operation of its gas cylinder(s) in the presence of a marine inspector. Rafts showing minor leaks from this inflation can be repaired at the servicing facility, but any rafts that are ten (10) or more years past their dates of manufacture that leak extensively or show fabric damage from this inflation shall be retired from service and their nameplates showing Coast Guard approval shall be removed by the marine inspector. Rafts that satisfactorily pass the above gas inflation test shall then undergo the usual annual servicing described above. A raft that satisfactorily passes the gas inflation test shall have the date and the port at which it was performed stamped on the container inspection plate described under § 160.051-8(a).

(3) *Inflation cylinder valves and seals.* After a raft has completed the tests of paragraph (f) (1) or (2) of this section, the poppet pin assembly, including its seals, O-rings and gaskets made of rubber, shall be renewed on the inflation heads of the gas cylinders by the activity approved to perform the hydraulic testing outlined in paragraph (f)(1) of this section. An inflation cylinder that has been recharged shall stand for at least 2 weeks and be checked for leakage by weighing before being returned to service.

(46 U.S.C. 375, 416; 49 U.S.C. 1855(b) 49 CFR 1.4(b), and 1.46)

(COFR 59-26, 24 FR 5547, July 9, 1959, as amended by COFR 61-16, 26 FR 9300, Sept.

30, 1961; COFR 65-9, 30 FR 11479, Sept. 8, 1965; CGD 72-133R, 37 FR 17041, Aug. 24, 1972; CGD 72-133, 38 FR 5338, Feb. 28, 1973; CGD 75-186, 41 FR 10437, Mar. 11, 1976)

§ 160.051-7 Equipment.

(a) *General.* All inflatable liferafts, regardless of the service, shall be provided with the equipment required by paragraph (b) of this section. In addition, liferafts intended for ocean service vessels shall be provided with the equipment set forth in paragraph (c) of this section and those intended for limited service vessels shall be provided with equipment set forth in paragraph (d) of this section.

(b) *Items required for all rafts.* The following equipment for ocean service and limited service liferafts shall be stowed outside of the equipment containers so as to be readily available:

(1) *Boarding ladder.* A boarding ladder or equivalent at each entrance to the raft. In addition, hand holds or equivalent on each side of each entrance to assist in boarding.

(2) *Heaving line.* A buoyant heaving line not less than 100 feet in length and having a breaking strength of not less than 250 pounds fitted with a buoyant quill at one end with the other end attached to the raft near the after entrance.

(3) *Instruction manual.* An instruction manual, printed on water-resistant film or plastic coated paper and suspended in a clear film envelope from one of the canopy arch tubes, shall describe the raft and its equipment, including the use of the inflation pump, repair kit, sea anchor, etc. This manual shall also contain all of the survival information recommended in Inter-Governmental Maritime Consultative Organization Resolution 181, dated October 29, 1969, as amended, together with the illustrated table of lifesaving signals from CG-811 (Rev.). The plastic instruction card described under § 160.051-7(b)(13) can be contained in the same envelope with the instruction manual if arrangements are made for the card to be visible from either face of the envelope.

(4) *Jackknife.* A jackknife of an approved type constructed in accordance with Subpart 160.043 of Subchapter Q

(Specifications) of this chapter, shall be fitted in a pocket near the forward entrance.

(5) *Lights.*

(1) The canopy required in § 160.051-4(c) must have a light attached to the—

(a) Top; and

(b) Inside.

(ii) The lights required in paragraph (b)(5)(i) of this section must—

(a) Operate automatically when the raft is inflated;

(b) Be capable of 12 months service;

(c) Be watertight; and

(d) Be powered by wateractivated or dry cells that are—

(1) Capable of operating the light for 12 hours after being stored for a period of time up to 24 months; and

(2) Renewed when the raft undergoes annual servicing.

(iii) The light required in paragraph (b)(5)(i)(a) of this section must be—

(a) Installed with a power source that operates the light for 12 hours; and

(b) Capable of being seen from a distance of 2 miles or be one of the light types listed in Table 1 of this section.

(iv) The light required in paragraph (b)(5)(i)(b) must be provided with a separate power source that—

(a) Operates the light for 12 hours; and

(b) Has a means of interrupting the current to the lights.

(6) *Lifelines.* Two lifelines of not less than 1/8 inch nylon tubular webbing, or equivalent, shall be fitted: One around the outside periphery and the other around the inside of the raft. The outside lifeline shall be festooned in bights, not more than 24 inches long and fastened at intervals not exceeding 18 inches, which shall hang within 3 inches of the waterline when the raft is fully loaded.

TABLE 1

Light type	Light output (minimum) †	Flash frequency cycles/min	
		Minimum	Maximum
Ready incandescent	50 candela	0	0
Flashing incandescent	50 effective candela	50	70

TABLE 1—Continued

Light type	Light output (minimum) †	Flash frequency cycles/min	
		Minimum	Maximum
Flashing stroboscopic	0.5 candela-second flash	50	70

† The minimum light output shall be maintained in all directions of the upper hemisphere.

(7) *Paddles.* Two paddles, 4 feet long.

(8) A painter shall be provided for launching and holding the raft during boarding. It shall be of nylon line, or equivalent, or a type easily gripped, 100 feet in length, and stowed so that it will run free when the raft is launched and not cause inadvertent inflation before the raft is in the sea. The nominal breaking strength of the painter when unknotted, including attachments, shall be 3,000 pounds for rafts approved for capacities of 10 or more persons, and 1,500 pounds for rafts approved for capacities of less than 10 persons. The end of the painter protruding from the container of the raft shall be resistant to the deleterious effects of sunlight. A "float free" link made of stainless steel rod with a nominal breaking strength, including attachments of 500 pounds shall connect the end of the painter to the vessel. In addition, a separate steel cleat with horns not less than 3 inches in length shall be installed adjacent to the cradle for belaying the end or each raft's painter to the ship when manually launching. The launching instructions on the container shall include the following: (i) "When stowing the raft, connect the steel link to the vessel" and (ii) "Before launching the raft by hand, pull out the line from the container and make it fast to the cleat provided." Existing rafts previously approved under this specification shall be altered to comply with the above when the rafts are next serviced.

(9) *Pump, inflation-deflation.* An inflation-deflation pump with hose in accordance with Military Specification MIL-L-19496, or equivalent.

(10) *Righting gear.* Suitable hand holds or straps on the underside of the floor to enable a righting moment to

ready for use after exposure to both low and elevated temperature inflation tests.

(12) *Launching load test.* The following applies to a liferaft subject to the provisions of § 160.051-4(j) that is to operate in conjunction with a launching device approved in accordance with Coast Guard specification 160.063. It shall be demonstrated that the raft while suspended or loaded by its launching connection(s) can sustain a distributed deadweight load of 2.2 times its normal carrying capacity for a period of one-half hour. The normal carrying capacity shall be equivalent to the number of persons allowed (165 pounds per person) together with the weight of equipment carried, plus 10 percent of the total load including the weight of the raft. The distributed deadweight load on the raft together with the raft's attachment(s) and rigging to a test fixture shall so interact as to simulate the loads and stresses that the raft will undergo when operated with an approved launching device.

(COFR 59-26, 24 FR 5546, July 9, 1959, as amended by CGFR 85-9, 30 FR 11479, Sept. 8, 1965; CGD 73-160R, 39 FR 9689, Mar. 13, 1974)

§ 160.051-6 Servicing.

(a) *Frequency.* All inflatable liferafts shall be serviced every twelve months at approved servicing facilities.

(b) [Reserved]

(c) *Service manual.* Manufacturers of inflatable liferafts shall prepare service manuals which shall include instructions for opening, inspecting, testing, repairing and repacking each of their approved liferafts. Where extensive repairs are necessary the inflatable liferafts shall be returned to the manufacturer.

(1) *Instruction placard.* Each manufacturer of inflatable liferafts shall provide the appropriate number of instruction placards to the master or operator of the vessel on which his particular inflatable liferafts are carried. The instruction placard shall include simple instructions and illustrations showing the operations of launching and inflating the inflatable liferaft, which shall be submitted for approval to the Commandant with the other

items required by § 160.051-9(a). In size, such placard shall not be greater than 14 inches by 20 inches.

(d) *Servicing facilities and personnel.* Servicing facilities shall be clean, free from excessive dust, drafts, and strong sunlight and arranged so that even temperatures can be maintained. The floor shall be smooth and kept clean and free from oil, grease, and abrasive materials. Equipment for performing the necessary tests and repairs shall be provided. After a raft manufacturer has indicated his choice of a servicing facility to the cognizant Officer in Charge, Marine Inspection, the servicing facility shall apply to the cognizant Officer in Charge, Marine Inspection, for an inspection of his facility. The Officer in Charge, Marine Inspection, shall determine the adequacy of equipment and spaces and competence of the personnel and shall submit a report of his findings to the Commandant. The Commandant will issue a letter to the manufacturer, with copies to the servicing facilities and to cognizant Officer in Charge, Marine Inspection, indicating which servicing facilities have been approved as a prerequisite to approval of the inflatable liferafts, and which must be maintained to keep the approval in effect. Thereafter, all material and personnel changes in a listed facility shall be subject to the approval of the cognizant Officer in Charge, Marine Inspection.

(1) *Servicing equipment.* The equipment provided at the plant shall be as recommended by the raft manufacturer and shall include the following:

- (i) A complete set of plans for the inflatable liferafts to be serviced.
- (ii) A current copy of the Coast Guard Specification 160.051.
- (iii) A current copy of the manufacturer's service manual.
- (iv) Hot presses (if applicable).
- (v) Safety-type glue pots or equivalents.
- (vi) Abrasive devices.
- (vii) A source of air pressure.
- (viii) Mercury or water manometer.
- (ix) Thermometer.
- (x) Barometer, aneroid or mercury.
- (xi) Calibrated torque-wrench for assembling the inflation system.
- (xii) Accurate weighing scale.

(xiii) A stock of repair materials, spare parts, and stowage accessories as specified by the manufacturer. Limited "shelf life" items need not be stocked if they can be procured readily from the manufacturer within a reasonable time, to the satisfaction of the cognizant Officer in Charge, Marine Inspection.

(xiv) A complete stock of the equipment required to be stowed in the inflatable liferafts, except that items of equipment which may be readily procured need not be stocked.

(2) *Trained personnel.* (i) The servicing facility shall be staffed by one or more persons who have successfully completed a factory training course in the servicing of approved inflatable liferafts and have documentary evidence thereof. Persons who can show proof of equivalent practical experience in this field will be acceptable in lieu of factory-trained personnel.

(ii) The cognizant Officer in Charge, Marine Inspection, shall maintain and provide a servicing facility with a list of its employees who qualify under paragraph (d)(2)(i) of this section to service the rafts. This list shall include the names of persons subsequently employed for the work since the issuance of the original servicing facility letter described in this paragraph.

(3) *Qualifying tests.* A marine inspector shall observe the servicing of at least one inflatable liferaft of the type and manufacture to be serviced after approval of the facility, from the time of unpacking until inspected, repaired and repacked. This raft shall satisfactorily pass the inflation test required by § 160.051-5(c)(4). In addition three rafts shall be packed in the presence of the marine inspector (or the same raft may be deflated and repacked three times) and then successfully inflation-tested to prove the correctness of the stowage. The latter three tests need not run beyond the three minutes specified for complete inflation.

(e) *Inspection.* The assignment of a marine inspector to witness the inspections and testing shall be scheduled with the Officer in Charge, Marine Inspection, at least 24 hours in advance. The marine inspector shall witness the servicing of each inflatable liferaft

and conduct a working pressure leakage test as outlined in § 160.051-5(c)(3), except that the waiting period may be 2 hours in lieu of 6 hours. Each inflatable liferaft, subject to § 160.051-4(j), having a suspension system which is integral with the liferaft and is intended to be used in launching operations shall be proof tested by a suspension test of 1.1 times the normal carrying capacity as specified in § 160.051-5(c)(12). All equipment shall be inspected for condition and outdated water, signals, etc. shall be replaced. The cells for the lights required under § 160.051-7(b)(c) of this title shall be renewed when a raft undergoes its annual servicing. Damaged or faded instruction labels on the container of a raft shall be replaced at annual servicing. Inflation cylinders shall be weighed and recharged if the weight loss exceeds 5 percent of the weight of the charge. After the raft has been satisfactorily serviced and repacked, the container shall be sealed as required by § 160.051-4(f) and the metal inspection plate of the container described in § 160.051-8(a) will be stamped "Passed" together with the date, and the Marine Inspection Officer identification letters. The following additional conditions apply:

(1) *Recording.* The servicing facility shall maintain a complete record of each inflatable liferaft serviced. This record shall be made available to the Officer in Charge, Marine Inspection upon request. The record shall include the following:

- (i) Serial number of the raft.
- (ii) Date raft inspected and repacked.
- (iii) Initials of witnessing marine inspector.
- (iv) Identity of the ship receiving the raft.
- (v) Date of issuance to the ship.

(2) *Servicing certificate.* A certificate shall be issued by the servicing facility for each inflatable liferaft inspected and serviced. It shall indicate the serial number of the raft, the date of inspection and the initials of the marine inspector. This certificate will be retained in the vessel's files as evidence of compliance with the annual inspection requirement. A copy of the

shall be conducted by the manufacturer in the presence of the marine inspector, and records of such tests shall be kept on file by the manufacturer for a period of 5 years and shall be made available to the Coast Guard marine inspector upon demand:

(1) *Inspection.* Each completed inflatable liferaft shall, in addition to all other inspections during process of fabrication or testing, receive 100 percent visual inspection for surface defects, obvious mis-arrangements or dimensional non-conformance, and for general conformance to the applicable requirements of the manufacturer's approved plans and specifications, and non-conforming units shall be rejected.

(2) *Over-pressure test.* Each raft shall be individually tested by inflating with air to 2.5 times its working pressure and allowed to stand for 10 minutes. At the end of 10 minutes the raft shall not show signs of seam slippage or rupture nor shall the pressure decrease by more than 5 percent. Relief valves, if fitted, shall be made inoperable for this test and each valve shall be tested to determine that it relieves the pressure at not more than 140 percent of the designed working pressure and will reseal at the designed working pressure. Upon completion of this test, the raft shall immediately be subjected to the test required by paragraph (c)(3) of this section.

(3) *Working pressure leakage test.* Each principal buoyancy compartment as well as other inflated compartments of every liferaft shall be individually tested for gas-tight integrity by inflating with air to its working pressure, allowed to stand one hour, and then checked and readjusted as necessary to the original working pressure. After standing 8 hours the pressure shall not have decreased by more than 10 percent, compensation being made for the difference in temperature and barometric pressure. During the test more than one compartment may be tested at one time, but adjacent compartments shall be opened to the atmosphere during the test.

(4) *Inflation test.* For lots of less than 30, one specimen shall be tested. For lots of at least 30, but not more

than 60, two specimens shall be tested. The specimens shall be selected at random from the lot after the rafts have been folded and packed in their containers with equipment. When the directions on the container are followed, the specimen shall break free from its container and inflate each principle buoyancy compartment on the periphery of the raft to the designed shape and approximate dimensions in not more than 30 seconds at 70° F. At the end of this 30 seconds interval, the canopy support tubes are not required to be fully erect. The specimen shall reach its designed working pressure with the canopy fully erect in not more than 1 minute 30 seconds after the first inflation valve is operated. The specimen shall be allowed to stand for 1 hour to allow the gases inside to come to room temperature. The pressure in all the principal buoyancy compartments shall be approximately the designed working pressure. If the specimen(s) fails this test the entire lot shall be subjected to the inflation test.

(d) *Lot acceptance or rejection.* When the inspections and tests prescribed by paragraphs (a), (b), and (c) of this section, above have been completed satisfactorily and all nonconforming units eliminated, and the inflatable liferafts comprising the lot are considered suitable, the lot shall be accepted, and the containers shall be marked in accordance with § 160.051-8(a).

(e) *Preapproval inspection and tests.* The prototype raft shall be inspected and tested at the plant of the manufacturer in the presence of a marine inspector in accordance with paragraphs (c) (1) through (4) of this section. If the inspections and tests are satisfactory, the raft shall be repacked together with its equipment in the container with the cylinder(s) charged and the raft in all respects ready for use. The container shall be shipped prepaid to the Field Testing and Development Center, Coast Guard Yard, Baltimore, Md., 21228, for testing in accordance with paragraphs (e)(1) through (12) of this section. The following additional material shall be forwarded at that time: Completely charged cylinder(s) (one or two de-

pending on the number used in the raft design), 2 yards of all coated cloth used, and two seams 7 inches wide by 12 inches long made in exact accordance with the manufacturer's plans and specifications.

(1) *Seam strength.* It shall be demonstrated that the sample seams can withstand a test load equal to the coated cloth tensile strength.

(2) *Drop test.* The inflatable liferaft, complete with all its equipment shall be set for operation and dropped into water from a height of not less than 60 feet. The raft shall not be inflated until it has been demonstrated that the raft in its carrying case will remain afloat for not less than one-half hour. The operating lanyard shall then be pulled and the raft shall break free from its case and assume its designed shape with canopy erected and in all respects ready for boarding. The raft shall not sustain damage which would be sufficient to prevent its use as emergency abandon-ship flotation equipment, nor shall the equipment suffer damage sufficient to affect its usefulness.

(3) *Loading, seating and swamp test.* The raft shall be loaded with the number of persons it is intended to carry. Each person used in this test shall be an adult wearing an approved life jacket and the average of the weight of all persons used in the test shall not be less than 165 pounds. It shall be demonstrated that the floor can be inflated, that there is sufficient head room, and that the occupants have adequate room and access to the equipment. The floor shall then be deflated and the raft flooded. In this condition the raft shall support the number of persons it is intended to carry and remain seaworthy.

(4) *Stability test.* The full complement of the raft shall be crowded to one side and then to one end and in each case the freeboard shall be adequate to prevent the raft being swamped. The floor shall be deflated for this test.

(5) *Damage test.* It shall be demonstrated that the buoyancy and stability required by § 160.051-4(h) can be obtained when the raft is in a condition simulating damage. The freeboard in damage condition shall be

adequate to prevent the raft being swamped.

(6) *Righting test.* It shall be demonstrated that the liferaft is capable of being righted by one man if it inflates in an inverted position.

(7) *Boarding test.* It shall be demonstrated that the liferaft can be boarded from the water, within 30 seconds of the time the operating lanyard is pulled, by an adult suitably clothed and wearing an approved life jacket.

(8) *Towing test.* It shall be demonstrated that when a tow line is attached to the towing connection the loaded raft can be satisfactorily towed at a speed of five knots.

(9) *Jump test.* It shall be demonstrated that an adult, suitably clothed and wearing an approved life jacket, can jump on the canopy of the liferaft from a height of not less than 15 feet without damage to the canopy.

(10) *Mooring out test.* The raft shall be ballasted with weights equivalent to its capacity, (165 pounds per person) and moored out for 30 days. Topping up will be permitted each morning of the test if necessary. Upon completion of the test period the buoyancy compartments shall be tested in accordance with the over pressure test requirements of paragraph (c)(2) of this section.

(11) *Temperature Exposure.* (i) *General.* The packed raft must be exposed in a test chamber to a temperature of -22° F, inflated and then repacked and exposed to a temperature of 150° F and inflated.

(ii) *Procedure.* (a) Thermocouples or similar instrumentation must be located at the inflation cylinders and at the center of the packed raft.

(b) The packed raft must remain exposed in the chamber until the test temperature has been reached.

(c) Inflation must take place in the test chamber. However, for elevated temperature test, raft may be removed from chamber if inflation begins within one minute of its removal.

(iii) *Results.* (a) The raft must achieve design shape with its canopy erect within three minutes after exposure to the low temperature.

(b) The raft fabric must not show signs of cracking, tackiness, or slipping seams and must be in all respects

posed material or construction is at least as suitable for the intended use.

(b) *Body.* The bottom of the raft shall be waterproof and fitted with an inflatable floor which can be inflated or deflated as desired. A life line festooned in bights shall be provided around the periphery of the liferaft. A boarding ladder and towing connection shall be fitted at each end of the liferaft. Suitable pockets or equivalent shall be fitted for stowage of hand pumps, repair kits, instruction manuals and other equipment needed immediately on launching. Reinforcing patches shall be substantially fitted in way of the attachments for the righting line, painter, sea anchor line, etc. The holders for retaining the gas or air pressure containers shall be substantially fitted and sufficiently strong to retain the containers when the raft is inflated or when the raft is dropped into the water. All exposed surfaces shall be reasonably smooth and free from sharp protrusions or projections which might be injurious in boarding or occupancy. Water pockets to improve stability and reduce drifting shall be fitted on the underside of the floor.

(c) *Canopy.* The design shall incorporate an inner and outer canopy to insulate the occupants from the weather which shall become automatically erected upon initial inflation of the raft. The canopy shall provide adequate headroom and provision shall be made for furling the ends to allow entry of occupants, free passage of air, and adequate room for paddling. Provision for catching rain water shall be incorporated in the canopy.

(d) *Laps and seams.* The amount of lap shall be sufficient to make the seams as strong as the coated cloth joined and the seams shall be required to withstand a test load equal to the coated cloth tensile strength.

(e) *Color.* The outside of the canopy shall be colored Indian orange (Cable No. 70072, Standard Color Card of America) or other color of high conspicuity against a background of a white-capped sea. The remainder of the raft may be the natural color of the finished coated cloth, except that the un-

der side of the floor shall be dark blue, dark grey or black.

(f) *Containment.* For each type of raft, manufacturers shall design and provide suitable containment constructed so as to be capable of withstanding hard wear under conditions encountered at sea. A liferaft in its container shall be inherently buoyant and shall be arranged so as to display evidence of use or tampering, such as by the use of a suitable seal, or equivalent. The arrangement shall be such that if the vessel sinks, the raft will float free and inflation will take place automatically. The "Instructions for Inflation" requirement of § 160.051-8(b) shall consist of brief instructions for manually launching and inflating a raft. These instructions shall be legibly printed on material that is durable, water and wear resistant. These instructions shall be permanently attached to the exterior of each raft container in two locations, one on each side of the container.

(1) *Rigid container.* The container shall be constructed of metal, wood, or plastic, and shall be capable of being securely fastened aboard ship and arranged for quick release of the liferaft. The container shall be weathertight except that provision shall be made for drainage and the circulation of air. A container shall have an interior surface smooth and free from splinters, barbs, or rough projections. The interior surface of a container made of fibrous glass reinforced plastic shall be finished with a gel coating. The words "This Side Up" shall be shown on the exterior of a container on the side opposite the drain holes in blocked letters 1 inch in size. Rigid containers shall be the normal means of containing inflatable liferafts except for the installations provided for in paragraph (f)(2) of this section.

(2) *Fabric container.* A fabric container shall be made of coated fabric in accordance with Military Specification MIL-C-17415. All fasteners and hardware shall be made of noncorrosive metal. Fabric containers shall be provided with carrying handles, nameplates and markings in accordance with § 160.051-8. Fabric containers may be used with liferafts that are reinforced for suspension as described in

paragraph (j) of this section to operate in conjunction with certain approved launching devices.

(g) *Installation.* Inflation shall take place upon the pulling of a lanyard or by some equally simple means which may be accomplished manually both from the deck of a vessel and by a swimmer in the water. In addition, inflation connections shall be provided for use with the hand pump of § 160.051-7(b)(9).

(h) *Buoyancy.* The principal buoyancy shall be located at the periphery of the inflatable liferaft and shall be subdivided into not less than two compartments, either of which must be capable of supporting the rated number of persons out of the water. Where more than two compartments are incorporated in the design, the raft shall be capable of supporting the rated number of persons out of the water with one-half of the compartments deflated. In either case, the deflation of any one compartment shall not unduly jeopardize the stability of the raft.

(i) *Capacity.* The maximum number of persons for which an inflatable liferaft may be rated shall be the overall horizontal clear area inside the raft in square feet (including thwarts if fitted) divided by 4, or the volume of the principal buoyancy compartments in cubic feet (which for this purpose shall not include the arches, canopy supports, or thwarts) divided by 3.4, whichever is the lesser.

(j) *Launching reinforcement.* Any liferaft which is to be suspended from or operated in conjunction with an approved launching device such that any of the raft's components are subjected to loads and stresses in addition to those of its inflation system or normal waterborne loading, shall be suitably reinforced with load carrying lines, slings, netting or their equivalents. These reinforcements shall be designed with a minimum factor of safety of 6 on the ultimate strength of the reinforcement based on the raft's normal carrying capacity.

[COFR 59-28, 24 FR 5545, July 9, 1959, as amended by COFR 65-9, 30 FR 11478, Sept. 8, 1965; CGD 72-133R, 37 FR 17040, Aug. 24, 1972]

§ 160.051-5 Inspections and tests.

(a) *General.* Whenever any work is being done on components or the assembly of inflatable liferafts, the manufacturer shall notify the Commander of the Coast Guard District in which the factory is located in order that he may assign a marine inspector to the factory to witness the applicable tests and satisfy himself that the quality assurance program of the manufacturer is satisfactory.

(1) The marine inspector shall be admitted to any place in the factory where work is done on the inflatable liferafts or component parts or materials, and he may take samples of parts or materials entering into construction for further inspections or tests. The manufacturer shall provide a suitable place and the apparatus necessary for the performance of the tests to be witnessed by the marine inspector.

(2) Tests at commercial or government laboratories, when applicable, shall be at the expense of the manufacturer. Suitable material affidavits or invoices for essential materials entering into construction shall be obtained by the manufacturer from his suppliers and he shall maintain a file showing the lot numbers of the inflatable liferafts for which such materials were used.

(b) *Lot size.* A lot shall consist of no more than 50 inflatable liferafts of the same design and size. Lots shall be numbered serially by the manufacturer and if at any time during the processing of a lot, any change or modification in materials or production methods is made, a new lot shall be started.

(c) *Routine inspections and tests.* Manufacturers of approved inflatable liferafts shall maintain quality control of the materials used, manufacturing methods, workmanship, and the finished product, and shall make full inspections and tests as necessary to maintain the quality of the product. The fact that certain tests are required as enumerated below does not relieve the manufacturer from making any and all other tests, inspections, or other determinations as may be necessary to assure the quality of all materials, parts and the finished product. The following inspections and tests

light attached while both are still under water.

(v) The buoyancy is computed as paragraph (e)(1)(i) minus paragraph (1)(iii) of this section.

2) *Buoyancy required.* The buoys all provide a buoyancy of not less than 16½ pounds for the 20- and 24-inch sizes, and not less than 32 pounds for the 30-inch size.

f) *Lot acceptance and rejection.* When the marine inspector has satisfied himself that the ring life buoys in a lot are of a type officially approved in the name of the company, and that such ring life buoys meet the requirements of this specification, he may complete the name plate described in § 160.050-6 with the necessary information. If any ring life buoys are found unsatisfactory, they and the entire lot may be rejected at the discretion of the marine inspector. Individual ring life buoys or the entire lot may be re-worked and submitted for inspection at the discretion of the District Commander.

16 FR 65-9, 30 FR 11478, Sept. 8, 1965, as amended by CGD 75-008, 43 FR 9772, Mar. 1978.

160.050-6 Marking.

(1) Each ring buoy must have the following information in waterproof marking:

(a) *IV Personal Flotation Device.* Accepted and tested in accordance with U.S. Coast Guard regulations.

(b) *Name of buoyant material.* Buoyant material provides a minimum buoyant force of 2 lb. or 18½ lb.).

(c) *Approved for use on recreational boats less than 16 feet in length and all canoes and yaks, and only as a throwable device on other vessels.*

(d) *Coast Guard Approval No. 160.050/(assigned manufacturer's No.)/(Revision No.)/(Model No.).*

(e) *Name and address of manufacturer or distributor.*

(f) *(Marine Inspection Office identification letters).* No.

(g) *A method of marking that is different from the requirements of paragraph (a) of this section may be given consideration by the Coast Guard.*

16 U.S.C. 375, 416; 49 U.S.C. 1655(b); 49 CFR 1.4(b), and 1.46

(CGD 72-16311, 38 FR 8120, Mar. 28, 1973; as amended by CGD 75-180, 41 FR 10427, Mar. 11, 1976; CGD 75-008, 43 FR 9771, Mar. 9, 1978; 43 FR 10913, Mar. 16, 1978)

§ 160.050-7 Procedure for approval.

(a) *General.* Ring life buoys for use on merchant vessels or motorboats are approved only by the Commandant, U.S. Coast Guard, Washington, D.C., 20593. Correspondence relating to the subject matter of this specification shall be addressed to the Commander of the Coast Guard District in which the factory is located.

(b) *Pre-approval tests.* Manufacturers who desire to manufacture unicellular plastic ring life buoys complying with this specification shall apply to the Commander of the Coast Guard District in which the plant is located, who will detail a marine inspector to the plant to observe production facilities and manufacturing methods and to select from not less than 6 of each size ring life buoy for which approval is desired, a sample of not less than two specimen buoys of each size on which he shall conduct strength, resistance to damage, and buoyancy tests in accordance with § 160.050-5(c), (d), and (e), and make such other examinations and tests as may be necessary to satisfy himself that the specimen buoys are in accordance with this specification. Upon completion of satisfactory tests, the marine inspector's report will be forwarded to the Commandant for assignment of an official approval number for each size.

(14 U.S.C. 832; 46 U.S.C. 389, 375, and 416; 49 U.S.C. 1655(b); 49 CFR 1.46(b))

(CGFR 54-46, 19 FR 8707, Dec. 18, 1954, as amended by COFR 65-9, 30 FR 11478, Sept. 8, 1965; CGD 78-012, 43 FR 27154, June 22, 1978; CGD 82-063b, 48 FR 4782, Feb. 3, 1983)

Subpart 160.051—Inflatable Liferafts

AUTHORITY: R.S. 4488, as amended, R.S. 4491, as amended, secs. 1, 2, 49 Stat. 1544, 1545, as amended, sec. 3, 70 Stat. 152, sec. 3, 68 Stat. 675; 46 U.S.C. 481, 489, 367, 300b, 50 U.S.C. 198; E.O. 11239; Treasury Department Orders 120, July 31, 1959, 15 FR 6521; 167-14, Nov. 26, 1954, 19 FR 8020; 167-20, June 18, 1956, 21 FR 4694; COFR 56-28, July 24, 1956, 21 FR 3659; 167-38, Oct. 28, 1959, 24 FR 8857.

§ 160.051-1 Applicable specifications.

(a) *Specifications.* The following specifications, of the issue in effect on the date inflatable liferafts are manufactured, form a part of this subpart for guidance purposes only:

(1) *Military specifications:*

MIL-L-19496 (Ships)—Lifeboat, CO, Inflatable Mark 5, 15-person capacity.

MIL-C-17415 (Ships)—Cloth, coated, and webbing, inflatable boat and miscellaneous use.

(b) *Copies on file.* Copies of the specifications referred to in this section, as well as the various reference specifications forming a part thereof, shall be kept on file by the manufacturer, together with the approved plans, specifications, and certificate of approval. They shall be kept for a period consisting of the duration of approval and 5 years after termination of approval, except that the approval certificate shall be returned for cancellation immediately following the termination date. The Military Specifications may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pa. 19120.

(c) *Permissible extension.* Manufacturers of inflatable liferafts having approval numbers 160.051/49 or lower may continue to manufacture rafts under the terms of that approval until 1 January 1975. Those manufacturers having approval numbers 160.051/50 or higher shall comply with the requirements of this subpart.

(COFR 65-9, 30 FR 11478, Sept. 8, 1965, as amended by CGD 73-60R, 39 FR 9669, Mar. 13, 1974)

§ 160.051-2 Alternate construction.

(a) *Requirements.* Inflatable liferafts or components which differ from the requirements set forth in this specification may be given consideration for approval provided:

(1) The manufacturer can demonstrate that the raft or component has at least three years of successful operational experience which has been accumulated in marine atmospheres at sea in frigid as well as tropic conditions, or by tests which are the equivalent thereof.

(2) Complete detail plans and specifications are submitted.

(3) The raft can pass the tests outlined in § 160.051-5.

(4) The manufacturer has arranged for maintenance and servicing in accordance with § 160.051-6.

(COFR 59-26, 24 FR 5545, July 9, 1959)

§ 160.051-3 Type and sizes.

(a) *Definition.* An inflatable liferaft is defined as meaning an abandon-ship flotation appliance designed to support a specified number of persons clear of the water, which is stowed in a folded or collapsed condition and is capable of withstanding severe launching shock and which is inflated by gas or air into a raft designed for rugged service.

(b) *Sizes.* Inflatable liferafts shall be not less than 4 (6 for vessels on international voyages) nor more than 25-person sizes. An inflatable liferaft, complete with case and required emergency equipment, shall not weigh more than 400 pounds.

(COFR 59-26, 24 FR 5545, July 9, 1959, as amended by COFR 65-9, 30 FR 11478, Sept. 8, 1965)

§ 160.051-4 Design.

(a) *General.* Inflatable liferafts may be circular, octagonal, elliptical or boat shaped and the design shall incorporate the material and construction details outlined in Military Specification MIL-L-19496 for guidance. All materials used in the construction of inflatable liferafts shall be of good quality and suitable for the purpose intended, and shall not be subject to undue deterioration from the effects of weathering aboard ship under the conditions of usual stowage, nor from contact with salt water or spray or petroleum products. Where dissimilar materials are used in combination, provision shall be made to prevent such deleterious effects as loosening or tightening due to differences in thermal expansion, freezing or buckling of parts, galvanic corrosion, or other forms of contamination. Consideration may be given to materials and construction which differ from those required by Military Specification MIL-L-19496 if it can be shown by tests and/or other means that the pro-



United Fishermen's Marketing Association, Inc.

P.O. Box 1035 Kodiak, Alaska 99615

Telephone 486-3453



TO: Senator Fred Zharoff
Representative Cliff Davidson

FROM: Jeff Stephan

DATE: Friday, 5 February, 1988

SUBJECT: The possibility of State legislation that would require minimum safety equipment aboard commercial fishing vessels

Thank-you both for the time that you spent with us during your recent visit to Kodiak. As you may remember, one of the issues that we raised with you was the possibility of establishing State legislation that would require minimum safety equipment aboard commercial fishing vessels. We have had very preliminary discussions regarding this issue, and it appears that the industry could probably support something of this nature. I have had similar discussions in the past regarding this issue with many members of the fishing community with regard to Federal legislation that has been proposed that attempts to do that same thing. This Federal legislation is still in Congress because of certain objections regarding certain aspects of the bill that do not relate to safety equipment. My discussions with the industry regarding the Federal legislation also led me to believe that the fishing community could support the concept of requiring minimum safety equipment aboard commercial fishing vessels. UFMA hopes to have a general meeting sometime soon to further judge industry reaction to State or Federal requirements that propose to impose minimum requirements for life-saving and safety equipment on commercial fishing vessels.

One approach would be to address Survival Suits, Life Rafts, and EPIRBS.

Survival Suits: For example, legislation may require that survival suits be required aboard all commercial fishing vessels by July 1, 1988. This legislation may require that all survival suits be equipped with some form of locating-light by January 1, 1989. There are several very good lights for this use sold already. Preliminarily, it appears that strobe-lights are best, but it may be that any light sold for this purpose is sufficient for purposes of legislation. "Lights", as used for purposes of this legislation should be defined, and I'm sure that the Coast Guard could help with this definition. Further, this legislation may require that all survival suits be equipped with TYPE B EPIRBS by January 1, 1990.

LIFE RAFTS: Legislation may stipulate that life rafts are required aboard all commercial fishing vessels. Legislation may contemplate exempting vessels of less than 5 net tons from this requirement. Certain life raft standards should be established. The Coast Guard could also help in this regard since they have existing requirements and standards for life rafts.

Senator Fred Zharoff
Representative Cliff Davidson
5 February, 1988
page 2

EPIRBS: Legislation may want to stipulate that at least 1 CLASS A EPIRB be required on a commercial fishing vessel. The legislation may contemplate exempting vessels of less than 5 net tons from this requirement also. TYPE B EPIRBS should be considered as a requirement for use on survival suits (as mentioned above).

Although there is proposed Federal legislation that addresses this issue, it has faced much objection in the past because of many provisions that do not relate to safety equipment. Also, there is no way of knowing how long we will have to wait for Federal legislation to address this issue. Alaska is certainly the State that will be most affected by the passage (or lack of passage) of this type of legislation. Maybe it is time for Alaska to act unilaterally in dealing with minimum life-saving and safety-equipment requirements.

Thank-you for your attention to our concerns regarding this issue. Please contact me if you have any questions.

cc: UFMA Directors

3813 Legation St. NW
Washington DC 20015
February 26, 1988

Representative Cliff Davidson
Alaska State Legislature
PO Box V
Juneau, AL 99811

Dear sir:

I was interested to learn of the commercial fishing safety bill you have introduced into the Alaska legislature. As you will see from the attached article, my wife and I have been working hard at getting a similar bill through the US Congress. A lot of opposition has come from fishing vessel owners and their lobbyists, who claim to be speaking for the crewmen in places like Alaska.

One of the reasons the House bill has been having a hard time is because the safety issue is linked to the issue of compensation for injured seamen. Finding a solution to this problem which vessel owners and trial lawyers can accept has been very difficult. At a markup meeting of the House Merchant Marine and Fisheries Committee on February 24, the safety portion of the bill was voted on and approved. But nothing was reported out pending further discussions of the compensation issue, hopefully in the next few weeks.

If the compensation issue cannot be solved, most of the Committee members are ready to approve a simple safety bill that calls for life rafts, EPIRBs, survival suits, emergency communications equipment and other safety equipment which the Coast Guard may prescribe. The only outspoken opponent of this course is Congressman Don Young of Alaska, who stated for the record that he would oppose a pure safety bill on the floor.

Since our son died on the Western Sea in 1985, some two hundred people have lost their lives on commercial fishing vessels. Many of them would have been saved if simple survival equipment were required. For example, the four crewmen who died when the Wayward Wind sunk off Kodiak last month would still be alive if there had been a life raft available. I read the other day of a 3800 ton processor with a crew of 105 which has just been completed; under existing law the owners need only provide life jackets for the crew- no life rafts, no EPIRBs, no survival suits, no seaworthiness inspections. The law before the House (HR1841) would require processors to be inspected and carry survival equipment.

I certainly support your efforts in Alaska. A similar bill is before the California legislature. But I really think that the issue must be dealt with on the Federal level, since fishing vessels operate in so many different jurisdictions. Peggy and I would welcome your support, particularly with the Alaska Congressional delegation.

We look forward to hearing from you.

Sincerely yours,

Bob Barry

THE MISSION OF PEGGY BARRY

by Ivy Harper

Letters have always been a lifeline. For Alaskan authorities in the summer of 1985, a soggy but still legible letter in the jeans pocket of a body found floating near Kodiak Island enabled them to identify the fair-haired youth.

For Robert and Peggy Barry, letters that summer from their 20-year-old son Peter provided a glimpse of Alaska through his observing eyes. Throughout his first trip to the John Muir coast, Peter Barry sent home stories about the soaring scenery, the Kodiak bears, camping on the beach, clam digging, hosing the "slime line" at a fish processing plant and finally, tragically, working the deck on a salmon boat. And, despite death, those letters provide his family with a lasting presence and treasured memories of the introspective Yale anthropology student.

The discovery of Peter Barry's body on August 20, 1985, was the first indication local fishermen had that all was not well with the Western Sea, the boat Barry had boarded five days earlier with its captain and four other crewmen. Coast Guard employees immediately began search and rescue operations in a fruitless effort to locate the overdue ship and any survivors.

Meanwhile, Robert and Peggy Barry received the telephone call that every parent fervently hopes never to receive—the one that regretfully informs them. But in this case, Alaskan state officials, Coast Guard authorities and resident fishermen were not merely messengers bearing the grievous news of Peter Barry's accident; they were willing, forthright critics of the country's commercial fishing industry. What Robert learned during his two-day stay in Alaska to claim the body of his middle child forever altered the Barrys' lives and plunged them into the maze-like world of fishing vessel safety and insurance.

Robert learned that his son unsuspect-



Pam Glass

Commercial fishing has by far the poorest safety record of any American industry and many are "disgusted by the lack of regulation."

ingly boarded a deathtrap—an unstable vessel with rotten planking that had never been inspected and did not carry lifeboats or rafts, survival suits or an emergency position indicator radio beacon (EPIRB). And he learned that had the owner of the 70-year-old wooden purse seiner lived, he wouldn't have broken a single law.

As implausible as that sounded to them at the time, the Barrys said, they were told that this nation's 33,000 uninspected commercial fishing vessels are virtually regulation-free. Vessel owners are not required to provide basic safety and survival equipment, boats need not be inspected, stability checks are voluntary and neither training for crew nor licensing for skippers is required.

"We were stunned, shocked," Peggy said. "We absolutely couldn't believe what we were hearing."

It got worse. They discovered that commercial fishing has by far the poorest safety record of any American industry and that many locals were also "disgusted by the lack of regulation"—information that especially haunted the Barrys in those first few months after their son died. If art imitated life, Willie would wail "Mama don't let your babies grow up to be fishermen," because the accidental death rate for cowboys of the sea is seven times the industrial average. Some 250 boats and an average of 75 lives are lost every year in vessel flooding, capsizing, fire or explosion disasters. And yet this is an industry that, to this day, puts the final responsibility for safety and survival on individual crew members.

National Fisherman magazine once editorialized that crewmen should provide their own immersion suits (they cost about \$300) or "switch to another boat." The editorial drew an angry response from the director of the U.S. Marine Safety Association: "What about a quality life raft (\$3,350) that is properly

installed and serviced or an EPIRB. (\$375) with an up-to-date battery? Should a crewman provide these also? We think not. Crewmen—fishermen—should not have to worry about these items any more than a passenger on a liner or ferry should worry about whether there are adequate life jackets. Those who go to sea to fish should only worry about whether they can do an already difficult job—catching fish."

The issue of voluntary versus mandatory safety regulations was being debated with little urgency or intensity when the Barrys entered the vessel safety picture in the fall of 1985. Overwhelmed by their loss and the feeling that their son was a victim not of the sea but of negligence, the Barrys vowed to push for reform. They joined a passionate, but geographically scattered, group of marine safety advocates whose crusade for change had been building momentum, but whose efforts had been stymied by, among other factors, lack of a persistent voice in Washington, D.C. The Barrys, Washington residents, became that voice. And Peggy, however emotionally unprepared, became spokesman by default when her husband left for Sweden in the fall of 1985 to head the U.S. delegation to the Conference on Disarmament in Europe.

She remained in the United States, immersing herself in marine safety issues, and expanded her role as mother, homemaker and part-time volunteer teacher to include outspoken, well-versed marine safety advocate. As her understanding of the issue deepened, so did her commitment. She collected newspaper clippings, pored over statistics, contacted legislators, met with editorial writers, attended hearings, drafted testimony and dissected opposing testimony. Slowly, Peggy transformed two rooms in her four-story northwest Washington home into a national clearinghouse for other relatives of victims at sea—Pete Zimny, Robert Darling, Leland and June Welsh, Rosemary and Roderick Hofer, Maxine and Don Klingenberg and Mary Finch Hoyt (press secretary to Rosalyn Carter)—parents who shared a common anguish and sense of frustration at the appalling safety record of an industry that had claimed the lives of people they loved.

And now, two and a half years after her involvement began, Peggy is roundly credited as the engine that has propelled safety reform legislation to its present position, which is miles farther than it has ever been before. As this issue of *American Politics* goes to press, unprecedented and historic fishing vessel safety

and insurance legislation is moving swiftly (by Hill standards) through Congress.

National Fisherman once editorialized that crewmen should provide their own \$300 immersion suits or "switch to another boat."

and some version of several bills under consideration is expected to pass both houses and become law this spring.

The Commercial Fishing Industry Vessel Safety and Compensation Act, introduced by Rep. Gerry Studds (D-Mass.), establishes requirements for basic safety equipment and provides guidelines for timely compensation for temporary injuries incurred by seamen on fishing industry vessels. Similar legislation has been introduced in the Senate by Sen. John Chafee (R-R.I.). Ardent safety crusaders, while supportive of the Studds-Chafee legislation, prefer HR 1836, a bill introduced by Rep. Mike Lowry (D-Wash.), which addresses safety alone. In addition to mandating safety equipment, it requires crew licensing and Coast Guard inspection of vessels. But Lowry's bill is unlikely to move because it has a price tag and doesn't deal with insurance. (The industry has been plagued for years by unaffordable and unavailable marine insurance. Throughout the last two decades, concern for safety has been systematically eclipsed by industry concern about insurance premiums and caps on compensation.)

Not everyone is optimistic that safety legislation is imminent. Richard Hiscock, an independent marine safety expert and advocate who operates out of his home in North Chatham, Mass., said, "I won't believe legislation until I see President Reagan sign the bill."

Hiscock's skepticism is understandable. Historically, fishing vessel owners have virulently opposed Government regulation on the grounds that Government intervention will subject them to rules drafted by bureaucrats "who don't

know the pointy end from the fat end of a boat." A fiercely independent, rugged, often well-off group of entrepreneurs, they dismiss legislators and safety advocates as outsiders unable to comprehend what happens on a fishing boat who will submarine the fishing industry with costly, ignorant legislation. And an unspoken fatalism, a sense that "when your number's up, it's up," pervades the brotherhood—all the more reason to resist legislation.

"The fishing industry has traditionally lobbied that regulation would put them out of business," said John Sabella, director of the North Pacific Fishing Vessel Owners Association's fishing vessel safety program. "I'm not trying to argue the logic of this, I'm simply telling you that the historical record [shows] Congress has always bought the argument that it would be a financial penalty that the industry couldn't bear as well as the idea that these guys are buying into a share of the risk as well as the reward. Fishermen are joint-venture partners going for a share of the catch, not employer-employee. And for a long time, Congress generally regarded them as capable enough seamen, because fishing is a profession that's traditionally been handed down from father to son, that they could cope with the normal hazards they face." normal hazards they face."

Safety advocates generally agree with that overview, but argue that many fisheries (the Bering Sea, for example) have expanded rapidly and that the traditional image of the pop-and-sons operation no longer holds true across the board. "Congress's resistance [to regulating the fishing industry] stems from their collective desire to cling to one last frontier in America," said Hiscock, explaining why Congress has allowed the industry to go unregulated despite its disastrous safety record. "A great romance about fisheries exists, very similar to farming but even more intense. I know coastal representatives have been clinging to that sentiment for years. Unfortunately, vessel owners are businessmen who need to be regulated or they have a tendency to run amok."

And while there is no one voice that speaks for the industry, it is generally agreed that lobbyists for vessel owners and fish processors have been extremely effective at the Congressional committee level in maintaining the status quo. And as fishing methods and processing operations have become increasingly sophisticated, so too have industry representatives. Not only does the commercial fishing industry belong to and operate general trade associations and foundations, it runs species-specific ones that protect salmon, shrimp and tuna fishing

interests. Until recently, these lobbyists battled any kind of mandatory regulation.

That Peggy Barry managed, in just over two years, and on a personal outlay of \$1,000 for postage and photocopying costs, to focus so much attention on the safety issue that even vessel owners are resigned to the inevitability of safety legislation, is nothing short of remarkable.

The Barrys were unaware when they began their quest for mandatory safety legislation that they were going up against a phalanx of industry members wary of an outsider pushing a safety agenda. "We have been referred to as outsiders," said Peggy Barry. "The *Alaska Fisherman's Journal* turned that into an advantage, suggesting that the industry needed 'outsiders' to point out their faults." Odd as it may sound, considering the number of marine fatalities, Peggy was the first relative of a victim-at-sea ever to agitate and become a household name within the close-knit fishing industry, an industry dominated by men, many of whom are described by one Hill aide as "supremely macho." And so, while Peggy is publicly praised by some in the industry, there is a strong undercurrent of resentment toward her among many who maintain that Robert Barry's credentials and connections (he is the deputy director of Voice of America and served as U.S. Ambassador to Bulgaria from 1981 to 1984) are the real reason for the Barrys' inroads.

"I never have and never will use my official position in the Government in any capacity on this issue," said Robert Barry. "When I go and meet with anybody, I do it as a private citizen on my own time. Besides, Peggy has, for the most part, met with the congressmen and senators and others, and they certainly don't react to her because of my position. Whatever influence we have is not based on who we are, but on what we have to say."

"Fishermen have been dying for years, then one Yalie dies and the whole world seems to get up in arms," said Sabella. "Fishermen die far away in remote places and they're never seen again and the public basically doesn't pay much attention. Peter Barry happened to be a very publicized case, and his parents happened to be extremely influential people. The sad stories of the Barrys and Peter Zimny and a few other of these people have been touted in the media ad nauseum, and yet there are people that have been dying up here. When the A-boats went down that took 14 people, most of whom were related, from the small community of Anacortes. There are

enormous tragedies in this industry, and all of us regret them greatly and work

Barry learned during his stay in Alaska to claim the body, that his son had unsuspectingly boarded a deathtrap—an unstable vessel with rotten planking that had never been inspected and did not carry lifeboats.

very hard to insure that they don't happen."

Sabella is widely recognized for his safety program, a voluntary training course funded in part by the National Marine Fisheries Service. He calls his work the most extensive effort to control casualties ever undertaken in the U.S. commercial fishing industry and says the program has essentially become a condition of employment along the Seattle waterfront.

Peggy Barry praises Sabella's program, but she maintains that parts of it are too costly for the average vessel owner. And because it is voluntary, it has no impact on operators who are not conscientious enough to participate if not required to by law. "It's a splendid program, but it serves the elite of the industry. To say that it completely covers all the fishing vessels on the Seattle waterfront simply is not true. The Western Sea was based out of Seattle."

She adds that Sabella once told her, "Your son never would have gotten a job around here." She responded that she wished that sort of exclusivity had prevented her son from being hired in Alaska. The fact remains, she says, that 15,000 college students just like Peter, naive about the dangers and difficulties of commercial fishing, migrate to Alaska

every summer.

"Young people respond to such ads as that which appeared in the February 1986 issue of *Newsweek*, which virtually promised a summer's income of \$5,000 to \$7,000," she said in testimony before Congress. She also cites the cover of a popular outdoors magazine that dazzled readers with the claim that they could earn \$8,000 an hour fishing in Alaska.

Earl Comstock, fisheries aide to Sen. Ted Stevens (R-Alaska), says it is unfair to accuse the fishing industry of luring college students to Alaska through hyped-up advertisements. "I'm from the West Coast and I had to do quite a bit of checking to find out how you go about getting a deck job on a fishing boat," Comstock said.

And Sabella argues that no competent vessel owner will take on a college student as a crew member. Talking about Alaska, Sabella said: "A lot of the college kids work in the processing plants, but getting a deck job on a fishing boat is something guys spend years trying to do. College kids go to Alaska because it's a great romance and they wind up working the slime line on a fish processor and decide once is enough, so most of them don't come back. A salmon seiner can gross a million bucks a year and the crew makes real good money... on a high line boat. Jobs on those boats are hard to come by and few between.

"The reason he (Peter Barry) got a job on a bum boat was because he didn't know what he was doing. College students don't just stroll out here for the summertime and get a high-paying job on a good boat. Fishing is a real career — this is serious business. That guy that drove the Western Sea probably couldn't hire anybody else but a college kid."

Asked if college students offered a deck job should automatically respond, "I wouldn't want to join any crew that would have me for a member," Sabella said, "Probably."

"The root of the problem of fishing vessel safety is human error," Sabella stresses. "Today's fishing vessels are better built and equipped than they ever have been historically. And yet no vessel is ever safe from the threat of human mistake. A lot of the critics of the fishing industry are parlor people who simply do not realize that making a living at sea is dangerous no matter how you cut it."

Sabella was correct in his assessment of the captain of the Western Sea. As the Barrys discovered later, the crewman Peter Barry replaced quit because he was nervous about the ship's seaworthiness. Too inexperienced to be

suspicious. Peter only felt lucky that a deck job had opened up. After earning next to nothing digging for clams and leaving the cannery where he had worked earlier rather than cross a picket line, he was eager to land a job where he might earn good money while experiencing the beauty and excitement of a state he had studied for years. The Western Sea seemed like the fulfillment of a promise.

But knowing that the Western Sea was not a typical "good" boat is small solace to the Barrys, because regardless of how hard their son had to look to find his deck job and how many warning signs he innocently overlooked, he found a job that killed him. And the Barrys contend that, naive or not, college student or career fisherman, all workers should be protected, to the extent humanly possible, from a hazardous working environment.

A National Transportation Safety Board study issued in September strongly echoed the Barrys' position: "In many casualties, the absence of basic safety equipment drastically narrowed the chances that the captain and the crew members would survive in the harsh sea environment." In a searing indictment of the commercial fishing industry, the N.T.S.B. called for sweeping regulation of fishing vessels and fishermen, in many cases proposing rules far stricter than those incorporated in pending Congressional legislation. "The use of voluntary training and manuals to improve the poor safety record in the industry was started at least as early as 1968, but has not been successful," the Board concluded.

The Barrys, deeply troubled to hear their son typecast pejoratively as a "Yalie," have let the taunts slide. Early on, as they realized how intense the opposition to their efforts would be, they decided to concentrate strictly on the cause.

But, if they were to be labeled as well-connected outsiders, the Barrys would not allow vessel owners the luxury of being insiders and of representing, as they so often claimed, the "man on the boat." In testimony before the Senate Commerce Committee last December, Peggy wrote: "In three years of hearings on fishing vessel safety and insurance there has been a great deal of testimony, much of it repetitious, from lobbyists and industry groups. What is missing is the testimony of the men on the boats, the crewmen ... who risk their lives and health with every voyage. We have learned that frank testimony of this sort is hard to come by, because the crewman who calls for new mandatory safety requirements is likely to be, at best, unpopular in the industry and, at worst, unemployable. We [the Barrys] have been con-

tacted by a number of professional fishermen who want to tell their story,

Fishing vessel owners have virulently opposed regulations drafted by bureaucrats "who don't know the pointy end from the fat end of a boat."

but fear being blackballed if they do so."

In her testimony, Peggy's forceful public persona surges to the fore, punctuated by a lancet-like delivery that has moved more than a handful of House and Senate members. But privately, she still trembles when she talks about Peter's death, struggling to finish sentences, occasionally trailing off. And both Peggy and Robert, while aware that they are the point people for the issue, shy away from credit, stressing work done by other victims' relatives and rerouting the conversation back to the issues involved in the safety campaign.

But Capitol Hill aides working on the issue unanimously recognize the Barrys as catalysts for the movement. "There is no question that, with respect to the safety issue, the Barrys have been and continue to be the carriers of the flag," said Jeff Pike, fisheries aide to Studds. Echoing that sentiment, a top Senate commerce aide said, "It is fair to say that the safety issue has moved because of the force and sheer doggedness of Peggy Barry."

Hiscock is more blunt. "I always suspected it would take the death of the right-slash-wrong person before Congress would seriously act on this issue."

The Barrys' work has raised the consciousness of representatives of inland districts, but more important, they have had a profound impact on legislators from fishing districts. Ted Stevens is one of them.

"I think if you look at people like Senator Stevens, it is clear that he is now more interested in the safety aspect than he is in the insurance aspect—a complete turnaround from his position two years

ago," Robert Barry said. "Before 1985, Congressional hearings were held on fishing vessel safety and insurance, but the whole thrust of the thing was vessel insurance. That's what the committee was interested in, and that's what the industry was interested in. Then, the focus began to change, the safety part began to be more important."

So much so, the Barrys believe, that even if an impasse develops among negotiators hammering out the insurance parts of the legislation, a safety-only bill will sail through Congress. But the Barrys, like Hiscock, are not completely confident that their efforts won't be thwarted at the last minute. Last spring, a safety and insurance bill was shelved when the Association of Trial Lawyers of America successfully opposed a cap on liability claims. "I think that there is maybe a 50-50 chance that the part of the bill that deals with compensation will not work out [and] there won't be a compromise that's findable between the trial lawyers and the fishing industry," Robert says of this year's bill.

Although the controversial cap has been removed from the current bill, Peggy said a case could be made that "some of the trial lawyers and some in the fishing industry, their main goal is to see that no safety bill passes. One way of accomplishing that is to link the two and make sure they never get separated."

But even without the insurance provision, the bill may pass strictly as safety legislation. "I've heard from everybody, and people are generally reluctant to say this, but they've all said, Well, if there's no way of finding something that will cover the insurance problem, then something's going to be done about safety without the insurance provisions," said Robert hopefully.

Safety should not be held hostage to insurance, Peggy added, pointing out that the Administration, the Congress and the industry itself are on record in favor of mandatory safety equipment. (The Coast Guard recently reversed its opposition to mandatory safety equipment.) That may make it difficult to kill the safety parts of the legislation simply because separate insurance problems cannot be resolved. And not to pass a bill, insurance notwithstanding, is, the Barrys say, "to condemn people to death."

Listen to Peggy Barry describe the last three years of her life, and the stories of John Walsh and Candy Lightner come to mind. What those parents-turned-activists are to missing children and Mothers Against Drunk Driving, Peggy Barry is to fishing vessel safety.

The bereaved parent as catalyst for ma-

for legislation—a painfully familiar theme throughout the 1980s. And now the decade closes with yet another movement galvanized by the upset of life's natural order—a child predeceasing his parents.

Peggy knows she can never bring her son back. She knows that the light feeling parents have with all their children are alive and healthy will never return. She also knows that more fishermen will return safely to their shores because of her work.

She reads from a letter she received from an American couple now living in Australia whose 29-year-old son drowned when the *Uyak II*, a commercial fishing vessel, capsized in a calm sea in one minute because of a flooded lazaret. "If an experienced fisherman like Greg can get caught by lack of knowledge of a boat's reliability, what possible chance do these young college students who flock by the thousands to work in the summer have? Some have no idea whatsoever what they are doing, what the job description is, what basic safety rules to follow, what survival gear is needed or how to use it, nor any idea of what to do in case of an accident. No other industry in the United States could get away with this type of neglect for their employees' welfare."

Letters are a lifeline, but now the lifeline stretches between parents hoping somehow to make sense of tragedy and to channel their grief into constructive change. "We've asked only for the safest possible workplace and that the man in the boat be adequately prepared," Peggy said. "This is all we ask for, not miracles." ●

Ivy Harper, a Washington writer, worked for former Rep. John J. Cavanaugh and for the United States Tuna Foundation. This is her second contribution to American Politics.

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Unfortunately, the Democrats have been able to convince a lot of people over the years that they are the only ones who really give a damn about minorities. They spend a lot of time talking about the problems that affect minorities most acutely. And, most important, they spend a lot of time talking to minorities. If Republicans hope to wean blacks, Hispanics and other traditional Democrats away, we're going to have to begin doing the same thing. It's going to take more than talking, though, to produce some real gains for those minorities. It remains to be seen whether either party is up to that task. ●



Does the Deficit Matter?

BALANCED BUDGETS AND AMERICAN POLITICS

By JAMES D. SAVAGE

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—Stanley E. Collender, *Touche Ross & Co.*

Since the stock market crash in October, reducing the federal government's budget deficit has become a top priority among our nation's leaders. A topical issue but hardly a new one, balancing the federal budget has been a perennial source of conflict in American political life. James D. Savage here explores the causes and development of the nation's preoccupation with this issue, arguing that the American fascination with the idea of balancing the federal budget is deeply rooted and reflects more than a contemporary concern about interest rates, inflation, depression, or even the outcome of the ongoing budget debates. \$27.95

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