PROCEEDINGS



PARTMENT OF TRANSPORTATION UNITED STATES COAST GUARD

31, No. 8

August 1974

N THIS ISSUE . . .

Potential Hazards of Combination Carriers

Casualty Statistics of Commercial Vessels on Western Rivers

Puget Sound VTS Regulations Promulgated

CONTENTS

FEATURES

	Page
Slack Tanks Cited as Potential Hazard in Combination Carriers	147
Casualty Statistics for Commercial Vessels on Western Rivers-	
1973	148
Puget Sound VTS Regulations Published	152

DEPARTMENTS

Marine Safety Council Membership	162
Coast Guard Rulemaking	163
Amendments to Regulations	165

FRONT COVER

Shown while on sea trials on the Gulf of Mexico is the M/V *Delaware*, now plying the Cape May—Lewes, Delaware ferry run. Photo courtesy Todd Shipyards Corporation.

BACK COVER

The M/V D. Ray Miller is shown as she was poised for launching early this spring. Photo courtesy Jeffboat, Incorporated.

DIST. (SDL No. 99) A: abcd(2), fhklmntuv(1) B: n(40); c(6); e(5); f(4); ghj(3); r(2); bkipq(1) C: gmp(1) D: i(5); adgklm(1) E: m(1) F: kp(1) Lists TCG-06, CG-13, CG-20

THIS COPY FOR NOT

LESS THAN 20

READERS-PLEASE

PASS IT ALONG

PROCEEDI

OF THE

MARINE SAFETY COUN

Published monthly by the Com USCG, in the interest of sofer under the auspices of the Marin Council. Special permission for a tion, either in whole or in part, exception of copyrighted article work, is not required provided given to the Proceedings of Safety Council. All inquiries are for subscriptions should be coor Commandant (G-CMC), U.S. Com Washington, D.C. 20590. Use at printing this publication has proved by the Director of the the Budget, May 21, 1969.

Admiral O. W. Siler, USCG Commandant

The Marine Safety Court The United States Coast

Rear Admiral R. A. Ratti, USCO Chief Counsel, Chairman

Rear Admiral J. A. Palmer, US. Chiel, Office of Public and Internal Member

Rear Admiral J. F. Thompson, Chief, Office of Boating Safety.

Rear Admiral J. W. Moreau, US. Chief, Office of Engineering, Member

Rear Admiral R. H. Scarboroug Chief, Office of Operations, Messo

Rear Admiral R. I. Price, USCG Chief, Office of Marine Environment Member

Captain Richard Brooks, USCG Executive Secretary

The membership may be expanded Commandant or Chairman, Council to deal with special particulations of the constances.

Lieutenant (jg) G. D. Szczurek, 🗐

Slack Tanks Cited as Potential Hazard in Combination Carriers

cently completed study by the ational Chamber of Shipping d owners of combination bulk
 (OBO's) that partially filled tanks could produce enough electricity to touch off a disas-explosion, especially if the slack had previously been full of oil.
 investigation, instituted after a of explosions wracked ore-bulk-and ore oilers between 1967 and was supported by the major ratent associations whose memowned or operated OBO type

explosions prompting the rediffered from those suffered by large crude carriers in that they not associated with tank clean-

Preliminary investigations red a number of common factors, ding the fact that most explococcurred in vessels of the bulk/ where than the oil/ore type. In cases the vessels concerned were all ast following a crude oil cargo the explosions erupted in slack

Rolling or pitching seas varyom slight to high at the time E blasts were recorded in all the ties studied.

ee possible sources of ignition of sterious explosions were invesd on an international basis. Arments were made for Det e Veritas to study the temperancrease caused by the rubbing el against steel and steel against ne sealing. Foreign materials as coal dust and flint were inled between the rubbing

tests were carried out under mtory conditions with varied periods and amplitudes simuthe contact between hatch and coaming. In some cases mests were carried out in a flamatmosphere of propane in air. The the tests indicated that the mest temperature increased from lic and intermittent movement

of the materials, it never rose to the level needed to ignite the propane air mixture.

Det Norske Veritas also undertook the investigation of pressures caused by the slamming of ballast water against tank walls in partly filled holds in order to determine if the explosions could have resulted from compression ignition in an oil/gas rich atmosphere. Though the shipboard and scale model tests proved inconclusive, the report noted that this possible source of ignition could not be discounted.

Koninklijke/Shell Laboratories Amsterdam (KSLA) and United Kingdom Culham Laboratory investigated the third possible source of ignition—static caused by surging ballast. The intention of this study was to determine whether electrostatic phenomena are occurring in the holds of OBO vessels and, if so, the extent to which they are likely to be similar to those in large tankers.

Shipboard tests carried out under inerted conditions demonstrated that moderate roll with maximum amplitudes of 4° to either side induced wave motions of a sufficient intensity to generate an electrically charged mist in a hold with an oily water bottom. Charges were comparable to or higher than those generated by water washing in a similar hold containing slops. The movement of clean seawater bottoms created hardly any charged mist.

A second shipboard trial confirmed the generation of electrostatically charged mist from sloshing in partially ballasted OBO holds. In many instances electrostatic sparks were observed immediately after wave impact. Because the sea conditions did not provide very long or intense sloshing, the potentials measured were substantially lower than those of the first test. Although the energy measured was well below that required for ignition, it was recognized that the roll-

ing conditions experienced in the test were probably the worst that could feasibly be encountered while taking trial measurements.

The report noted that the KSLA/ Culham Laboratory investigations appeared to have achieved their objective by demonstrating that similar electrostatic phenomena are found in both OBO's and large tankers. Because the research efforts continuing on large tankers might well be relevant to OBO's, further work devoted exclusively to combination carriers was deemed not cost beneficial by the ICS.

Though the results of the investigation precluded a definitive assignment of cause for the explosions, the steel to steel rubbing theory was disregarded because no temperatures high enough to cause ignition were noted.

The possibility of compression ignition was not eliminated because the present knowledge of magnitude and time history of impact pressures alone are insufficient for a conclusion to be reached. Because the pressures recorded were maintained for only a short period of time, however, this source was considered an unlikely contributory cause.

The investigation did clearly demonstrate that water in slack tanks did produce sparks as it is thrown around. The report compared the effect of sloshing water in slack tanks to that in a tanker during washing and noted that "static electricity seems to offer the fewest difficulties in accounting for the OBO explosions that have occurred."

The ICS concluded its report by recommending that OBO vessel operators avoid slack tanks, thus diminishing the possibility of ignition by compression or by static electricity.

(Copies of the ICS report on which this story is based may be obtained by writing Commandant (G-AIA) U.S. Coast Guard, Washington, D.C. 20590.)

10

st

Casualty Statistics for Commercial Vessels on Western Rivers-197

The economy of the central portion of the United States depends in large part on the vast network of inland waters which comprise the Western Rivers. Defined technically as the waters and tributaries of the Mississippi River between its source and the Huey P. Long Bridge just north of New Orleans, the Western Rivers serve as a major artery for the commercial vessel traffic of this nation. A large percentage of this traffic is moved in barges under tow negotiating the narrow passages, tight bends, and congested areas of this river system.

These physical conditions expose the vessels operating on the Western Rivers to hazards not normally encountered by vessel traffic on the open seas. To better evaluate the impact these unique conditions have on commercial vessel traffic, the Office of Merchant Marine Safety, U.S. Coast Guard began summarizing casualty data on Western Rivers in Fiscal Year 1972. The results of that summary were published in the November 1973 issue of the *Proceedings*.

The information on which those statistical summaries were based came from the reports which owners or operators are required to file with the Coast Guard in the event of a marine casualty. As defined by 46 CFR 136.05, a marine casualty results when any of the following occurs:

- (a) Actual physical damage to property in excess of \$1,500.
- (b) Material damage affecting the seaworthiness or efficiency of a vessel.
- (c) Stranding or grounding.
- (d) Loss of life.
- (e) Injury causing any persons to remain incapacitated for a period in excess of 72 hours; except injury to harbor workers not resulting in death and not resulting from vessel casualty or vessel equipment casualty.

Similar information compiled during Fiscal Year 1973 is displayed in the following statistical tables. It should be noted, however, that unfamiliarity with the above requirements or the failure to report casualties results in a number of casualties that go unrecorded every v order of credibility of the data, therefore, is probe (e), (b), (a), (c). Thus there needs to be some cation applied to the lower order to gain a represent figure.

The casualty data were segregated by rivers in lowing manner:

- (a) Figure 1; Composite of all casualtie Western Rivers, FY 73.
- (b) Figure 2; Casualties on the Lower M River above mile 230, Upper Mississ to mile 190, Arkansas River.
- (c) Figure 3; Casualties on the Ohio R gheny River, Monongahela River, K River, Kentucky River, Green River, land River, and Tennessee River.
- (d) Figure 4; Missouri River, Illinois Ri-Mississippi River above mile 190.

Each of the four figures is arranged in the sam The type of casualty appears across the top of and the primary causes are listed along the le The numbers which appear at the intersecti "type" and "cause" columns represent the num a particular cause was cited on official report tributing to a particular type of casualty. In Figure example, "Equipment Failure" (cause) was cit during FY 1973 as contributing to vessel collisi "Unusual current" was cited 3 times on casualt causing vessels to collide with bridges, piers, fixed objects. The row of figures titled "Vessels tributing" indicates vessels involved in a casual causing it, such as barges that might be dar result of grounding while being towed.

To find the total number of casualties of described, refer to the bottom row in each "Number of Casualties." Figure 1, for example during FY 1973 there were 29 reported ground explosions or fires.

VESSEL CASUALTIES WESTERN RIVERS FISCAL YEAR 73

	Collisions, Vessels	Collisions, Piers, Bridges	Callisions, Others	Explosions, Fires	Groundings	Material Failure	Not Otherwise Classified
Smlt. failure. Debris. Debr	40 13 0 2 1 9 85 46	111 13 5 13 10 18 149 154	6 1 8 0 2 8 15	1 4 0 3 0 10 0 18	26 1 4 1 6 54 24	1 23 0 0 0 6 9 29	9 4 0 11 0 12 12 12 16

Figure 1

VESSEL CASUALTIES OHIO AND TRIBUTARIES

FISCAL YEAR 73

	Collisions, Vessels	Collisions, Piers, Bridges	Collisions, Others	Explosions, Fires	Groundings	Material Fallure	Not Otherwise Classified
Failure Frikure Kaway Inrent Contributing Casculties	$13 \\ 9 \\ 0 \\ 1 \\ 0 \\ 23 \\ 13$	$ \begin{array}{r} 44 \\ 10 \\ 1 \\ 6 \\ 4 \\ 7 \\ 53 \\ 63 \\ 63 \\ 63 \\ 63 \\ 63 \\ 63 \\ 63 \\ 63 \\ 63 \\ 63 \\ 64 \\ 65 \\ $	5 1 6 0 0 7 10	1 0 3 0 0 0 5	12 0 4 1 3 24 18	$ \begin{array}{c} 1 \\ 16 \\ 0 \\ 0 \\ 0 \\ 5 \\ 22 \end{array} $	4 4 0 2 0 3 7 8

Figure 3

examination of Figures 1 through 4 reveals that piers, locks and dams appear to present the greatand to vessels operating on the Western Rivers. the previous fiscal year 154 casualties involving with these fixed objects were reported to the Guard.

ber of locations where one or more collisions was at a particular bridge, pier, lock or dam are

VESSEL CASUALTIES LMR≥230—UMR<190—ARKANSAS R.

FISCAL YEAR 73

	Collisions, Vessels	Collisions, Piers, Bridges	Collisions, Others	Kxplosions, Fires	Groundings	Material Fallure	Not Otherwise Classified
Personnel Fault Equipment Failure Floating Debris Barge Breakaway Unusual Current Other Cause Vessels not Contributing	18 4 0 2 0 6 47	21 0 1 3 4 31	0 0 1 0 1 0	0 1 0 0 0 1	10 1 0 0 2	0 3 0 0 0	5 0 9 0 7
Number of casualties	21	28	2	2	24 13	3	46

Figure 2

VESSEL CASUALTIES

MISSOURI R.—ILLINOIS R.—UMR≥190

FISCAL YEAR 73

	Collisions, Vessels	Collisions, Piers, Bridges	Collisions, Others	Explosions, Fires	Groundings	Material Failure	Not Otherwise Classified
Personnel Fault. Equipment Failure Floating Debris. Barge Breakaway Unusual Current. Other Cause Vesseis Not Contributing Number of casualties.	9 0 0 0 3 15 12	46 3 4 6 3 7 62 62 63	1 0 1 0 0 1 1 3	0 2 0 0 0 9 0 11	4 0 1 0 0 1 6 6	0 4 0 0 0 0 4 4	0 0 0 0 0 2 1 2

Figure 4

isolated for examination in Tables A through C. Table A, for example, notes three spots on the Lower Mississippi River above mile 230, the Upper Mississippi River below mile 190, and Arkansas River where two or more collisions occurred with a fixed object. The three locations listed account for eight of the twenty-eight casualties of that type reported in that area of the Western Rivers.

Object	Mile	Width of opening	Cause	Operator experience	Operator	Licensed	Nur bar	nber rges	Cargo	Width/	Tug
				(years)			Light	Loaded	(long)	Tongou	power
Resistanti	180, 0 180, 0	517.0 517.0	Current Wind; current	Unk 3	39	No			10.750		
see.	$\begin{array}{r} 435.8\\ 435.8\\ 435.8\\ 531.3\\ 531.3\\ 531.3\\ 531.3\end{array}$	800. 0 800. 0 800. 0 800. 0 800. 0 800. 0	Current	15 9 15 20 30 23	$41 \\ 47 \\ 45 \\ 53 \\ 64 \\ 62$	No No Yes No Yes Yes Yes	5 0 0 4 3 8	6 34 5 0 16	10,750 Unk 75,000 None None	54/934 108/942 245/1000 150/380 100/590 100/590 210/785	3,900 3,200 7,200 1,800 2,250 1,800 6,400

BATON ROUGE TO ST. LOUIS, ARKANSAS RIVER

Table B isolates nine locations on the Ohio and tributary waterways which accounted for 27 (42%) of the total casualties with fixed objects reported in that area. Of the 63 casualties of that nature reported on the Upper Mississippi at Mile 190 or above, Illinois Waterway, and Mississippi, approximately half were claimed by the eleven locations listed in Table C. Due to the limited information available to the Guard concerning local traffic density, personnel wind, current, visibility, and other variables it is diffecorrelate a primary cause for the high number of ties at these particular locations at the present the quality of casualty information improves, however Coast Guard will be better equipped to analyze the data and formulate responses to the indicated safety

OHIO & TRIBUTARIES

Object	Mile	Width of	Causa	Operator	Operator	Licensed	Numbe	r barges	Cargo tonnage	Width/
Object Mike width of opening		Cause	(years)	age		Light	Loaded	(long)	length	
Ohio:										00/710
Emsworth Locks	6.2	110	Outdraft	18	43	Yes	8	0	8,000	80/740
Do	62	110	Mishidgment on part of	2	46	No	1	2	1,600	35/500
L'Ver- streament	0.2		operator.							
Willow Island Look	161.7	110	Current	4	31	No	4	1 0	0	52/960
Do	161 7	110	Misjudgement	20	49	Yes	0	5	7,300	70/585
Lock 17	167.5	110	Wind	Unk	33	Yes	22	0	Unk	104/108
Do	167.5	110	Pilot error	12	48	Yes	0	3	8,000	52/956
Gellipolis Lakes	270 0	100	Excess sneed	Unk		No			********	
Do	270	110	Machinery fail	8	41	No	2	0	0	52/17
Do	970	110	Failed to stop	3	26	No	0	4	7,700	50/2
Look 47	777 7	110	Machinery fail	8	28	No	0	2	2,150	35/2 8
The The	777 7	110	Mooring facility	Unk		No.				
Do	111.1	110	Wind ourrant	7	33	No	1	2	1,100	100/4
T cols 40	045	110	Current	16	46	Yes	6	1 8	12,000	105/112
Dock 49	0.40	110	do	25	51	Yes			13,500	105/5.
D0	840	110	Outdooft	7	29	No	0	16	9,600	150/12
D0	040	110	Maabinary fail	13	59	No	8	0	None	105/5
100	840	110	Wachinery Partaneers	Ink	32	No	7	8	11,200	105/9
LOCK 50	876.8	110	Date of speed	22	48	Yos	i n	6	12,000	54/11
Do	876.8	110	Rate of speed	20	45	Vac	3	13	12,000	105/117
Do	876.8	110	Bank suction	00	53	No	8	0	7,500	70/91-
Lock 52	938.9	110	locale.	44	00	190			1,000	
De	0 200	110	Outdraft	21	44	Yes	0	6	13,000	52/1184
Do	039.0	110	Negligent	Unk	Unk	No			Unk	50/15ml
Do	038 0	110	Error nilot	13	41	No	. 9	14	15,000	175/953
Termerces	000.0	110	miner Internet and and				1	-	1.	
Southown Roll	204 4	199 A (eming)	Wind	10	43	Yes	12		None	105/75
Do Do	204.4	192 0 (swing)	Wind current	22	55	Yes	12	1	400	105/75
Do	201.4	100.0 (Swing)	Wind	12	48	No.	15	1	1,500	105/11
De	204.4	100.0 (Swing)	do	15	45	Yes	6		None	70/55
100	004.4	160.0 (Swing)		10	1					

Table B

ILLINOIS, UPPER MISSISSIPPI ABOVE MILE 190, MISSOURI RIVERS

Oblight		With all	Course	Operator	Operator	Liceased	Number	barges Cargo tonnage (long) W le Loaded 18 18,200 1 18 18,200 1 1 2 4,000 1 1 5 7,000 1 1 5 7,000 1 1 9 11,000 1 1 12 17,400 5 000 8 9,000 5 000 8 9,000 5 000 8 12,000 5 1 8 12,000 6 6,5005 1	Width	
Object	MILO	opening	Cause	(years)			Light	Loaded	(long)	length
Illinois: GM&O Railroad	43.2	120.6(swing)	Current	2	25	No	0	13	18, 200	105/5-3
Do Do Florence	43.2 43.2 43.2 56	120.6(swing) 120.6(swing) 120.6(swing) 202.0(lift)	Pilot error Current	Unk 15 4 20	52 Unk 46	No No Yes	0 0 1	8 2 0	10,600 4,000 n/a	105/7 50/2 51/1
Do DePue. Do Upper Mississippi:	56 213. 9 213. 9	202. 0(lift) 162. 0(swing) 162. 0(swing)	Pilot errordo	6 30	35 59	No	32	5 0	7,000 none	105/c 52.5/c
Do Do Do Do Do Do Locks 25	202.9 202.9 202.9 202.9 202.9 202.9 202.9 241.4	110 110 110 110 110 110 110	Pilot errordo Outdraft Machinery fail Current Outdraft	10 Unk 10 Unk 25 2 22	46 46 Unk 48 54 25 46	No No No No No No	000000000000000000000000000000000000000	9 4 12 1 2 8 0	11,000 10,000 17,400 3,000 600 9,000	105/54/1 54/1 52.5/5 50/5 105/5
Do Do Do Lock 24 Do Lock 19 Do Lock 20 Lock 20	241. 4 273. 4 273. 4 364. 3 364. 5 364. 6 343. 2 343. 2	110 110 110 110 110 110 110 110 110	Outdraftdo	Unk Unk 20 1½ 20 5 Unk	32 32 55 40 48 30 Unk	No Yes No Yes Yes No	0 0 0 0 2 0	8 8 12 6 3 0 4	12,000 16,800 6,500sh 7,500 none 5,000	105/ 105/ 105/ 70/ 50/ 90/ 52/1

Table C (continued on following page)

regent	Mile	Width of	Cause	Operator experience	Operator	Licensed	Numbe	er barges	Cargo tonnage	Width/	Tug horse-
	opening	opening	(3	(years)	age		Light	Loaded	(long)	length	power
Tailson	$\begin{array}{r} 383.9\\ 383.9\\ 383.9\\ 383.9\\ 383.9\\ 383.9\\ 383.9\\ 403.1\\ 403.1\\ 535\\ 535\end{array}$	200.0(swing) 200.0(swing) 200.0(swing) 200.0(swing) 200.0(swing) 200.0(swing) 153.0(swing) 153.0(swing) 159.5(swing) 159.5(swing)	Current; outdraft Outdraft Current; outdraft Current; outdraft Current; outdraft Wind; current. Concrete. Current. Current. Current.	9.5 15 12 6 32 10 10 30 Unk Unk	48 33 28 51 55 32 60 29 33	Yes No No No Yes Yes No No No	0 0 0 0 4 0 0 3 1 0	12 9 8 10 0 8 11 12 12 12 9	$\begin{array}{c} 16,800\\ 13,500\\ 11,200\\ 14,000\\ N/A\\ 11,200\\ 15,400\\ 16,000\\ 15,600\\ 7,950\\ \end{array}$	105/800 105/600 105/600 105/800 105/805 105/600 105/780 105/780 105/780	4, 800 2, 800 3, 200 3, 200 3, 200 3, 200 3, 200 5, 600 3, 200 5, 600 2, 400

ILLINOIS, UPPER MISSISSIPPI ABOVE MILE 190, MISSOURI RIVERS (continued)

Table C

estimated dollar losses to vessels, cargo, and propted from vessel casualties in FY 1973 are shown D. More important than the monetary losses however, was the number of lives claimed in

vessel casualties on the Western Rivers last year. During FY 1973, ten deaths and four injuries were reported. Six of the deaths resulted from towing vessels colliding with bridges.

ESTIMATED DOLLAR LOSSES—WESTERN RIVERS FOR FY 73

Vessel Cargo Property Ohio.... 864 448 511 Allegheny..... 7 0 0 Monongahela. 39 5 52 Kanawaha..... 6 5 0 Kentucky.... 0 1 0 Green.... 13 1 7 Cumberland 4 0 2 Tennessee.... 211 5 41 Subtotal. 1, 145 464 613 Missouri 82 95 23 Illinois..... 362164498UMR≥190..... 1, 124 148 296 Subtotal. 1, 568 407 817 LMR>230.... 1.846 772 451 UMR<190..... 685 194 146 Arkansas.... 8 0 0 Subtotal 2, 539 966 597 Total..... 5, 252 1,837 2,027

[In Thousands of Dollars]

Table D

the primary missions of the Coast Guard is the of life and property in marine commerce or Casualty records are continuously reviewed as the effort to make the United States merchant safest in the world. Only with the cooperation of operators in insuring that all marine casualreported can that mission be effectively fixed.

This statistical summary encompasses a great deal of information which could lead to erroneous conclusions unless the limitations of the data are well understood. Any questions on the source or presentation of this material should be directed to Commandant(G-MIS) U.S. Coast Guard, Washington, D.C. 20590.

PUGET SOUND VESSEL TRAFFIC SYSTEM REGULATIONS PUBLISHED

The publication of regulations implementing the Puget Sound Vessel Traffic System on July 10, 1974, marked end of another chapter in the Coast Guard's long range vessel traffic safety plans. Accompanying the Federal Regu document appearing on these pages are excerpts of a study paper prepared by Photojournalist First Class Richar Goldsmith, USCGR, on various aspects of the Puget Sound System. Petty Officer Goldsmith wrote the paper for Environmental Law course in his second year of study at the Georgetown University Law Center, Washington, D His views do not necessarily reflect Coast Guard policy.

A VIS-WHAT IS IT?

The United States Coast Guard defines a vessel traffic system (VTS) as a "generic term that encompasses the varieties of technologies, equipment and people employed to coordinate vessel movement in or approaching a port or waterway."

The basic concept, then, behind a VTS is analogous to the control of automobile traffic-to facilitate the flow of marine traffic from one point to another with a minimum of delay and in the safest manner. A vessel traffic system can be very elementary in both cost and technology-such as a traffic separation scheme which utilizes buoys to mark inbound and outbound "traffic lanes." Or it can reach into the highly sophisticated arenas of radar and computers-linking both technologies together to provide instantaneous ship movement information which might keep a collision situation from developing.

To better comprehend how a VTS operates, it is of vital importance to understand the goals a vessel traffic system is striving to attain. The Coast Guard considers that the objectives of a vessel traffic system are to:

(1) Reduce the probability of ship collisions or groundings in our ports and waterways; and thereby reduce shipboard injuries and deaths and loss or damage to vessels and cargo which result therefrom.

(2) Protect our ports and waterways from pollution caused by spills

of oil petroleum products and other hazardous substances resulting from ship collisions and groundings.

(3) Facilitate waterborne commerce in our ports by providing greatly improved all-weather navigational aids.

(4) Protect shoreside facilities by reducing the number of collisions or groundings in adjacent waters.

The formulation of these objectives and the resulting use of a VTS concept grew out of the Coast Guard's concern over the projected increase of vessel traffic in the next decade. Also entwined with an increasing merchant fleet was the forecasted increase in the amount of oil and hazardous substances to be transported over water. These statistics foreshadowed the possibility of more collisions resulting in property damage, loss of life, and environmental destruction. As the federal agency responsible for the safety of life and property at sea, the Coast Guard had to meet the challenge of reducing maritime disasters.

To cope with the forecasted increase in maritime traffic, the Coast Guard visualizes the following levels of vessel traffic systems:

(1) Traffic separation scheme

(2) Voice movement reporting

(3) Basic radar surveillance

(4) Advanced and augmented radar surveillance

(5) Automated surveillance

The traffic separation scheme is essentially the simplest and least expensive of all the levels. It utilizes

inid-channel buoys and divides a or waterway into "traffic lanes inbound and outbound—much fifreeway.

Vessel movement reporting (or la manual track mode as it is refer to by the Coast Guard's Rescar and Development Office) results each ship reporting its movements a central communications cerv "This vessel control system is viously the least accurate; vessel tion is updated only periodically non-participating vessels can becar unknown hazards. Vessel tracking provided hy dead reckoning and updated as vessels report in to communications center. Traffic agement can be limited to time s ing through critical areas to pres collisions or to provide passing mation to participating vessels", a 1973 Coast Guard study.

Basic radar surveillance (or radar track mode) is, as the implies, the utilization of radar in dition to voice movement report This level, unlike the manual = mode, can detect non-participative vessels which are in the area of system.

Complex radar and television itoring or other electronic survel equipment are the hallmarks of advanced and augmented radar veillance level.

The automated surveillance caps off these VTS "building building building building building building building building building building and tracking are done by computed by which are tied in to the advanced and ugmented radar surveillance level. The automated system informs the operator of congestion at critical points, buoy and anchorage drifts; and lane straying, and alerts the sysem operator in the event of a possible collision.

However, without communications netween vessels and a traffic control enter none of the latter four, abovementioned levels will be effective in reventing a collision. (This point as painfully emphasized in the early orning hours of January 18, 1971 San Francisco Bay. While two Radiotelephone Act, 33 U.S.C. 1201 et seq. and its implementing regulations, 33 CFR 26.

As to which level is best, that depends entirely on the physical characteristics and the traffic concentration of the port. As the Coast Guard noted (and this quotation also gives one an idea of some of the problems facing the Coast Guard in the area of vessel traffic management):

We have no statistical basis for selecting what particular type of vessel traffic system ought to be installed in a given port. If an infinite amount of money was which every vessel is protected against collision, ramming or groundings at all times and yet is permitted complete freedom in the use of navigable waters at all times. Further, the ideal vessel traffic system from the user's viewpoint would be a system which would permit him to depart at a time and place of his choice, move to a destination or conduct a mission utilizing routes, courses and speeds of his choice with no delay or interference from other vessels with minimal special operational or



Reports of vessel movements in the Puget Sound VTS area are received and logged with the help of the communications console shown = eff. Activity then centers around the huge plot board on which the reported vessel movements are tracked. Located at Pier 91 in Seattle, The Puget Sound VTS center is manned around the clock.

Sundard Oil Company of California wessels collided, the event was recorded on the radar screen of the ast Guard's Harbor Advisory Rasystem. The Coast Guard at that me lacked the authority to do more warn the vessels of the impendme disaster. But more important, it s unable to establish communicawith one of the vessels.) Thus munications is the key link for st vessel traffic systems. For this Guard the Coast ________, ing on Very High Frequency HF-FM) radios which are reired by the Vessel Bridge-to-Bridge

available, the best system would be the most complex . . . the truth of the matter is that resources are limited and therefore, for the immediate future, we must think in terms of installing unsophisticated systems that have little excess capacity while retaining the capability of upgrading the system as traffic density and the hazards increase. But undaunted by its lack of pecuniary resources, the Coast Guard

Theoretically the ideal vessel traffic system would be one in

also stated that:

equipment requirements.

One might say that the VTS concept began with the use of the buoy as an aid to navigation. But excluding this basic technology, vessel traffic systems have not been widely accepted. The first VTS was authorized in 1896 by 33 U.S.C. 474, a statute which allowed the controlling of traffic in the St. Mary's River, the waterway connecting Lakes Superior and Huron. This system, which is still in operation, employs the vessel movement reporting level.

Throughout the United States there are presently nine vessel traffic systems in operation; three of these are under Goast Guard control. Each has been tailored to the conditions imposed by the particular port or waterway. The waters of Puget Sound presented some unique challenges to the VTS planners.

PUGET SOUND-A PROFILE

Puget Sound, an extension of the Pacific Ocean, is connected to that body of water by the Strait of Juan de Fuca. Covering approximately 2,700 square miles of water area within the United States, the Sound is one of the deepest salt water basins in the United States. Depths of 600 to 800 feet prevail in the northern portion while south of the Tacoma Narrows 300 foot depths are more typical. With the exception of Anacortes and Olympia, Washington, all the major ports in Puget Sound have unlimited controlling depths at their harbor entrances. (Anacortes and Olympia harbors' entrance depths are 50 and 40 feet respectively.)

"Puget Sound is a remarkable body of water," Dr. Dixy Lee Ray, then director of the Pacific Science Center in Seattle said in 1971. "In the case of Puget Sound we have an estuary which is a fjord with a number of rivers but none of them really enormous volumes of fresh water coming into the sea, but, rather an arm of the ocean which is churned mainly by the tides." It is because of the enclosed nature of Puget Sound that an oil spill within its waters would have a different effect than a spill along the coast; dispersion of a spill through the flushing of the 10 major and 14 minor rivers and small streams which flow into the Sound and its adjacent waters, would take longer than dispersion by coastal waters.

Enclosed by its northern boundary to Admiralty Inlet (Middle.Point to Point Partridge), Deception Pass and Swinomish Slough, the shoreline length of Puget Sound and all its islands is 2,167 miles. It is this elongated shoreline which is responsible for the rich fauna which exists in the

area; the hunting of waterfowl, a major recreational activity in Puget Sound, attests to this fact.

Navigation in the Sound can be quite hazardous. In addition to the strong tidal currents which are especially forceful in Admiralty Inlet, the Tacoma Narrows and Deception Pass, "reduced visibility caused by precipitation occurs 225 days out of the year. Heavy fog is present 50 days out of the year making visibility one-quarter mile or less, and winds of 30 m.p.h. or more can be expected any month," stated the Notice of Proposed Rule Making explaining the system.

The waters of Puget Sound about, with marine life; making their home in the Sound are five species of smon, bottom fish, crabs, clams are oysters. Together the commercial are sport fisheries have an economic valof 75-80 million dollars annual And the Lummi Indians have a fermillion dollars aquaculture project the works with an initial annual pduction forecast of one and a hmillion dollars. Puget Sound is a



With the help of the protractor-like device pictured above, ships' positions are comupdated by VTS watchstanders as the vessels move through the system. me playground for seals, killer whales and porpoises.

In addition to supporting a varied marine life, Puget Sound is a recreabraal area for tens of thousands of breaters in pleasure craft ranging from actis to yachts. These "sailors" in hern contribute to a widespread recremal marine industry in the Pacific Sorthwest which manufactures everyling from sailboats to sailors' hats.

And one cannot dismiss the natural manty of the Sound which lures represents from all over the globe; the matter of these travellers on the econregion of the Puget Sound area numregion in millions of dollars.

As a natural deepwater port, Puget and teems with both commercial recreational marine traffic. In the 1969 and 1970, the Coast Guard rded 285,034 one-way port tranof Puget Sound by commercial rels. This number included 955 mers and 5,667 tank barges. The ast Guard also estimates that on the rage, the ports of Puget Sound refive tankers weekly and witness barge movements (10 per day) living liquid cargoes in excess of 10 barrels (42 gallons to the bar-

The petroleum industry makes its mence known on the Sound. In the sound of the soun

Ferndale (Mobil), Anacortes Sell and Texaco), Cherry Point CO), and Tacoma (U.S. Oil and Fining, Coast Refining) have a catry of over 300,000 barrels daily. In capacity will increase when Shell Impletes a 25 million dollar expante of its present refinery.

TS planners in Puget Sound not had to meet the exigencies of the event volume of marine traffic, but had to anticipate the area's growth as a result of the Alaskan oil boom.

THE EFFECT OF THE ALASKA PIPELINE ON PUGET SOUND

When the "black gold" starts flowing from the Alaska Pipeline, Puget Sound and ARCO's Cherry Point refinery can expect to be the recipients of about one billion of Prudhoe's 10 billion barrels of crude oil. In terms of ship traffic, the Coast Guard anticipates only one additional 70,000 deadweight ton tanker coming into the Sound each week. However, each of these tankers has the capacity for carrying approximately one-half million barrels of oil.

According to Alveska Pipeline Service Company, the group of oil companies which will bring the Alaskan oil down, "During the initial phase of operations, which are anticipated to begin in 1975, it is estimated that only six trans-Alaska tankers per month will enter Puget Sound waters. This will increase to approximately seven ships per month in 1977 when the pipeline reaches a 12 million barrel per day (MBD) throughput. At the maximum throughput of 2.0 MBD, which is projected to be reached in 1980, the maximum level of tanker shipments will remain at approximately seven vessels per month. At the maximum throughput therefore, the best current estimate is that only some 80 trans-Alaska tankers of 120,000 deadweight tons or under will enter the 'inner waters' of the West Coast in the Puget Sound area annually,"

Thus the impact of the pipeline will be felt not in a significant increase in marine traffic, but in the amount of oil that will be transported over the waters of Puget Sound. Economically, the refineries on the Sound will prosper: ecologically, the Sound faces the ominous threat of an oil spill which could cripple or destroy the marine environment of Puget Sound.

The complete text of the regulations appearing in the Federal Register on July 10, 1974, follows:

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of Transportation SUBCHAPTER P—PORTS AND WATERWAYS

SAFETY [CGD 73-150R] PART 161-VESSEL TRAFFIC SYSTEMS

These amendments contain rules for vessels operating in the vessel traffic system that the Coast Guard operates in Puget Sound, Washington, and adjacent waters. The communication rules, the vessel movement reporting rules, and the additional rules for vessel operation in Rosario Strait apply to the same vessels that are subject to the bridge-tobridge radiotelephone regulations in Part 26 of Title 33, Code of Federal Regulations. The navigation rules for operation in the traffic separation scheme, except § 161.156(a), apply to all vessels including small craft.

Interested persons were notified of the opportunity to participate in this rulemaking proceeding by the notice of proposed rulemaking published in the Federal Register of August 6, 1973 (38 FR 21228-35). A public hearing concerning these rules was held in Scattle, Washington, on August 30, 1973. Except as noted and discussed in the following paragraphs, the rules as proposed have heen adopted without substantive changes.

1. Five comments were received in response to the notice of proposed rulemaking concerning the requirements for a vessel moored or anchored in the VTS Area to make the initial and follow-up reports. Two of the comments stated that these two reports are unnecessarily complicated and that for a vessel at a pier or anchorage one report made at the time of getting underway is sufficient. A third comment made the objection that the reports are a burden on the master who must be concerned with voyage preparations during the last hour before sailing. The other two comments questioned whether these reports will be required for a vessel changing berths in a port and, if so, whether they can be made by someone other than the master or pilot who are often not on board the vessel during this operation.

The requirements for vessels moored or anchored in the VTS Area to make the initial and follow-up reports are adopted in the final rules. The information that these reports provide is needed to advise vessels in the VTS Area of movement of the reporting vessel. To facilitate making these reports, however, the time periods within which they must be made have been changed in §§ 161.128 and 161.130 to allow both of them to be made at the same time. Both reports are required for a vessel changing berths in a port. If the master is not on board or is unable to make the reports himself, he still has the responsibility to insure that these reports are made in his absence.

2. Two comments on the notice asked who will be subject to penalties for violations of the rules. These comments were concerned in particular about the obligations of the master, pilot, and shipowner. Because of these comments, the final rules clarify who is required to comply with them. The proposed definition of "operator" has been deleted; in each operating rule the obligation to comply with the rule has been placed upon the master; and, a § 161.104 has been added providing that no person may cause or authorize the operation of a vessel in the VTS Area contrary to the operating rules. Thus, the master of a vessel is required to comply with each of the operating rules, and he is subject to penalties for violating these rules. A shipowner, shipping agent, pilot or other person, as defined in § 161.103(g), who authorizes or causes the operation of the vessel in violation of an operating rule, is in violation of § 161.104 and subject to a penalty.

3. Proposed § 160.33(a) provided that compliance with certain reporting rules would not be required during radio failure. Thus, this proposed rule in effect provided for continued vessel operation in the VTS Area during radio failure. To allow continued operation, however, compliance with the radio monitoring requirement in § 161.120 cannot be required during radio failure. Therefore, § 161.133 provides that compliance with § 161.120 is not required during radio failure.

4. Three comments made recommendations concerning the use of radio equipment. These recommendations were that—

(1) All vessels should be required to carry a VHF radiotelephone and backup communications equipment when operating in the VTS Area;

(2) The proposed radio failure rule in § 160.33 of the notice should be dropped; and

(3) The radio failure rule should not apply to vessels carrying dangerous or environmentally hazardous cargo.

These recommendations are not adopted in the final rules. If all vessels used VHF radiotelephones when operating in the VTS Area, saturation of the VTS frequency (channel 13) could impair the use of the frequency for transmitting reports and navigational information. Therefore, the large number of small vessels that operate in the VTS Area are not required by the final rules to carry VHF radiotelephones. The proposals to require carriage of back-up communications equipment and to delete the radio failure rule cannot be justified when considering the reliability of VHF-FM equipment. Also, a vessel experiencing radio failure must still be operated in compliance with the adopted TSS rules and the Rosario Strait rules.

5. Proposed § 160.36 contained a list of reports that ferry vessels operated in the VTS Area on a schedule and route that crosses the TSS would not have to make. Section

161.136(a) adds the final report to the this list. For a ferry vessel that has submitted its schedule to the VTC before operating in the VTS Area, the information in the final report duplicates information in the schedule.

6. Section 160.38 of the notice, which proposed voluntary procedures of for reporting hazardous circumstances to the VTC, is not adopted as a fina, rule. The revised operations manual under preparation for the Puge Sound vessel traffic system will include these procedures.

7. Several comments were received concerning the small vessel navigation rule proposed in § 160.58 of the no tice. Proposed § 160.58 would prhibit a small vessel, and any other vessel not required by the Bridge-to-Bridge Radiotelephone Act to have radiotelephone on board, from inpeding the safe passage of any vest navigating in the TSS that is require to carry a radiotelephone. Two cord ments recommended that a small ve sel not be allowed to operate in a tra fic lane because of the hazard it create when a large vessel proceeding in the traffic lane has to take evasion action to avoid the small vessel. The comments recommended that a small vessel not be allowed to operate in traffic lane unless it complies with communication and vessel moveme reporting rules. Another commen suggested that any vessel entering traffic lane should be prohibited fre impeding the safe passage of a lar vessel proceeding in the traffic lan Two comments recommended the proposed § 160.58 not be adopted cause the rule is inconsistent with Inland Rules of the Road (33 U.S. 151-232) and unfairly subordinar the interests of small vessel operation in the Puget Sound area to the terests of large commercial vesses One comment stated that a large w sel proceeding in a traffic lane con have considerable difficulty ascertai ing whether another vessel cross the traffic lane from starboard of large vessel was privileged under

ticle 19 of the inland Rules of the Road or whether it was required under the proposed rule to give way to the larger vessel. One comment suggested that the presence of fishing ressels in a traffic lane is a problem that the proposed voluntary proredures for reporting hazardous circumstances in § 160.38 might alleviate without adopting proposed § 160.58.

Because of the objections raised by the comments, the Coard Guard has becided not to adopt proposed small ressel navigation rule. However, small ressels operating in and near the TSS will have to comply with the adopted TSS rules that apply to them, and wher existing laws and regulations.

The adopted TSS rules, except 161.156(a), apply to the operation all vessels. Thus, both large and mall vessels are prohibited from anhoring in the TSS; they must follow be prescribed direction of traffic hile in the TSS; and they may join, ave, or cross a traffic lane only in the rescribed manner. Also, the revised perations manual will caution small essel operators to avoid hazardous meeting and crossing situations with ger vessels proceeding in the TSS.

In addition to the TSS rules, the atutory Inland Rules of the Road ad the Puget Sound gill net fishing Le (33 CFR 206.93) also apply to nall vessels in the VTS Area. Of articular significance is Article 26 of e Inland Rules of the Road which povides in part that a vessel engaged fishing does not have the right to Estruct a fairway used by other ves-The traffic lanes in the TSS are inways to which Article 26 applies. 8. In the proposed notice, precaubnary area "SA", which is located 2 miles southwest of Point Partridge Whidbey Island, was described ath a radius of 2,500 yards. In 161.187(f) this radius is increased 3.000 yards to encompass the interrtion of each traffic lane and sepamion zone that leads into that preutionary area.

9. The National Ocean Survey found several minor errors when checking the latitude and longitude coordinates describing the VTS Area and its components. These errors are corrected in the final rules.

10. Two comments asked what the qualifications of the VTC personnel are and to what extent will they direct the movement of vessels in the VTS Area. The staff in the VTC performs under the direct supervision of a commissioned officer on watch. All personnel in the VTC receive on-the-job training before assignment to a position of responsibility on watch. Section 161.107 authorizes the VTC to direct the time of vessel movement in a hazardous area.

11. Three commeots recommended that speed limits be established in the VTS Area. Since the subject of vessel speed was not addressed in the notice of proposed rule making, speed limits are not established in the final rules. The Commander, 13th Coast Guard District, has been directed to study the need for speed limits in the Puget Sound VTS Area and make appropriate recommendations for necessary regulations.

12. Two comments recommended that a radar system be established to monitor the positions and movements of all vessels in the VTS Area. The Coast Guard is establishing a radar network that will cover Admiralty Inlet and Puget Sound from Point Partridge to Apple Cove Point. The Coast Guard has analyzed vessel traffic density and patterns, port marine casualties, prevailing weather conditions, and the hazards associated with various kinds of vessels. This analysis reveals that radar coverage is needed primarily in the area selected. Information provided by the radar will be used to assist vessels in the area covered by the radar network.

13. One. comment recommended that a vessel carrying dangerous or environmentally hazardous cargo not be allowed to operate in the VTS Area unless its radar, if any, is operating and manned during periods of reduced visibility and unless the vessel is free of all conditions that may affect its navigation such as fire on board or defective mechanical or electrical equipment. A requirement for use of radar aboard vessels carrying hazardous cargoes in the VTS Area was not addressed in the Notice of Proposed Rulemaking. This matter will be given further study.

14. One comment recommended that the VTS Area be enlarged to encompass all of the Strait of Juan de Fuca. Another comment recommended that the present TTS in Rosario Strait and the Strait of Juan de Fuca connecting Port Angeles and Cherry Point be supplemented with an alternate route passing through Haro Strait and Boundary Pass. A joint United States-Canadian vessel traffic system is presently under study for both of these areas, and the VTS rules adopted in this document do not preclude vessels from using the alternate route through Haro Strait and Boundary Pass.

15. One comment recommended that the southbound traffic lane connecting the precautionary areas "SA" and "RB" be moved to avoid passing over the southern tip of the shoal at Partridge Bank. This recommendation has not been adopted in the final rules. The minimum water depth in the traffic lane that passes over the shoal is 8 fathoms at mean lower low water, which is deep enough for safe navigation of most vessels in the southbound traffic lane. The master of a vessel who determines that his vessel should not transit the southbound lane past this shoal may obtain authorization from the VTC to navigate in the separation zone or northbound traffic lane.

16. In accordance with the regulations in 40 CFR 1500.13 issued by the Council on Environmental Quality, the ongoing and proposed activities associated with the Puget Sound Vessel Traffic System are being made the subject of an environmental assessment to determine whether they individually or collectively have a significant effect on the environment. In this regard, a draft environmental impact statement for the proposed radar addition to the VTS has been prepared. Copies of the draft may be obtained from Commandant (G-WEP-2), U.S. Coast Guard, Washington, D.C. 20590.

17. These rules become effective on September 30, 1974. The period before the effective date will allow users of the vessel traffic system to obtain both the revised operations manual, which is being prepared, and the current editions of the charts for the Puget Sound area.

18. In the Federal Register of March 1, 1974 (39 FR 7948-9), notice was given that the rules in this document would be added to the Code of Federal Regulations as a new part 161 rather than as a new part 160 and that the new Subchapter P containing parts 160-169 would be entitled "Ports and Waterways Safety." The rules in this document are being added as a new subpart B of part 161, and subpart A is reserved for general rules applicable to all vessel traffic systems.

In consideration of the foregoing, Chapter I of Title 33 of the Code of Federal Regulations is amended by adding a new Subchapter P consisting at this time of Part 161 to read as follows:

Subpart A-[Reserved]

Subpart B—Puget Sound Vessel Traffic System General Rules

- Sec.
- 161.101 Purpose and applicability.
 161.103 Definitions.
 161.104 Vessel operations in the VTS Area.
 161.105 Laws and regulations not affected.
 161.107 VTC directions.
 161.109 Authorization to deviate from these rules.
 161.111 Emergencies.
 Communication Rules
- 161.120 Radio listening watch. 161.122 Radiotelephone equipment.
- 161.124 English language.
- 161.126 Time.
- 161.128 Initial report.

- 161.130 Follow-up report.
- 161.133 Radio failure.
- 161.134 Report of emergency or radio failure.
- 161.135 Report of impairment to the operation of the vessel.
- 161.136 Ferry vessels.

Vessel Movement Reporting Rules

161.143 Movement reports.

Traffic Separation Scheme Rules

- 161.150 Vessel operation in the TSS.
- 161.152 Direction of traffic.
- 161.154 Anchoring in the TSS.
- 161.156 Joining, leaving, and crossing a traffic lane.

Rosario Strait Rules

- 161.170 Communications in Rosario Strait.
- 161.172 Report before entering Rosario Strait.
- 161.174 Entering Rosario Strait.

Descriptions and Geographic Coordinates

161.180 VTS Area.

- 161.183 Separation zones.
- 161.185 Traffic lanes.
- 161.187 Precautionary areas.
- 161.188 Temporary precautionary areas. 161.189 Reporting points.

Anthority: Sec. 104, Pub. L. 92–340, 86 Stat. 424 (33 U.S.C. 1224); 37 FR 21943, 49 CFR 1.46(0)(4)¹

Subpart A-[Reserved]

Subpart B—Puget Sound Vessel Traffic System

GENERAL RULES

§ 161.101 Purpose and Applicability.

(a) This subpart prescribes rules for vessel operation in the Puget Sound vessel traffic system area (VTS Area) to prevent collisions and grounding and to protect the navigable waters of the VTS Area from environmental harm resulting from collisions and groudings.

(b) The General Rules in §§ 161.101-161.111 and the TSS rules in §§ 161.150-161.154 and § 161.156 (b) and (c) of this subpart apply to the operation of all vessels.

(c) The Communication Rules in §§ 161.120-161.136, the Vessel Movement Reporting Rules in § 161.142,

the TSS Rule in §161.156(a), and the Rosario Strait Rules in §§161.170-161.174 of this subpart apply only to the operation of—

(1) Each vessel of 300 or more gross tons that is propelled by machinery;

(2) Each vessel of 100 or more gross tons that is carrying one or more passengers for hire;

(3) Each commercial vessel of 26 feet or over in length engaged in towing another vessel astern, alongside, or by pushing ahead; and

(4) Each dredge and floating plant.

§ 161.103 Definitions.

As used in this subpart-

(a) "Vessel traffic center" (VTC means the shore based facility that operates the Puget Sound vessel traffic system.

(b) "Vessel traffic system area" (VTS Area) means the area described in § 161.180 of this part.

(c) "Traffic separation scheme" (TSS) means the network of traffilanes, separation zones, and precautionary areas in the VTS Area.

(d) "Traffic lane" means an area of the TSS in which all vessels ordinarily proceed in the same direction.

(e) "Separation zone" means az area of the TSS that is located between two traffic lanes to keep vesels proceeding in opposite directions a safe distance apart.

(f) "Precautionary area" mean an area of the TSS at the entrance of one or more traffic lancs where vessel traffic converges from two more directions.

(g) "Person" includes an inclvidual, firm, corporation, association, partnership, and governmental entity

(h) "ETA" means estimated time of arrival.

§ 161.104 Vessel operation in the VE Area.

No person may cause or authorize the operation of a vessel in the VTS Area contrary to the rules in the subpart.

¹ Note: Sections 106 and 107 of Public Law 92-340 (33 U.S.C. 1226-1227) prescribe civil and criminal penalties for violations of the rules in this part.

161.105 Lows and regulations not affected.

Nothing in this subpart is intended to relieve any person from complying with—

(a) The Navigation Rules for Harbors, Rivers, and Inland Waters Generally (33 U.S.C. §§ 151-232);

(b) Vessel Bridge-to-Bridge Radiotelephone Regulations (Part 26 of this chapter);

(c) Pilot Rules for Inland Waters Part 80 of this chapter);

(d) Puget Sound gill net fishing rule (33 CFR 206.93);

(e) The Federal Boat Safety Act
 af 1971 (46 U.S.C. 1451-1489); and
 (f) Any other laws or regulations.

1 161.107 VTC directions.

(a) During conditions of vessel engestion, adverse weather, reduced isibility, or other hazardous circumtances in the VTS Area, the VTC may issue directions specifying times when vessels may enter, move within r through, or depart from ports, harbers, or other waters in the VTS Area.

(b) The master of a vessel in the **VTS** Area shall comply with each cirection issued to him under this section.

161.109 Authorization to deviate from these rules.

(a) The Commander, Thirteenth Coast Guard District may upon reest issue an authorization to deviate from any rule in this subpart if he finds that the proposed operations ander the authorization can be done safely. An application for an authorimation must state the need for the authorization and describe the proposed operations.

(b) The VTC may upon request, sue an authorization to deviate from any rule in this subpart for a voyage or part of a voyage on which a vessel embarked or about to embark.

E161.111 Emergencies.

In an emergency, any person may ceviate from any section in this subcart to the extent necessary to avoid endangering persons, property, or the environment.

COMMUNICATION RULES

§ 161.120 Radio listening watch.

The master of a vessel in the VTS Area shall continuously monitor the radio frequency designated in the Pudget Sound VTS Operating Manual for the sector of the VTS Area in which the vessel is operating, except when transmitting on that frequency.

§ 161.122 Radiotelephone equipment.

Each report required by this subpart to be made by radiotelephone must be made using a radiotelephone that is capable of operation on the navigational bridge of the vessel, or in the case of a dredge, at its main control station.

§ 161.124 English language.

Each report required by this subpart must be made in the English language.

§ 161.126 Time.

Each report required by this subpart must specify time using—

(a) The zone time in effect in the VTS Area; and

(b) The 24-hour clock system.

§ 161.128 Initial report.

At least 30 minutes before a vessel enters or begins to navigate in the VTS Area the master of the vessel shall report, or cause to be reported, the following information to the VTC:

(a) The name of the vessel.

(b) The position of the vessel.

(c) The estimated time of entering or beginning to navigate in the VTS Area.

(d) Point of entry in the VTS Area.

(e) Destination in the VTS Area.

(f) ETA of the vessel at its destination.

(g) Any condition on the vessel that may affect its navigation in the VTS Area such as fire, defective propulsion machinery, or defective steering equipment. (h) Whether or not any dangerous cargo listed in § 124.14 of this chapter is on board the vessel.

§ 161.130 Follow-up report.

At least 15 minutes, but not more than 45 minutes, before a vessel enters or begins to navigate in the VTS Area, the master of the vessel shall report the following information by radiotelephone to the VTC:

(a) Name, type, length, and draft of the vessel.

(b) Any revisions to the initial report required by § 161.128 of this subpart.

(c) The speed at which the vessel will proceed in the VTS Area.

(d) Any time that the towing vessel is unable to control or can control only with difficulty.

(c) If the vessel intends to enter the TSS, the ETA and point of entry in the TSS.

§ 161.131 Final report.

Whenever a vessel anchors or moors in, or departs from, the VTS Area, the master shall report, or cause to be reported, the place of anchoring, mooring, or departing to the VTC.

§ 161.133 Radio failure.

Whenever a vessel's radiotelephone equipment fails—

(a) Compliance with §§ 161.120 and 161.142 of this subpart is not required; and

(b) Compliance with §§ 161.128, 161.130, and 161.131 of this subpart is not required unless the reports required by those sections can be made by telephone.

§ 161.134 Report of emergency or radio failure.

Whenever the master of a vessel deviates from any section in this subpart because of an emergency or radio failure, he shall report, or cause to be reported, the deviation to the VTC as soon as possible.

§ 161.135 Report of impairment to the operation of the vessel.

The master of a vessel in the VTS Area shall report to the VTC as soon as possible. (a) Any condition on the vessel that may impair its navigation such as fire, defective propulsion machinery, or defective steering equipment; and

(b) Any tow that the towing vessel is unable to control, or can control only with difficulty, unless this information has already been reported.

§ 161.136 Ferry vessels.

(a) Whenever a ferry is operated in the VTS Area on a schedule and a route that crosses the TSS, both of which have been previously furnished to the VTC, compliance with §§ 161.128, 161.130, 161.131, and 161.142 of this subpart is not required.

(b) The master of a ferry vessel that enters the TSS at any place other than Rosario Strait between sunset and sunrise or during reduced visibility shall report the following information by radiotelephone to the VTC at least five minutes before entry:

(1) The name of the vessel.

(2) The direction the vessel will proceed in the TSS.

(3) The point of entering the TSS.

(4) The estimated time the vessel will operate in the TSS.

VESSEL MOVEMENT REPORTING RULES

§ 161.142 Movement reports.

(a) Whenever a vessel passes a reporting point listed in § 161.189 of this subpart, the master of the vessel shall report the following information to the VTC by radiotelephone:

(1) The name of the vessel.

(2) The reporting point.

(3) The time of passing the reporting point.

(4) The next reporting point.

(5) ETA at the next reporting point.

(6) If the vessel is at a point of entry in the TSS, any change in speed of the vessel from the speed reported under § 161.130(c) of this subpart.

(7) If the vessel is at a point of departure from the TSS, the course and the destination or intentions of the vessel.

(b) Whenever the ETA of a vessel

at a reporting point changes by more than 10 minutes, the master of the vessel shall report a revised ETA to the VTC by radiotelephone.

TRAFFIC SEPARATION SCHEME RULES

§ 161.150 Vessel operation in the TSS.

The master of a vessel in the TSS shall operate the vessel in accordance with the TSS rules prescribed in §§ 161.152–161.156.

§ 161.152 Direction of traffic.

(a) A vessel proceeding in a traffic lane shall keep the separation zone to port.

(b) A vessel in a precautionary area, except the Port Angeles precautionary area or any temporary precautionary area, shall keep the center of the precautionary area to port.

§ 161.154 Anchoring in the TSS.

No vessel may anchor in the TSS.

§ 161.156 Joining, leaving, and crossing a traffic lane.

(a) A vessel may join, cross, or leave a traffic lane only at a precautionary area unless the VTC has been notified of the point at which the vessel will join, cross, or leave the traffic lane.

(b) A vessel crossing a traffic lane shall, to the extent possible, maintain a course that is perpendicular to the direction of the flow of traffic in the traffic lane.

(c) A vessel joining or leaving a traffic lane shall steer a course to converge on or diverge from the direction of traffic flow in the traffic lane at as small an angle as possible.

ROSARIO STRAIT RULES

§ 161.170 Communications in Rosario Strait.

Before a vessel meets, overtakes, or crosses ahead of any vessel in Rosario Strait, the master shall transmit the intentions of his vessel to the master of the other vessel on the frequency designated under the Bridgeto-Bridge Radiotelephone Act for the purpose of arranging safe passage.

§ 161.172 Report before entering Rosan Strait.

At least 15 minutes before a vessenters the TSS at Rosario Strait, in master of the vessel shall report the vessel's ETA at, and point of entry in Rosario Strait to the VTC by radii telephone.

§ 161.174 Entering Rosario Strait.

(a) A vessel may not enter Rosa Strait unless—

(1) The report required § 161.172 of this subpart has been made:

(2) The radio equipment on vessel that is used to transmit the ports required by this subpart is operation;

(3) During periods of visibility 2 miles or less, the radar on a veequipped with radar is in operation and manned; and

(4) The vessel is free of any contions that may impair its navigan such as fire, defective propulsion m chinery, or defective steering equiment.

(b) The master of a vessel so operate the vessel in accordance of paragraph (a) of this section.

DESCRIPTIONS AND GEOGRAPHIC COORDINATES

§ 161.180 VTS Area.

The VTS Area consists of the n gable waters of the United States shore of the boundary line of iniwaters described in § 82.120 of chapter. This area includes the wain the Strait of Georgia, Haro Sand the Strait of Juan de Fucaare east of the line of demarcan and Rosario Strait, Bellingham Padilla Bay, Admiralty Inlet, F Sound, Possession Sound, Elliot Hood Canal, Commencement the Narrows west of Tacoma, O Inlet, Case Inlet, and navigwaters adjacent to these areas.

\$ 161.183 Separation zones.

(a) Each separation zone is yards wide and centered on a line extends from one point to another through several points, describe paragraph (c) of this section. (b) Two boundaries of each sepantion zone are parallel to its centerine and extend to and intersect with the boundary of a precautionary area. No part of any separation zone is conneed in a precautionary area.

(c) The latitude and longitude dearibing the centerline of the separaon zone are:

(1) Between precautionary area S" and "SA",

(i) 48°12'22" N. 123°06'30" W. (ii) 48°11'35" N. 122°51'55" W. (2) Between precautionary area "R" and "RA" (i) 48°16'26" N. 123°06'30" W. 123°00'09" W. (ii) 48°19'06" N. (3) Between precautionary area "RA" and "SA" (i) 48°18'45" N. 122°57'30" W. (ii) 48°12'40" N. 122°51'01" W. (4) Between precautionary area "RA" and "RB" 122°57'01" W. (i) 48°20'26" N. (ii) 48°24'14" N. 122°48'00" W. 122°46'23" W. (iii) 48°25'28" N. (5) Between precautionary area "RB" and "SA". 122°44'40" W. (i) 48°25'12" N. (ii) 48°24'10" N. 122°44'12" W. 122°49'06" W. (iii) 48°12′52″ N. (6) Between precautionary area "SA" and "SC" (i) 48°10'43" N. 122°47'50" W. 122°39'56" W. (ii) 48°07'43" N. 122°38'02" W. (iii) 48°01'43" N. (7) Between precautionary area "SC" and "SF" (i) 48°00'36" N. 122°37'24" W. (ii) 47°57'21" N. 122°34'12" W. (iii) 47°55'24" N. 122°30'16" W. 122°28'21" W. (iv) 47°53'39" N. (8) Between precautionary area "SF" and "SH" 122°27'40" W. (i) 47°52'34" N. (ii) 47°44'31" N. 122°25'41" W. (iii) 47°40'18" N. 122°27'33" W. (9) Between precautionary area "SH" and "T". 122°27'42" W. (i) 47°39'05" N. (ii) 47°34'54" N. 122°26'54" W. (10) Between precautionary area "T" and "TC" (i) 47°33'42" N. 122°26'33" W. 122°24'12" W. (ii) 47°26'53" N. (iii) 47°23'07" N. (iv) 47°19'54" N. 122°21'08" W. 122°26'37" W. (11) Between precautionary area CA" and "C", (i) 48°44'15" N. 122°45'39" W. (ii) 48°41'39" N. 122°43'34" W.

n

1

-

١,

5

1

5

٦

З

1

3

ł.

§ 161.185 Traffic lanes.

(a) Except as provided in paragraph (c) of this section, each traffic lane consists of the area within two parallel boundaries that are 1000 yards apart and that extend to and intersect with the boundary of a precautionary area. One of these parallel boundaries is parallel to and 250 yards from the centerline of a separation zone.

(b) No part of any traffic lane is contained in a precautionary area.

(c) The traffic lane in Rosario Strait consists of the area enclosed by a line beginning at latitude 48°26'50" N., longitude 122°43'27" W.; thence northerly to latitude 48°36'06" N., longitude 122°44'56" W.; thence northeasterly to latitude 48°39'18" N., longitude 122°42'42" W.; thence westerly and northwesterly along the boundary of precautionary area "C" to latitude 48°39'37" N.; longitude 122°43'58" W.; thence southerly to latitude 48°38'24" N., longitude 122°44'08" W.; thence southwesterly to latitude 48°36'08" N., longitude 122°45'44" W.; thence southerly to latitude 48°29'30" N., longitude 122°44'41" W.; thence southwesterly to latitude 48°27'37" N., longitude 122°45'27" W.; thence northeasterly and southeasterly along the boundary of precautionary area "RB" to the point of beginning.

§ 161.187 Precautionary areas.

The precautionary areas consist of: (a) Port Angeles precautionary, area. An area enclosed by a line beginning on the shoreline at New Dungeness Spit a latitude 48°11'00" N., longitude 123°06'30" W.; thence due north to latitude 48°17'10" N.; longitude 123°06'30" W.; thence southwesterly to latitude 48°10'00" N., longitude 123°27'38" W.; thence due south to the shorelines; thence along the shoreline to the point of beginning.

(b) Precautionary area "RA". A circular area of 2,500 yards radius centered at latitude 48°19'46" N., longitude 122°58'34" W.;

(c) Precautionary area "RB". A

circular area of 2,500 yards radius centered at latitude 48°26'24" N., longitude 122°45'12" W.;

(d) Precautionary area "C". A circular area of 2,500 yards radius centered at latitude 48°40'34" N., longitude 122°42'44" W.;

(e) Precautionary area "CA". A circular area of 2,500 yards radius centered at latitude 48°45'19" N., longitude 122°46'26" W.;

(f) Precautionary area "SA". A circular area of 3,000 yards radius centered at latitude 48°11'28" N., longitude 122°49'43" W.;

(g) Precautionary area "SC". A circular area of 1,250 yards radius centered at latitude 48°01'06" N., longitude 122°37'54" W.;

(h) Precautionary area "SF". A circular area of 1,250 yards radius centered at latitude 47°53'10" N., longitude 122°27'48" W.;

(i) Precautionary area "SH". A circular area of 1,250 yards radius centered at latitude 47°39'42" N., longitude 122°27'48" W.;

(j) Precautionary area "T". A circular area of 1,250 yards radius centered at latitude $47^{\circ}34'19''$ N., longitude $122^{\circ}26'47''$ W.;

(k) Precautionary area "TC". A circular area or 1,250 yards radius centered at latitude 47°19'30" N., longitude 122°27'19" W.

\$ 161.188 Temporary precautionary areas.

The Commander, Thirteenth Coast Guard District, may amend the description of the TSS in §§ 161.180– 161.189 of this subpart to establish temporary precautionary areas to provide for seasonal activities such as fishing that affect the safe passage of vessels in the TSS.

§ 161.189 Reporting points.

The reporting points are-

(a) Buoy "R" at latitude 48°16' 26" N., longitude 123°06'30" W.

(b) Buoy "S" at latitude 48°-12'22" N., longitude 123°06'30" W.

(c) Buoy "SA" at latitude 48°-

11'28" N., longitude 122°49'43" W. (d) Buoy "RB" at latitude 48°-

26'24" N., longitude 122°45'12" W.

(Continued on page 166)

MARINE SAFETY COUNCIL MEMBERSHIP

This is the sixth in a series of profiles of the present members of the Marine Safety Council. Rear Admiral James W. Moreau has been a member of the Council since assuming the post of Chief, Office of Engineering in July 1973.

Born in 1921 at Glenwood, Minn., Admiral Moreau was graduated from Glenwood High School in 1939. He received a bachelor of science degree from the U.S. Coast Guard Academy in 1942, his term as a Cadet having been shortened a year by the war emergency. His first tour of duty was served as deck and engineering watch officer on the Coast Guard Cutter *Haida* on convoy screening duty and weather patrol in Alaskan waters. Through the rest of the war he served on pre-commissioning details and in engineering capacities in the Pacific on board the troop transports U.S.S. Admiral W. L. Capps and U.S. General A. W. Greely.

Admiral Moreau's other sea duty included tours as engineer officer of the cutter *Mackinac* operating out of New York, executive officer and later commanding officer of the cutter *Cook Inlet* based at Portland, Me., and commanding officer of the cutters *Escanaba* and *Yakutat*, both operating out of New Bedford, Mass. In addition, he served as field oceanographer on board the icebreaker *Northwind* on the 1946 "Nanook" Arctic Expedition.

From 1945 to 1949 then-Lieutenant Moreau was assigned to the Office of Naval Research, Washington, D.C., as liaison officer for the Coast Guard's Testing and Development Division. After earning his second B.S. degree in engineering at Renssalaer Polytechnic Institute, Troy, N.Y., he served as Chief of the Civil Engineering Sections of the 17th Coast Guard District, Juneau, Alaska, and the 2nd Coast Guard District, St. Louis, Mo. Before leaving St. Louis he earned an M.S. in engineering administration from Washington University. He next served for more than 4 years as Chief, Plant and Personnel Division and Commanding Officer of Enlisted Personnel at the Coast Guard Academy.

At Headquarters, in addition to his present assignment he has held the posts of Assistant Chief and Chief, Civil Engineering Division. After his appointment to flag rank in April 1971, his first assignment was as Chief, Office of Reserve, for which service he was awarded the Meritorious Service Medal.

In addition to his duties as Chief of Reserve, Admira Moreau served as senior member on Coast Guard Marine



Boards of Investigation covering the Africa Neptum casualty and the Sea Witch—Esso Brussels collision in New York Harbor.

Admiral Moreau's wife is the former Donna M. Logan of his hometown, Glenwood, Minn. They have three som and two daughters.

COAST GUARD RULEMAKING

(Status as of 1 July 1974)

· · ·	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
1972 PUBLIC HEARING				1-			
Tatable foam firefighting cquipment—tank vessels CGD 72-138)	3-1-72 3-1-72	3-27-72 3-27-72	4 -3-72 4 -3-72	×			6-1-74
ANCHORAGE REGULATIONS							
Lenderson Harbor, NY (CGD 74-6). Juan Harbor, P.R. (CGFR 72-12). Dinington River, Ga. (CGD-259). Dicgo Harbor (CGD 72-228). Dicgo Harbor (CGD 72-223). Ban De Fuca, Wash. (CGD 72-233). Harbor Bay, NY (CGD 73-84). Dicaware Bay and R. (CGD 73-180). Dicaware Bay and R. (CGD 73-190).	1-11-74 2-1-72 11-25-71 12-5-72 12-5-72 4-27-73 8-24-73 12-28-73		$\begin{array}{c} 2-15-74\\ 3-4-72\\ 12-27-71\\ 1-8-73\\ 1-9-73\\ 5-29-73\\ 9-28-73\\ 2-15-73\end{array}$	X XXX		5-2-74 2-4-74 5-17-74 	6-3-74 3-1-74 6-17-74
BRIDGE REGULATIONS							
Day R., Blind Slough, Clatskanie R., Oregon CGD 72-231). Camento R. et. al., CA (CGD 73-142). Schester Ck., NY (CGD 73-166). Camequake Ck., NJ (CGD 73-162). W, Mile 342, Fla.; Drawbridge Operations (CGD 2-190P).	11-28-72 7-20-73 8-10-73 8-10-73 9-30-72		1-2-73 8-21-73 9-11-73 9-11-73 11-1-72	x xxx x			
Bay of Biloxi, MS (CGD 73-196)	9-11-73		10–16–73	×		2-21-74	2-15-74 through
are Manatee R., FL (CGD 74-41). Mand R., Grand Haven, MI (CGD 74-42). Argeon Bay, WI (CGD 74-97). Argeon Channel, G.I.W.W., TX (CGD 74-85) Kareston Channel, G.I.W.W., TX (CGD 74-85)	2-21-74 2-21-74 4-9-74 4-10-74		3-19-74 3-19-74 5-14-74 5-14-74	××			0-13-74
 betwee R., NY (CGD 73-203). betwee R., NY (CGD 73-203). betwee R., MD (CGD 73-214). betwee Version CGD 73-242). betwee Worth A.I.W.W., FL (CGD 74-117). betwee Worth A.I.W.W., FL (CGD 74-117). betwee Version Store Store	4-22-74 9-13-73 9-27-73 10-12-73 5-2-74	· · · · · · · · · · · · · · · · · · ·	5-20-74 10-16-73 10-30-73 11-20-73 6-25-74	xx :xx	· · · · · · · · · · · · · · · · · · ·	5-30-74	7-1-74
 CA (CGD 73-172). Talo R., NY (CGD 74-107). Washington Ship Canal, WA (CGD73-255). W, Hillsboro Inlet, FL (CGD74-22). Katuck Ck., Va. (CGD 74-71). Katuck & Del. Canal, Del. (CGD 74-72). Katuck R., Mass. (CGD 74-48). 	5-24-74 5-30-74 11-13-73 1-25-74 3-29-74 3-29-74 3-25-74		7-2-747-2-7412-18-733-1-744-30-744-30-744-30-74	××		6-17-74	6-22-74
Section R., S.C. (CGD 74–58). Excessee R., Tenn, (CGD 74–61). See River, FL (CGD 74–114). Excessee River, FL (CGD 74–101).	3-11-74 3-11-74 4-22-74 4-22-74	· · · · · · · · · · · · · · · · · · ·	4-12-74 4-12-74 5-20-74 5-20-74			6-17-74	7-22-74

e

Coast Guard Rulemaking—Continued

	Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
Chicago River, IL (CGD 74–137) Nanticoke River, MD (CGD 74–154)	6-3-74 6-17-74	7-24-74	7-16-74	×			
HAZARDOUS MATERIALS							
Dichlorobutene, Corrected, F.R. 4-20-72, Hazardous							
Cargoes (CGD 72-162PH)	8-30-72	10-24-72	10-31-72	×			
Customs Seal (CGD 72-139). Miscellaneous Dangerous Cargoes (CGD 72-182) Marking of radioactive materials packages (CGD 73-	11-17-72 11-11-72	12-12-72	12–19–72 12–19–72	××	•••••	•••••	
Dangerous Cargo Regulations, miscellaneous (CGD	8-31-73	9-25-73	10-5-73	×		•••••	
73-249) Notice of arrival of laden vessels (CGD 73-253)	1–16–74 6–25–74		3-4-74 8-8-74	• • • •	·····	• • • • • • • • • • • • • • • • • • •	••••
MARINE ENVIRONMENT AND SYSTEMS (GENERAL)							
Oil pollution prevention (CGFR 71-160, 161)	12-24-71	2-15-72	4-21-72	×		12-21-72	17-]-7
Vessel traffic system, Puget Sound (CGD 73-158) Chesapeake Bay entrance (CGD 73-152)	8-6-73 12-18-73	8-30-73 2-11-74	9-17-73 1-23-74	×	·····	7-10-74	9-30-
Boundary Lines of Inland Waters (CGD 73-241)	4-8-74 corrected 5-8-74		5-26-74	×			
Coast Guard Areas, Districts, Marine Inspection Zones, and Captain of the Port Areas, Thirteenth Coast District (CGD 74-78)						5-15-74	5-15-1
MERCHANT MARINE SAFETY (GENERAL)							
Occanographic vessels, fire main systems (CGFR 72-20) Water lights, floating electric (CGFR 72-48)	2-4-72 3-9-72	4-18-72	3-19-72 4-24-72	××			
134PH)	8-22-72 Supp.	9-28-72	10-13-72	×			
Construction requirements for tank ships (CGD 72-245).	7-20-73 Adv.		8-31-73	×			•••••
	1-26-73 Supp. Notice		3-15-73				
Emergency Position Indicating Radio Beacons (CGD	7-5-73			····			
79-24). Lifesaving equipment specification (CGD 73-130)	3-5-73 8-28-73 Supp.	4-18-73	4-30-73 9-28-73		· · · · · · · · · · · · · · · · · · ·	3-18-74 6-13-74	3-1-1 7-1-1
Radar observer licensing (CGD 73-238)	Notice 1-16-74 10-12-73		2-16-74 11-30-73	×			

¹ Various effective dates precede that indicated. See Federal Registers of 12-21-72 and 8-24-73.

Coast Guard Rulemaking—Continued

In table tanks (CGD 79-172) $12-5-73$ $1-15-74$ $1-21-74$ $$		Notice of proposed rulemaking	Public hearing	Deadline for comments	Awaiting final action	Withdrawn	Published as rule	Effective date
Corrected 1-29-74 $L_{manned Platforms (CGD 73-177).12-11-731-8-74Corrected1-29-741-14-742-25-74XL_{manned Platforms (CGD 73-177).1-8-74Corrected1-29-742-25-74XXL_{manned Platforms (CGD 73-177).1-8-74Corrected1-29-742-25-74XXL_{manned Platforms (CGD 73-177).1-8-74Corrected1-29-742-25-74XXL_{manned Platforms (CGD 73-177).1-8-74Corrected1-29-742-25-74XXL_{manned Platforms (CGD 74-7).1-8-74X2-25-74XXL_{manned Platforms (CGD 74-7).1-8-74X1-8-74X2-25-74XXL_{manned Platforms (CGD 73-246).3-11-74X-100.4-15-74X-15-744-30-74X-15-2741-25-74XL_{manned Platforms (CGD 73-272).3-11-74X-14-2744-15-74X-15-2744-30-74X-15-2741-25-74X-15-274L_{manned Platforms (CGD 73-272).3-18-74X-100.3-18-74X-15-2745-30-74X-15-2741-25-74X-15-274L_{manned Platforms (CGD 73-28).5-15-74X-15-2735-15-74X-15-2745-30-74X-15-2745-30-74X-15-274L_{manned Platforms (CGD 74-32).5-15-73X-15-2735-15-73X-15-2745-30-74X-15-2745-30-74X-15-274$	brtable tanks (CGD 79–172)	12-5-73	1-15-74 New	1-21-74			6-25-74	10-1-74
CGD 73-153) 1-8-74 2-25-74 X 1-25-74 The Intensity Standards (CGD 74-7) 1-8-74 1-8-74 1-25-74 Dangcrous Cargoes, Inspection of Barges (CGD 72-271) 3-11-74 4-15-74 4-30-74 1-25-74 Taving Equipment Specification (CGD 73-246) 3-18-74 5-2-74 1-25-74 1-25-74 Trave Aid Certificates (CGD 73-272) 4-2-74 5-8-74 5-8-74 1-6-15-74 X Triage of Solid Hazardous Materials in Bulk (CGD 5-8-74 5-15-73 6-18-74 X 5-30-74 Ballast Discharge Requirements (CGD 74-32) 5-15-73 6-28-74 8-19-74 1-8-974 K vessels in domestic trade (CGD 74-32) 5-15-73 7-23-74 8-19-74 1-8-974	Larine engineering amendments (CGD 73-248)	12–11–73 1–8–74 Corrected 1–29–74		1–14–74 2–25–74	××	•••••	•••••	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	CGD 73-153). th Intensity Standards (CGD 74-7).	1-8-74		2–25–74	×		1-25-74	7-1-74
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	 2-271). 2-271). 2-aving Equipment Specification (CGD 73-246). 2-4 Aid Certificates (CGD 73-272). 2-5 Fixed Fire Extinguishing Systems (CGD 74-100). 2-7 Fixed Fire Extinguishing Systems (CGD 74-100). 	3-11-74 3-18-74 4-2-74 5-8-74	4–15–74 	4-30-74 5-2-74 6-15-74 6-24-74	 XX			
Wash. D.C.	HI3). Ballast Discharge Requirements (CGD 73-58) and vessels in domestic trade (CGD 74-32)	5–15–74 5–15–73 6–28–74	7-16-74 7-23-74 Seattle 7-30-74 Wash. D.C.	8-31-74 6-18-74 8-19-74	×		5-30-74	7–1–74
call passenger vessels, subdivision requirements 6-5-74 6-18-74 × CGD 72-180) 6-5-74 6-18-74 × Dal81 6-5-74 6-18-74 ×	CGD 72-180). CGD 72-180. CGD	6-5-74		6-18-74	×			

OTE: This table which will be continued in future issues of the Proceedings is designed to provide the maritime public with better termation on the status of changes to the Code of Federal Regulations made under authority granted the Coast Guard. Only those prosals which have appeared in the Federal Register as Notices of Proposed Rulemaking, and as rules will be recorded. Proposed a ges which have not been placed formally before the public will not be included.

AMENDMENTS TO REGULATIONS

TITLE 33—NAVIGATION ND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of Transportation [CGD 74-40]

ENFORCEMENT; CIVIL AND CRIMINAL PENALTY PROCEDURES

This amendment revises the Coast and procedures for enforcement of civil and criminal penalty proviof all statutes that the Coast and is authorized to enforce.

Previously, civil and criminal penenforcement procedures appared in 46 CFR, Subpart 2.50. Subpart 2.50 is deleted in CGD 74–68 appearing at page 19481 of this issue of the Federal Register.

Since the adoption of the procedures in Subpart 2.50, the Coast Guard has been authorized to enforce new laws relating to environment, ports and waterways safety, and recreational boating, among others. These revised procedures apply to enforcement of the penalty provisions of the statutes to which Subpart 2.50 applied and the new statutes. As revised by this amendment the procedures appear in the general provisions of the Coast Guard regulations in Title 33.

The revised procedures implement

the procedural requirements in recently enacted statutes such as The Federal Water Pollution Control Act (33 U.S.C. 1251). The revised procedures provide adequate notice as to violation and liabilities, and provide a fair and equitable system of penalty assessment consistent with all statutory safeguards including an opportunity for a hearing. The revised procedures permit the Coast Guard to pursue an effective law enforcement program with a fair and reasonable civil penalty program effectuated by District Commanders and their maritime safety, port safety, boating safety, and legal staffs.

Sections 2.01-10(b), 91.01-10(b), 96.01-10(b), 100.50(b), and 150.40 of Title 33 are amended by deleting the reference to Subpart 2.50 and substituting the reference to Title 33.

Since the regulations in this amendment prescribe procedures relating to the management of the Coast Guard administrative civil penalty procedures, further notice and public procedures are unnecessary and they may be made effective in less than 30 days after publication in the Federal Register.

* * * * *

Effective date. This amendment becomes effective on June 4, 1974.

(The full text of these amendments was published in the Federal Register of June 3, 1974.)

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of Transportation

[CGD 73-172]

MARINE PORTABLE TANKS

The purpose of these amendments to the Coast Guard regulations is to add requirements for the approval and use of a new type of portable tank for carrying dangerous articles. These amendments include operating requirements for the filling and discharging of portable tanks on board vessels and for equipment used in the filling and discharging of portable tanks. These amendments are established for vessel safety.

Present Coast Guard regulations concerning portable tanks include the following:

1. Subparts 30.01, 70.05, and 90.05 presently authorize the carriage of certain combustible liquids in portable tanks that conform to Subpart 98.35 on board cargo and miscellaneous and passenger vessels. Subpart 98.35 contains construction and operating requirements for such portable tanks.

2. Subpart 90.05 authorizes the carriage on hoard cargo vessels of

certain inflammable and combustible liquids in special design portable tanks approved and authorized by the Commandant. There are no construction or operating requirements for such special design portable tanks in the Coast Guard regulations.

3. Subparts 30.01 and 90.05 authorize the carriage of certain inflammable liquids in portable tanks in accordance with Part 146 on board cargo vessels. Part 146 authorizes the carriage of these inflammable liquids in portable tanks that meet various Department of Transportation specifications in Part 178 of Title 49. Such portable tanks are not required to be designed to be filled or discharged while on board vessels.

Because of the limited purpose of each of the presently authorized portable tanks, the National Offshore Industry Advisory Committee submitted proposed regulations to the Coast Guard that would provide for the carriage of combustible liquids, inflammable liquids, corrosives, and other dangerous articles in portable tanks that can be not only on and off loaded when full or empty but also filled or emptied while on board a vessel.

The regulations were proposed in the December 5, 1973, issue of the Federal Register (38 FR 33494). Interested persons were given 47 days in which to submit written comments and were also given an opportunity to make oral comments at a public hearing held on January 15, 1974 in New Orleans, La. More than 70 written and oral comments were received concerning the proposal.

These amendments are based on that notice and in general are as follows:

Subchapter F is amended to add new Part 64 containing design, construction, stamping, testing, approval and periodic inspection requirements for the new portable tank for marine service, and design, construction, and inspection requirements for associated piping and equipment used in filling and discharging the tank.

Part 98 of Subchapter I is amended to add new Subpart 98.30 containing rules for the handling, stowage, and safe transportation of portable tanks approved under Part 64.

Parts 30, 70, and 90 are amended to identify the cargoes which are allowed to be carried in portable tank approved under Part 64.

Discussion of specific comment and changes follows.

(The full text of these amendments we published in the Federal Register June 25, 1974.)

FUSIBLE PLUGS

The regulations prescribed in GFR Subpart 162.014, Subchapter Q specifications, require that manufaturers submit samples from each her of fusible plugs for test prior to the being installed aboard vessels subject to inspection by the Coast Guard. I list of approved heats that have been tested and found acceptable is as follows:

The Lunkenheimer Company, C cinnati, Ohio 45214, Heat nos. 79 794, 795, 796, 797, 798, 799, 800, 80 802, 803, 804 and 805.

VTS REGULATIONS

(Continued from page 161.)

(e) Buoy "C" at latitude 48 40'34" N., longitude 122°42'44"

(f) Buoy "SC" at latitude 45 01'06" N., longitude 122°37'54"

(g) Buoy "SH" at latitude 4

39'42" N., longitude 122°27'48" (h) Buoy "TB" at latitude 47

23'07 N., longitude 122°21'08" W. (i) The boundary of the TSS

(Sec. 104, Public Law 92–340, 86 Sm 424 (33 U.S.C. 1224); 37 FR 219 49 CFR 1.46(o)(4))

Effective date. September 30, 19⁻ Dated: July 3, 1974.

O. W. SILER, Admiral, U.S. Coast Guard, Commandant. (Federal Register of July 10, 1974.

MERCHANT MARINE SAFETY PUBLICATIONS

The following publications of marine safety rules and regulations may be obtained from the nearest marine inspection office of the U.S. Coast Guard.¹ Because changes to the rules and regulations are made from time to time, these publications, between revisions, must be kept current by the individual consulting the latest applicable Federal Register. (Official changes to all Federal rules and regulations are published in the Federal Register, printed daily except Saturday, Sunday, and holidays.) The date of each Coast Guard publication in the table below is indicated in parentheses following its title. The dates of the Federal Registers affecting each publication are noted after the date of each edition.

The Federal Register will be furnished by mail to subscribers, free of postage, for \$5.00 per month or \$45 per year, payable in advance. The charge for individual copies is 75 cents for each issue, or 75 cents for each group of pages as actually bound. Remit check or money order, made payable to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Regulations for Dangerous Cargoes, 46 CFR 146 and 147 (Subchapter N), dated October 1, 1973 are now available from the Superintendent of Documents price: \$5.80.

CG No.

TITLE OF PUBLICATION

- 101 Specimen Examination for Merchant Marine Deck Officers (Chief Mate and Master) (1-1-74).
- 101-1 Specimen Examinations for Merchant Marine Deck Officers (2d and 3d mate) (10-1-73). 108
- Rules and Regulations for Military Explosives and Hazardous Munitions (4-1-72). F.R. 7-21-72, 12-1-72. 115
- Marine Engineering Regulations (6-1-73). F.R. 6-29-73, 3-8-74, 5-30-74, 6-25-74. 123
- Rules and Regulations for Tank Vessels (1-1-73). F.R. 8-24-73, 10-3-73, 10-24-73, 2-28-74, 3-18-74, 5-30-74, 6-25-74. 129
- Proceedings of the Marine Safety Council (Monthly).
- 169 Rules of the Road—International—Inland (8-1-72). F.R. 9-12-72, 3-29-74, 6-3-74.
- Rules of the Road-Great Lakes (7-1-72). F.R. 10-6-72, 11-4-72, 1-16-73, 1-29-73, 5-8-73, 3-29-74, 6-3-74. 172 174
- A Manual for the Safe Handling of Inflammable and Combustible Liquids (3-2-64). 175
- Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department (3-1-73). 176
- Load Line Regulations (2-1-71). F.R. 10-1-71, 5-10-73. 182
- Specimen Examinations for Merchant Marine Engineer Licenses (7-1-63). 182-1
- Specimen Examinations for Merchant Marine Engineer Licenses (2d and 3d Assistant) (10-1-73). 184
- Rules of the Road-Western Rivers (8-1-72). F.R. 9-12-72, 5-8-73, 3-29-74, 6-3-74. 190
- Equipment List (8-1-72). F.R. 89-72, 8-11-72, 8-21-72, 9-14-72, 10-19-72, 11-8-72, 12-5-72, 1-15-73, 2-6-73, 2-26-73, 3-27-73, 4-3-73, 4-26-73, 6-1-73, 8-1-73, 10-5-73, 11-26-73, 1-17-74, 2-28-74, 3-25-74. 191
- Rules and Regulations for Licensing and Certification of Merchant Marine Personnel (6-1-72). F.R. 12-21-72, 3-2-73, 3-5-73, 5-8-73, 5-11-73, 5-24-73, 8-24-73, 10-24-73, 5-22-74. 200
- Marine Investigation Regulations and Suspension and Revocation Proceedings (5-1-67). F.R. 3-30-68, 4-30-70, 10-20-70, 7-18-72, 4-24-73, 11-26-73, 12-17-73. 227
- Laws Governing Marine Inspection (3-1-65).
- Security of Vessels and Waterfront Facilities (3-1-72). F.R. 5-31-72, 11-3-72, 7-8-72, 1-5-73, 1-23-74, 3-29-74, 239 4-2-74, 5-15-74, 5-24-74. 256
- Rules and Regulations for Passenger Vessels (5-1-69). F.R. 10-29-69, 2-25-70, 4-30-70, 6-17-70, 10-31-70, 12-30-70, 3-9-72, 7-18-72, 10-4-72, 10-14-72, 12-21-72, 4-10-73, 8-1-73, 10-24-73, 12-5-73, 3-18-74, 5-30-74, 6-25-74. 257
- Rules and Regulations for Cargo and Miscellaneous Vessels (4-1-73). F.R. 6-28-73, 6-29-73, 8-1-73, 10-24-73, 3-18-74, 5-30-74, 6-25-74. 258
- Rules and Regulations for Uninspected Vessels (5-1-70). F.R. 1-8-73, 3-28-73, 1-25-74, 3-7-74. 259
- Electrical Engineering Regulations (6-1-71). F.R. 3-8-72, 3-9-72, 8-16-72, 8-24-73, 11-29-73. 266
- Rules and Regulations for Bulk Grain Cargoes (5-1-68). F.R. 12-4-69. 268
- Rules and Regulations for Manning of Vessels (10–1–71). F.R. 1–13–72, 3–2–73. 293
- Miscellaneous Electrical Equipment List (7-2-73). 320
- Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (7-1-72). F.R. 7-8-72. 323
- Rules and Regulations for Small Passenger Vessels (Under 100 Gross Tons) (9-1-73). F.R. 1-25-74, 3-18-74. 329
- Fire Fighting Manual for Tank Vessels (1-1-74).
- 439 Bridge-ta-Bridge Radiotelephone Communications (12-1-72).

CHANGES PUBLISHED DURING JUNE 1974

The following have been modified by Federal Registers: CG-115, 123, 256, & 257, Federal Register of June 25, 1974 CG-169, 172, & 184, Federal Register of June 3, 1974.

¹ Due to the paper shortage, certain publications may be temporarily out of stock. Titles 33 and 40. Code of Federal Regulations may be consulted for rules and regulations.

