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ALASKA FISHERIES SAFETY ADVISORY COUNCIL

INTERIM

FISHING VESSEL SAFETY STANDARDS

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INTERIM STANDARDS

Introduction

This booklet contains fishing vessel safety standards that have been developed by Alaskan fishermen over the past six years. They are intended to be used as a guideline for increased safety in areas of construction, equipment, maintenance, personnel, and operations while fishing. It is expected that as these standards are implemented by the fishing fleet a reduction in loss of life, injury, casualty and loss of vessels will occur and at the same time this will help to lower insurance costs to the vessel owner. Lower insurance costs should be considered as an economic incentive for implementation of these standards.

These safety standards address the areas of the vessel, equipment, gear and personnel. Opposite each item designated are numbered columns which indicate how that item should be reviewed in relation to safety. The meaning of each number category is as follows:

- 1. Subject to Intended Fishery:**
Means that the vessel and/or designated equipment should be built and maintained for the weather, area to be fished and the intended fishery. (While some boats are fine for protected waters, those same boats are not suitable for fishing offshore.)
- 2. Subject to Surveyor:**
Means the surveyor may be used to assess condition, valuation, and damage of a vessel both for the vessel owner and the insurers.
- 3. Subject to Screening Committee:**
Means a screening committee may be used to assess the skipper, vessel, and equipment. The screening committee is a concept being used by the fisherman as a preliminary process in obtaining insurance through a fisherman's safety incentive program. (The fishermen involved

in the development of these standards believe that increased safety will result upon implementation and are forming an insurance program based on this concept.) Both the surveyor and local screening committee are recommended as useful tools towards increased safety.

Note: In these interim standards numbers (1), (2), (3) in the first column are not addressed separately in order to maintain initial flexibility in the implementation of this program. It is possible that further refinements of these standards could result in a separation of this first column.

4. Subject to Coast Guard Regulation:

These are safety oriented items that are mandatory Coast Guard Regulations.

5. Mandatory:

This category is being used by the fishermen's safety incentive program for insurance purposes to require certain pieces of equipment and/or modification as mandatory towards increased safety subject to the geographical area and fishery.

Category number (5) is also the key to the columns which are headed with percentages. These percentages are intended as proposed credits towards reducing insurance costs. For example, the first 10% is credit given in insurance premium reduction by the fishermen's safety incentive program provided that the standard is implemented during the first year. The following 10% is further broken down into 2-2-2 and 4%. These are further reductions in premium as these standards are implemented. Although this second 10% category is not mandatory at this time, it is recommended by the fishermen's safety incentive program that this grouping be implemented for increased safety. At a future date items in this grouping which are indicated by a dot may become mandatory.

It is hoped that you, the fisherman, vessel owner, and boat builder understand and use these standards as guidelines towards increased safety. They are recommended by: the University of Alaska Sea Grant Program (which has funded and provided advisory assistance for safety throughout the state); the Alaska Fisheries Safety Advisory Council (an 11-man ad hoc safety board comprised of fishermen, surveyors, Coast Guard, and Marine Advisory personnel); the Alaska Fishermen's Safety Incentive Program (a fishermen's insurance program for reducing accidents with premium reduction as an incentive); several of the major insurance brokers; and in concept by the U. S. Coast Guard.

Please read them over carefully and implement them in the near future. They will help towards greater safety in our fishing fleet.

Good Luck and Safe Sailing!

**Frank B. Bohannon,
Safety Specialist, Marine Advisory Program,
University of Alaska**

and

**Executive Director, Alaska Fisheries Safety
Advisory Council**



Safety Screening Codes

- 1 — Subject to Intended Fishery
- 2 — Subject to Surveyor
- 3 — Subject Local Screening Comm.
- 4 — Coast Guard Regulations
- 5 — Mandatory

Construction Standards	Safety Screening					Fisherman's Insurance Incentive			
	1	2	3	4	5	First 10%		Second 10%	
						2%	2%	2%	4%
I. Hull Structure	X								
A. Shell (All materials)	X								
1. Bottom thickness check	X								
2. Thickness standard	X								
B. Decks	X								
C. Bulkheads	X								
1. Conversions — Architect Recommended	X								
D. Strength members	X								
E. Fastenings	X								
F. Fire protection — any exposed flammables, urethane, etc.?	X								

Construction Standards										Fisherman's Insurance Incentive				
	Safety Screening					First 10%	2%	Second 10%		2%	4%			
	1	2	3	4	5									
1. Adequate escape routes	X													
G. Handrails	X													
H. Miscellaneous	X													
1. Plating	X													
2. Planking	X													
3. Caulking	X													
4. Reinforcing straps	X													
5. Stem	X													
6. Sternpost	X													
7. Bilge keels	X													
8. Keel	X													
9. Longitudinals	X													
10. Frames	X													
11. Intercostals	X													
12. Stiffeners	X													

Construction Standards	Safety Screening					Fisherman's Insurance Incentive				
						First	Second		10%	
	1	2	3	4	5	10%	2%	2%	2%	4%
13. Beams		X								
14. Connections		X								
15. Brackets		X								
16. Other		X								
II. Watertight integrity		X								
A. Watertight doors		X								
B. Hatches and Securing Devices		X								
C. Closure means for thru-hull openings		X								
I. Sea Chest Valves					X				X	
D. Engine Room Watertight Bulkheads		X								
1. Engine Room/fish hold bulkhead watertight, new construction									X	X

Construction Standards		Safety Screening					Fisherman's Insurance Incentive							
		1	2	3	4	5	First							
							10%	2%	2%	2%	4%			
a.	Exception — trollers with airblast units at top of bulkhead	X												
E.	Weatheright bulkheads, doors, and hatches	X												
F.	Hatch coamings	X												
G.	Drainage of deck configuration	X												
1.	Flush deck	X												
2.	Well deck	X												
3.	Open deck	X												
4.	Cockpit	X												
a.	Cover on trollers (exception: self bailers)					X	X							
5.	Adequate clearing ports and/or scuppers					X	X							
H.	Collision Bulkhead	X												
I.	All windows and portholes	X												
1.	Storm windows recommended where necessary	X												
J.	Outside fisheries vs. inside (protected) fisheries differences	X												

Construction Standards	Safety Screening					Fisherman's Insurance Incentive							
	1	2	3	4	5	First							
						10%	2%	2%	10%	2%	4%		
III. Stability													
A. Live tanked and/or tanked cargo				X									
1. Chilled brine				X									
2. Adequate valving and piping				X									
3. Guard against free surface				X									
4. Stability standards					X	X	X						
a. Posted static and dynamic test in house in laymen's terms					X		X						
b. Styrofoam applications to decrease tank capacity				X									
B. Iced Cargo				X									
C. Free board and loading				X									
1. Discourage bad practices				X									
a. Over deck-loading				X									
2. Adequate binboards and stanchions				X									
3. Encourage consultation with architect				X									
a. New construction — stability test					X	X	X						

Equipment Standards	Safety Screening					Fisherman's Insurance Incentive			
	1	2	3	4	5	First		Second	
						10%	2%	2%	4%
I. Machinery Installations									
A. Foundations (adequate hanger bolts, etc.?)	X								
B. Controls	X								
1. Hydraulic valves	X								
a. Placement or location	X								
b. Labeled or color coded to function					•			X	
c. Spring loaded (return to center) where necessary					X	X			
C. Main propulsion									
1. Gasoline	X								
a. Carburetor drip collector				X					
b. Backfire flame arrestor				X					
2. Diesel	X								
D. Engine manifold cooling and exhaust lagging (insulation)				X		X			
E. Fuel tanks and ventilation	X	X							
F. Supply piping (fuel)	X								

Equipment Standards

	Safety Screening					Fisherman's Insurance Incentive				
						Second 10%				
	1	2	3	4	5	First 10%	2%	2%	2%	4%
1. Adequate size	X									
a. Grounded fill hole — wood boat — gas				X		X				
2. Condition of copper tubing	X									
3. Neoprene hose (guarded against chafing)	X									
4. Valve on sight glass	X									
5. Integral fuel tanks not recommended fiberglass	X									
6. Independent shutoffs at remote tanks	X									
7. Adequate return lines and routing	X									
G. Bilge pumping system	X									
1. Check valve on 3-way or "Y" system					X	X				
a. 3-way or "Y" systems eliminated					•			X		
2. No plastic pipe below water line on suction lines					X	X				
3. Adequate screen or filter on bilge suction					X	X				
4. Lazarette and voids pump system					•					X
a. Drain to bilge adequate size (lazarette)					X	X				

Equipment Standards	Safety Screening					Fisherman's Insurance Incentive			
						First 10%		Second 10%	
	1	2	3	4	5	2%	2%	2%	4%
1. Screen on lazarette side					X				
b. Lazarette clean of materials that will plug drain					X				
H. Ballast piping			X						
I. Steering apparatus and auxiliary			X						
J. Shafting and propellers			X						
1. No black iron or cold rolled steel tailshafts or rudder posts					X				
on new construction									
K. All pumps and piping			X						
L. Ventilation			X						
1. Batteries			X						
M. Open shafts			X						
N. Tenders carrying gasoline					X				
O. Galley stove			X						
1. Insulated					X				
2. Carburetor			X						

Equipment Standards		Safety Screening					Fisherman's Insurance Incentive					
							First	Second				
		1	2	3	4	5	10%	2%	2%	2%	4%	
B.	Main engine and auxiliary generators		X									
C.	Batteries		X									
	1. Above bilge level				X		X					
	2. Good insulation of box				X		X					
	3. Recommended multiple system											
D.	Overload protection		X									
E.	Wire insulation — recommend neoprene		X									
F.	Switchboard and panel (well-placed)		X									
G.	Wiring, receptacles, outlets, accessories, grounding and protection		X									
	1. Polarized plugs (3 prong AC)				X		X					
	2. Parallel system safeguards		X									
	3. No temporary plugged in installations used permanently				X		X					
H.	Motors, generators, alternators, and controllers											
	(location and grounding)											
	1. Regulators in optimum spot		X									

Equipment Standards		Safety Screening					Fisherman's Insurance Incentive					
							First	Second 10%				
		1	2	3	4	5	10%	2%	2%	2%	4%	
I.	Communications	X										
J.	Ignition wiring (sprayed and treated)	X										
K.	Equipment enclosures	X										
L.	Electrical heating and cooling	X										
M.	Battery chargers marine listed or built-in circuit breakers (polarized installation)					•		X				
N.	Shore power (polarized)	X										
O.	Standard electrical connections					X	X					
P.	Main battery disconnect					X	X					
Q.	Navigation lights					X						
III.	Fire Protection Equipment					X	X					
A.	Fire pumps and accessories	X										

Equipment Standards	Safety Screening					Fisherman's Insurance Incentive							
	1	2	3	4	5	First		Second		10%	2%	2%	4%
						10%	2%	2%	4%				
1. Washdown hose if adequate	X												
B. Fixed fire extinguishing systems	X												
(Mandatory in future -- recommend Halon)					•								X
1. Controls	X												
2. Discharge piping	X												
3. Alarms					•								X
C. Portable fire extinguishers			X			X							
1. Checked or weighed over required intervals			X			X							
2. Positioned to fight fire into or out of compartment						X							
a. Wheelhouse						X							
b. Propulsion and machinery compartment						X							
c. Accommodations and galley						X							

Equipment Standards		Safety Screening					Fisherman's Insurance Incentive					
							First 10%		Second 10%			
		1	2	3	4	5	2%	2%	2%	4%		
I.	Hold alarms (tanked vessels)				X							
1.	Flow alarm				X							
2.	Water level				•							X
3.	Free surface				•							X
J.	Pressure alarm on reduction gear				•							X
K.	Carbon monoxide CO (on gas vessels)				X							
	(where practical, alarms or alarm systems wired directly to batteries)	X										
V.	Suitable Electronics for intended fishery and area				X							
A.	Radio — vessel to have one of the following:				X							
1.	Single side band				•							X
2.	AM (in area of operational use)				•							X
3.	VHF				•							X
4.	CB				•							X
5.	Emergency system w/independent batteries				•							X

Equipment Standards																				
										Safety Screening					Fisherman's Insurance Incentive					
										1	2	3	4	5	First 10%	2%	2%	2%	4%	
B. Depth-finding equipment															X					
1. Flasher or recorder																X				
2. Back-up unit																				X
C. Sonar																				
D. Radar										X						X				
1. Back-up unit																			X	
2. Variable range marker																				X
E. Loran											X						X			
1. Back-up unit																				X
F. Back-up fuses for electronics															X					
G. Compass															X					

Equipment Standards	Safety Screening					Fisherman's Insurance Incentive				
	1	2	3	4	5	First				
						10%	2%	2%	10%	
VI. Other equipment and rigging										
A. Ground tackle (anchor gear)					X					
1. Type and size of anchor		X								
2. Type, size and length of chain		X								
3. Type, size and length of cable or rope		X								
a. Replace main splice (chain to cable) once a year		X								
b. Cable clamps, solid thimbles		X								
c. Splice clean and seized		X								
d. Patented pressed eyes examined regularly		X								
e. Shackles wired or welded					X	X				
4. Anchor winch		X								
a. Placement of controls		X								
b. Free spooling capability or back-up hydraulic power					X	X				
B. Mooring or tie-up equipment		X								
1. Type and size of line		X								

Equipment Standards	Safety Screening					Fisherman's Insurance Incentive			
						First 10%		Second 10%	
	1	2	3	4	5	2%	2%	2%	4%
2. Adequate cleats		X							
3. Adequate bumpers		X							
4. Chafing gear		X							
C. Standing rigging		X							
1. All shackles welded, wired, or pinned					X			X	
2. Seizing across block hooks to prevent jumping					X			X	
3. Size and condition of shackles					X			X	
4. Seized or clean splices where necessary					X			X	
5. Adequate hooks on blocks					X			X	
6. Adequate hooks on lifting rigging					X			X	
7. Adequate blocks and lines on falls and stays					X			X	
8. Mast (material good condition/adequate size)					X			X	
9. Boom (material good condition/adequate size)					X			X	
a. Main pins and pad eyes					X			X	
10. Outriggers and poles					X			X	

Equipment Standards	Safety Screening					Fisherman's Insurance Incentive					
	1	2	3	4	5	First 10%		Second 10%			
						2%	2%	2%	4%		
11. Davits					X		X				
12. Stays					X		X				
13. Adequate tie-downs for portable equipment					X		X				
VII. Emergency and Lifesaving Equipment					X		X				
A. Life Preservers					X						
1. Location					X						
2. Condition					X						
B. Life rafts/life boats					X				X		
1. Location					X						
2. Condition					X						
3. Inspection, 2 years or manufacturer's specifications (whichever is less)					X		X				

Equipment Standards	Safety Screening					Fisherman's Insurance Incentive				
	1	2	3	4	5	First 10%		Second 10%		
						2%	2%	2%	4%	
C. Survival suits	X				•				X	
1. One per man -- (if you have one so have your men)					X					
2. Outside waters or west of Cape Spencer					X					
3. Location	X									
D. Throwing buoys or rings				X						
1. Light recommended					•				X	
E. Distress or emergency flares					X					
1. Inspected to date					X					
F. Emergency locator transmitter (E.L.T.)					•					X
G. First Aid equipment					X				X	
1. Complete kit on tenders w/training course					•					
H. Self-contained oxygen breathing apparatus recommended	X									
1. Emergency rations on day boats					X				X	
J. Scuba gear (if on board) checked regularly	X									

Fishing Equipment and Gear Standards		Safety Screening					Fisherman's Insurance Incentive						
		Second					First						
		1	2	3	4	5	10%	2%	2%	2%	4%		
I.	Seiners												
A.	Seine winch — this is area of most accidents				X								
	1. Location of controls				X								
	2. Ability to reverse winch				X								X
B.	Knife or ax handy to cut purse line in emergency				X								
C.	Purse blocks and davits				X								
D.	Towlines and links				X								
E.	Connectors				X								
F.	Boss hooks monel or stainless				X								
G.	Hookup on tow bit				X								
H.	Lines and releases on skiff				X								
I.	Skiff				X								
	1. Construction				X								
	2. Steering — (system or hand-held)				X								
	3. Height of towing bridle				X								

Fishing Equipment and Gear Standards										Fisher's Insurance Incentive											
										Safety Screening					First 10%			Second 10%			
										1	2	3	4	5	2%	2%	2%	4%			
4. Safety equipment (life vest and fire extinguisher)																					
5. Alarms (inboards)														X							
6. Flotation										X											
J. Cleats for tie-down of skiff and net										X											
K. Back deck lighting										X											
L. Hydraulics — adequate hose and safety valves										X											
M. Non-skid decks										X											
II. Gillnetters																					
A. Net Reel										X											
1. Foundation										X											
2. Brake										X											
3. Reel drive guards														X							



Fishing Equipment and Gear Standards										Fisherman's Insurance Incentive													
										Safety Screening					First			Second					
										1	2	3	4	5	10%	2%	2%	2%	4%				
4. Level wind										X													
B. Controls										X													
1. Location										X													
2. Deadman (return to off) on reels														X	X								
C. Roller										X													
1. Positive lock on tip in stern roller										X													
D. Hydraulics -- adequate hose and safety valves										X													
E. Lighting back deck										X													
F. Handrails										X													
G. Non-skid decks										X													
III. Trollers																							
A. Gurdies										X													



Fishing Equipment and Gear Standards										
	Safety Screening					Fisherman's Insurance Incentive				
	1	2	3	4	5	First 10%	2%	2%	Second 10% 2% 4%	
1. Controls	X									
a. Placement	X									
b. Condition	X									
B. Hayrack or davits	X									
1. Guy wire (safety) recommended	X									
2. Safety straps on overhead blocks					X	X				
C. Poles	X									
1. Good hold-down					X	X				
2. Safety line	X									
D. Non-skid decks	X									
E. Adequate lighting back deck	X									
F. Hydraulics (adequate hose and safety valves)	X									

Fishing Equipment and Gear Standards

	Safety Screening					Fisherman's Insurance Incentive					
						First		Second		10%	
	1	2	3	4	5	10%	2%	2%	2%	4%	
IV. Halibut											
A. Gurdy and roller				X							
1. Hydraulics — adequate hose and safety valves				X							
a. Placement of control — dual recommended				X	•					X	
2. Catch-free railing and side of boat				X							
3. Hook shield				X							
4. Ground shiv				X							
a. Finger				X							
B. Intercom recommended				X	•					X	
C. Knives handy when setting				X							
D. Gaff storage				X							
E. Knife storage				X							
F. Non-skid deck				X							
G. Back deck lighting				X							
H. Anchor throwing area — adequate railing				X							

Fishing Equipment and Gear Standards	Safety Screening					Fisherman's Insurance Incentive				
						First				
	1	2	3	4	5	10%	2%	2%	10%	4%
V. Crab										
A. Stability standards				X		X				
1. Posted static and dynamic tests in laymen's terms					•		X			
2. Loading information posted					•		X			
B. Overboard ports and scupper				X						
C. Block				X						
1. Ground shiv and finger				X						
2. Control — location				X						
3. Good davit				X						
D. Launcher				X						
1. Control — location				X						
E. Main and lifting boom				X						
F. Non-skid decks				X						
G. Bulwarks and tie rail				X						
H. Communication link between deck and pilot house (intercom)				X	•				X	

Fishing Equipment and Gear Standards		Safety Screening					Fisherman's Insurance Incentive					
							First	Second				
		1	2	3	4	5	10%	2%	2%	10%	4%	
I.	Back deck lighting	X										
J.	Hydraulics — adequate hose and relief valves	X										
VI.	Shrimp and Trawl											
A.	Net Reel	X										
	1. Dead man valve and location	X			•			X				
B.	Deck winch	X										
	1. Control — location	X										
	2. No exposed Gears					X	X					
	3. No exposed line shafts					X	X					
	4. Spooling bars	X										
C.	Boom	X										
	1. Safety chain on lifting block	X			•				X			



Fishing Equipment and Gear Standards		Safety Screening					Fisherman's Insurance Incentive												
		1	2	3	4	5	First												
							10%	2%	2%	2%	4%								
2.	Double line on topping stay	X				•													
3.	Lifting hooks	X																	
D.	Outriggers	X																	
1.	Stays and guying	X																	
2.	Safety chain on towing blocks	X				•					X								
E.	Non-skid decks	X																	
F.	Lazy line blocks	X																	
G.	Back deck lighting	X																	
H.	Hydraulics — adequate lines and relief valves	X																	

Maintenance Standards		Safety Screening					Fisherman's Insurance Incentive						
							Second 10%						
		1	2	3	4	5	First 10%		2%	2%	2%	4%	
I.	Painting and general upkeep	X											
II.	Lubrication	X											
	1. Engines	X											
	2. Equipment	X											
III.	Engines	X											
	1. Overhauled recently	X											
	2. Engine oil analysis (yearly)					•							X
	3. Check arcing brushes on motors and generators	X											
	4. Check leaks	X											
	5. Oil and fuel filters (changed regularly with log record)					•				X			
IV.	Electronics	X											
	1. Periodic checks	X											
	2. Good environment	X											
V.	Pumps	X											
VI.	Bottom	X											

Maintenance Standards

	Safety Screening					Fisherman's Insurance Incentive			
						First 10%		Second 10%	
	1	2	3	4	5	2%	2%	2%	4%
1. Zincs	X								
2. Paint and cleaning	X								
VII. Electrical									
1. Wiring	X								
2. Batteries clean	X								
a. Terminals clean	X								
b. Filled to level	X								
VIII. Rigging									
IX. Engine Room — Bilge, etc.	X								
X. Shafts	X								
1. Tail Shaft packing gland	X								
2. Rudder post packing gland	X								

Personnel Standards (Remember the key to this program is the captain and crew)	Safety Screening					Fisherman's Insurance Incentive			
						First 10%		Second 10%	
	1	2	3	4	5	2%	2%	2%	4%
I. Captain's Experience and Reputation	X			X	X				
II. Alternate Captain's Experience (if running or going to run boat)	X			X	X				
III. Engineer's Experience Acceptable	X			•					X
IV. Crew's Experience Acceptable	X			•					X
V. Questions									
A. Does captain maintain vessel?	yes								
B. Is captain prone to accident?	no								
C. Does captain train men adequately?	yes								
D. Does captain use bad practices?	no								
E. Does captain's experience include present fishery?	yes								
F. Does vessel produce?	yes								
1. Is vessel or captain financially unstable?	no								
2. Is fishery relatively stable?	yes								
VI. Training (crew) should be mandatory in following areas									
A. Standing watch	X								

Training and Regulatory Documents Required (when available)	Safety Screening					Fisherman's Insurance Incentive				
						First 10%		Second 10%		
	1	2	3	4	5	2%	2%	2%	4%	
I. Fuel Bunkering Checklist				X						
A. Maintained				X						
B. Crew trained in methods				X						
II. AFSAC — fishing vessel standards 1977										
III. AFSAC — areas of exposure to risk and injury		X			•					X
IV. AFSAC check list for pilothouse		X			•					X
V. Master Certificate (used with PHS on injuries)		X			•					X
VI. *U. S. Coast Guard Navigation Rules — CG 169, May 1977		X			•					X
VII. *Safety Notes for the North Pacific Fisherman		X			•					X
VIII. *First Aid for Fishermen		X			•					X
IX. *Marine fires; preventing them; fighting them		X			•					X
X. *Man in Cold Water — PASGAP 12, Oct. 1976		X			•					X

*Above mentioned publications available from Marine Advisory Program, University of Alaska, 3211 Providence Drive, Anchorage, Alaska 99504.

There will be others added to this list periodically as they become available. It is hoped that they will be used as refresher and training aids for personnel on board. Remember — It is usually the MAN and his attitude and level of training that prevent accidents.

AREAS OF GREATEST EXPOSURE TO RISK —

This list is general and is meant to be used as an industry training aid for new men and as a refresher for experienced crew. It identifies areas of risk and casualty that have by experience been prevalent in the various fisheries. It is recommended that all new men read this, and further, that the vessel captain explain and identify to them each category as it pertains to this vessel. Also, each of the experienced crew should read this list periodically to reacquaint himself with the potential hazards that are considered commonplace and sometimes overlooked unconsciously during the normal course of work.

It is hoped that this list will be revised often. If any new areas of exposure arise or if any have been left out, please identify them and send your suggestions to AFSAC. In the future the list will be expanded to give recommended solutions to risk areas and toward this end your comments would be appreciated.

REMEMBER — only you — the owner, skipper and crew — have the ability to reduce casualty. By reducing casualty you have the potential to increase your insurance company's profits, and thereby reduce your insurance rate and premium.

Note: In the following it is understood that some risks are always going to be present and accepted as normal risks to the fishery. Using this document may not eliminate the normal risks, but it will help each man to remain aware of those risks.

I. Causes of Personal Injury and Loss of Life —

A. Deck — outside —

1. Alcohol and Drugs
2. Fatigue
3. Working too fast; taking short cuts
4. Loose clothing or rain gear
5. Long hair (loose)
6. Lack of adequate training — at deck gear — at anchor winch
7. Man overboard — alone on deck while traveling, at night, or in bad weather — hauled over while setting gear
8. Standing under stressed rigging
9. Standing in bight of line
10. Slick decks
11. Open hatches
12. Loose or swinging rigging
13. Loose lines or gear on deck
14. Fish poisoning
15. Bottom paint poisoning
16. Lack of safety equipment while using power tools
17. Improper use of machinery
18. Overloaded skiffs or dinghies
19. Inadequate hand holds
20. Haste in tying up boat at dock
21. Removing web or line from wheel
22. Bad location of controls and brakes on equipment

23. Bringing heavy gear aboard while fishing — landing skiff — landing pots — landing doors (shrimp) — hauling, tow/bag aboard

24. Leaving machinery controls while operating

25. Cut by fishing gear — trolling line — flying hooks — cleaning knives — parting gear

26. Large halibut

27. Bad practices with skiff when going ashore

28. Not knowing area while hunting ashore

29. Ladders on side of pilot house

30. Inadequate lighting

B. Galley and Quarters

1. Stove burns

2. Stove and stack fires

3. Smoking in bunk

4. Falling through hatch into fo'c's'le or engine room

5. Wet slippery floors — bad housekeeping

6. Inadequate ventilation

7. Excessive noise

8. Bad sanitary practices — old or bad food

9. Inadequate lighting

C. Engine Room and Fo'c's'le

1. Excessive noise

2. Exposed belts, chains, and gears

3. Exposed shaft couplings

4. Exhaust leaks

5. Refrigerant leaks
6. Exhaust burns
7. Inadequate escape routes or hatches
8. Oil leaks, slick decks
9. Poor house cleaning
10. Gas operated equipment—battery chargers and welders
11. Gas welding cylinder storage
12. Exposed AC wiring
13. Heavy objects not tied down
14. Storage of flammable and poisonous liquids
15. Exposed urethane insulation
16. Bad battery placement and insulation
17. Working on equipment while running
18. Using engine room as laundry
19. Working on or around battery with metal tool without disconnect
20. Battery acid burns
21. Inadequate ventilation
22. Inadequate lighting

D. Fish Hold

1. Inadequate lighting
2. Inadequate ladders
3. Slick deck
4. Open shaft alley
5. Carelessness during unloading
6. Inadequate stanchions and pen boards

- 7. Poor routing of shafts and access to pipes and lines
- 8. Falling hatches

- II. Vessel Damage or Loss
 - A. Poor anchor gear, ground tackle
 - B. Poor navigation
 - C. Fatigue
 - D. Alcohol and drugs
 - E. Poor judgment
 - F. Lack of local knowledge of area
 - G. Fishing gear in wheel
 - H. Logs and other drift
 - I. Loss of steerage
 - J. Water, dirt or sludge in fuel
 - K. Inadequate fuel filters or changes
 - L. Poor thru-hull fittings
 - M. Inadequate sea-chest valves
 - N. 3-way or Y system on bilge-sea-chest pump system
 - O. Instability — inadequate ballast — free surface on deck
 - P. Poor communications equipment
 - Q. Fire
 - R. Inadequate windows
 - S. Icing
 - T. Overloading
 - U. Pen board or stanchion failure in hold
 - V. Lack of preventive maintenance

- W. Electrolysis
- X. Inadequate visibility
- Y. Inadequate clearing ports
- Z. Inadequate alarm systems
- A.A. Inadequate bulkheads
- B.B. Inadequate alarms and pumps in voids

REMEMBER —

- This is a training and refresher document.
- That most accidents and losses are caused by the MAN.

Because of:

1. Lack of Training
2. Poor Attitudes
3. Lack of Attention (Familiarity breeds contempt)
4. Negligence

- That the skipper in the final analysis is responsible for his vessel and crew and can considerably reduce accidents and casualty by on-going training and refresher courses in the above areas.
- **Be Professional!**
- **Know Your Boat!**
- That the owner can help by providing safe, workable equipment intended to do the job efficiently and safely.