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**AUTHORIZE APPROPRIATIONS FOR THE COAST GUARD
FOR FISCAL YEARS 1979 AND 1980 AND NOMINATIONS**

DOCUMENTS

GOVERNMENT

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HEARING

BEFORE THE

**COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION**

UNITED STATES SENATE

NINETY-FIFTH CONGRESS

SECOND SESSION

ON

S. 2839

TO AUTHORIZE APPROPRIATIONS FOR THE COAST GUARD
FOR FISCAL YEARS 1979 AND 1980, AND FOR OTHER PURPOSES
AND NOMINATIONS

APRIL 12, 1978

Serial No. 95-78

Printed for the use of the
Committee on Commerce, Science, and Transportation



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AUTHORIZE APPROPRIATIONS FOR THE COAST
GUARD FOR FISCAL YEARS 1979 AND 1980 AND
NOMINATIONS

WEDNESDAY, APRIL 12, 1978

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, D.C.

The committee met at 10:17 a.m. in room 235, Russell Senate Office Building, Hon. Warren G. Magnuson presiding.

Senator MAGNUSON. The committee will come to order.

Today the Commerce Committee convenes to receive testimony regarding S. 2839. This bill is the administration's request for authorization of appropriations for the Coast Guard for its operating expenses; acquisition, construction, and improvements; alteration and removal of bridges; research, development, testing, and evaluation; boating safety program; year-ends strength for active duty personnel; and military training student loads. Although the bill includes the Coast Guard authorizations for fiscal years 1979 and 1980, today we will consider only the 1979 authorizations.

[The bill follows:]

[S. 2839, 95th Cong., 2d sess.]

A BILL To authorize appropriations for the Coast Guard for fiscal years 1979 and 1980, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums are authorized to be appropriated for the United States Coast Guard for the fiscal years 1979 and 1980:

(1) For necessary expenses for the operation and maintenance of the Coast Guard, including those relating to the Capehart housing debt reduction, for fiscal year 1979, \$944,800,000; for fiscal year 1980, \$962,000,000.

(2) For acquisition, construction, rebuilding, and improvement of aids to navigation, shore and offshore establishments, vessels, aircraft, and pollution abatement including equipment and necessary administrative expenses relating thereto:

AIRCRAFT

For fiscal year 1979, \$115,086,000.
For fiscal year 1980, \$115,086,000.

VESSELS

For fiscal year 1979, \$129,223,000.
For fiscal year 1980, \$129,223,000.

SHORE AND OFFSHORE ESTABLISHMENTS, AIDS TO NAVIGATION,
POLLUTION ABATEMENT, AND ADMINISTRATIVE EXPENSES

For fiscal year 1979, \$34,899,000.
For fiscal year 1980, \$34,899,000.

(1)

- (3) For alteration or removal of railroad and highway bridges in order to eliminate obstructions of the navigation in the navigable waters of the United States:
 For fiscal year 1979, \$34,603,000.
 For fiscal year 1980, \$22,600,000.
- (4) For necessary expenses for basic and applied scientific research, development, testing, or evaluation of programs and activities of the Coast Guard:
 For fiscal year 1979, \$20,000,000.
 For fiscal year 1980, \$20,000,000.

SEC. 2. The Coast Guard is authorized an end strength for active duty personnel of 38,420, for fiscal year 1979 and for fiscal year 1980, except that the ceiling shall not include members of the ready reserve called to active duty under the authority of section 764 of title 14, United States Code.

SEC. 3. Average military training student loads for the Coast Guard are authorized as follows:

- (1) Recruit and special training: Student equals Student years: for fiscal year 1979, 3,862 students; for fiscal year 1980, 3,812 students.
- (2) Flight training: for fiscal year 1979, 95 students; for fiscal year 1980, 95 students.
- (3) Professional training in military and civilian institutions: for fiscal year 1979, 436 students; for fiscal year 1980, 452 students.
- (4) Officer acquisition: for fiscal year 1979, 952 students; and for fiscal year 1980, 939 students.

SEC. 4. Section 30 of the Federal Boat Safety Act of 1971, as amended (46 U.S.C. 1479), is further amended by deleting all after the phrase "authorized to be appropriated" and inserting "\$3,000,000 for fiscal year 1979."

SEC. 5. The Coast Guard is authorized to enter into a long-term lease in excess of one fiscal year for the purpose of acquiring land on the Quillayute Indian Reservation in the State of Washington so that the Quillayute River Coast Guard Station may be relocated. The Coast Guard is also authorized to expend appropriated funds for the construction of fixed facilities and improvements on such land leased from the Quillayute Indians.

SEC. 6. The Coast Guard is authorized to enter into a long-term lease in excess of one fiscal year for its Aviation Training Center at Bates Field, Mobile, Alabama, and is authorized to expend appropriated funds on such land leased from the city of Mobile, Alabama, for the purpose of constructing an addition to an existing fixed facility to house an aircraft training simulator and of making improvements to a sewage effluent system.

Senator MAGNUSON. In addition, today we will be examining four nominations for the Coast Guard's new leadership.

I am happy to have this opportunity to say farewell but I don't really want to say farewell to Adm. Owen W. Siler and Vice Adm. Ellis L. Perry. Admiral Siler, who is retiring as Commandant, has been an outstanding leader of the Coast Guard in his 4 years as Commandant. Vice Admiral Perry, who is retiring as Vice Commandant, has brought an excellent engineering capability to the Coast Guard leadership. Although we have had our differences in the past, we of the Commerce Committee and the Coast Guard are currently making great progress in protecting our oceans and coasts from oil pollution, and I am thankful for having had the opportunity to work with these two men. We are going to miss you and both of us want to wish you well. Come out to Puget Sound and see us, will you?

Admiral SILER. I will be there.

Senator MAGNUSON. We should consider the nominations first.

[The biographical sketches follow:]

BIOGRAPHICAL SKETCH OF REAR ADM. JOHN B. HAYES, COMMANDER, SEVENTEENTH COAST GUARD DISTRICT, U.S. COAST GUARD

John Briggs Hayes was born August 30, 1924, at Jamestown, N.Y. After being graduated from Bradford (Penn.) High School, he attended Randles Preparatory

School in Washington, D.C. During his two year stay there he served as president of the student council.

On June 5, 1946, he was graduated from the U.S. Coast Guard Academy, New London, Conn. with a Bachelor of Science degree in Engineering and with an Ensign's commission in the nation's oldest continuous sea service.

As a young Coast Guard officer, his earliest years of service were spent on board various East Coast cutters. The first of these was the Cutter Comanche at Norfolk, Va., and then the buoy tender Mistletoe on which he served as First Lieutenant.

From June 1949 until March 1950, he served as Damage Control Officer on board the 311-foot ocean station vessel Chincoteague, Norfolk, Va. His next tour of duty was as Executive Officer for the Cutter Aurora, Savannah, Ga.

As a Lieutenant, he commanded the Coast Guard Long Range Aids to Navigation (LORAN) Transmitting Station, Matsumae, in the Far East. This tour was from January 1952 until January 1953 when he was returned to sea duty as Commanding Officer of the Cutter Ariadne, Key West, Fla. In October, 1953, he assumed command of Coast Guard Base, Key West, where his duties included those of Group Commander, Captain of the Port, and Marine Investigating Officer. Sea duty called again in July 1957, when he became Commanding Officer of the Cutter Sagebrush at San Juan, Puerto Rico.

Further education and higher office characterize the next period in the Coast Guard career of John B. Hayes. Following completion of the Naval War College, Newport, R.I. in 1960, he was assigned at USCG Headquarters in Washington, D.C., as head of the Program Section of Program Analysis Division, and later as Chief, Long Range Planning Branch of that same division.

During this tour of duty, he was commended by the Secretary of the Treasury for outstanding accomplishment as a member of a special task force studying the roles and missions of the Coast Guard. Also, as Liaison Officer to the House Appropriations Investigation Group from November 1961 to June 1962, he was instrumental in forming and advancing long-range plans for the replacement of aging Coast Guard vessels and for the modernization of many shore stations.

For his part in the development of the Service's long-range planning system, Hayes was awarded the Secretary of Treasury Commendation Award Medal. Subsequently, in June 1964, he was graduated from George Washington University with a master's degree in International Affairs.

As Commanding Officer, he commissioned the new 210-foot Cutter Vigilant in October 1964.

March 1966 saw Hayes enroute to South Vietnam where he served as Fourth Coastal Zone Advisor, Commander T.G. 115.4 and Commander, Division 11, Coast Guard Squadron One. In this capacity, he was awarded the Legion of Merit with Combat "V".

Returning to the United States in May 1967, Hayes—who was promoted to the rank of Commander before going overseas—was assigned to Coast Guard Headquarters where he held two successive posts and was promoted to Captain. The promotion came during his tour as Chief, Shore Facilities Branch of Search and Rescue Division. He was subsequently re-assigned as Chief, Planning and Evaluation Staff, Office of Boating Safety. For that service he was awarded the Coast Guard Commendation Medal.

He was named Commandant of Cadets at the Coast Guard Academy in June 1971, and while in that position, was nominated by the President, on January 22, 1973, for the rank of flag officer. With Senate approval, he was appointed to rank as permanent Rear Admiral from August 1, 1973. By then, however, he had already assumed the flag-ranking post as Comptroller of the U.S. Coast Guard, a position he held until becoming Commander, Seventeenth Coast District (Alaska) on July 10, 1975.

Hayes is married to the former Elizabeth C. Bogert of Englewood, New Jersey. They have four children: Christie Margaret, John B. Jr., William B., and Virginia B.

BIOGRAPHICAL SKETCH OF REAR ADM. ROBERT HENRY SCARBOROUGH, JR., U.S. COAST GUARD

Rear Admiral Robert Henry Scarborough, Jr., United States Coast Guard, was born on March 12, 1923, in Hawkinsville, Georgia. He attended public schools in Hawkinsville and Toccoa, Georgia, and was graduated from Hawkinsville High

School in 1940, after which he attended North Georgia (Military) College at Dahlonega, Georgia.

A 1944 graduate of the United States Merchant Marine Academy (Kings Point), he entered the U.S. Coast Guard in 1949 following service as an officer on U.S. Navy and U.S. Merchant ships. (Attachment contains a chronology of duty assignments). Rear Admiral Scarborough maintains his license as Master of Ocean Steam and Motor vessels of unlimited tonnage by periodic renewals as required.

He is a 1963 graduate of the Armed Forces Staff College and a 1971 graduate of the National War College. Since being in the Coast Guard, he has also studied at various civilian universities, earning a Bachelor of Business Administration (Management Major) Degree and a Master of Business Administration (Administration Major) Degree from the University of Hawaii, as well as a Master of Science (International Affairs Major) Degree from the George Washington University. He is a member of Beta Gamma Sigma honorary fraternity.

Following his initial appointment in the Coast Guard as Lieutenant (Junior Grade), on November 30, 1949, he was subsequent promoted as follows: Lieutenant on August 26, 1952; Lieutenant Commander on July 1, 1959; Commander on July 1, 1964; Captain on July 1, 1969. Selected for promotion to flag grade in January 1973, his date of rank as Rear Admiral is June 1, 1974.

Medals and awards received include the following: Legion of Merit, Meritorious Service Medal, Coast Guard Commendation Medal, American Campaign, European-African-Middle Eastern Campaign (w/stars), Asiatic Pacific Campaign, World War II Victory, National Defense, Vietnam Service (w/stars), Merchant Marine Combat, Merchant Marine Atlantic War Zone, Merchant Marine Mediterranean-Middle East War Zone, Merchant Marine Pacific War Zone, and Merchant Marine World War II Victory.

Married on July 1, 1946, he and his wife, the former Walterene Brant of Shawnee, Oklahoma, live in Lakewood, Ohio. They have two sons, Robert Henry, III, born October 5, 1966, and James Burton, born May 11, 1958.

Current Residences: 12992 Edgewater Drive, Lakewood, Ohio 44107; and 5357 37th Street North, Arlington, Virginia 22207.

Education: University of Hawaii, 1966-1971, BBA (1969), MBA (1971), and the George Washington University, 1970-1971, MS (1971).

Memberships: Armed Forces Relief and Benefit Association; Senior Vice-Chairman, Board of Directors.

CHRONOLOGY OF DUTY ASSIGNMENTS, REAR ADMIRAL ROBERT HENRY SCARBOROUGH, JR., U.S. COAST GUARD

Appointed as a cadet midshipmen in the United States Merchant Marine Cadet Corps, United States Merchant Marine Academy (Kings Point) in 1942, Rear Admiral Scarborough served in various theaters of war on board the SS *Black Hawk*, MV *Brandywine*, and the U.S. Army Hospital Ship *Seminole*, including participation in the Sicilian invasion while still a cadet. Upon graduation from the Cadet Corps, in May of 1944, he was licensed as third mate in the United States Merchant Marine. Concurrently, he was commissioned as Ensign, United States Maritime Service and as Ensign, United States Naval Reserve.

After serving in various capacities as a licensed officer on board the U.S. merchant vessels *Catarba Ford*, *Four Lakes*, *Beecher Island*, and *Antictam*, he was assigned as Chief Officer of the T-2 type steam tankers, *Opequon* and *Saguaro*. In July of 1946, he was advanced to the provisional rank of Lieutenant Commander in the United States Maritime Service.

After World War II, he held a position as methods engineer for experimental production with R.G. LeTourneau, Inc., manufacturers of heavy grading equipment, in Longview, Texas, a firm which had employed him for one year prior to the war in its Toccoa, Georgia, plant as a time-study man. He returned to sea on active duty as a Naval Reserve Officer from this civilian job and remained on active duty in the Navy until entering the Coast Guard, his last Navy assignment being on board the destroyer, U.S.S. *Allen M. Sumner* (DD 692).

Entering the Coast Guard as a Lieutenant (Junior Grade) on November 30, 1949, he served for eight months on various temporary assignments, including the Coast Guard Cutters *Tampa* and *Triton*, both vessels operating in the Gulf of Mexico. In August of 1950 he began serving on board the Coast Guard Cutter *Ingham*, a North Atlantic Ocean "weather" station vessel based out of Norfolk, Virginia as First Lieutenant.

Twelve months later he was assigned as a District Duty Officer in the Fifth Coast Guard District Rescue Coordination Center in Norfolk. In April of 1952 he was designated District Public Information Officer, Administrative Assistant and Aide to the Commander, Fifth Coast Guard District.

In April 1955 he became Operations Officer on board the Coast Guard Cutter *Chincoteague*, an ocean station vessel operating out of Norfolk.

From March 1957 until August 1959, he served as District Public Information Officer on the staff of the Commander, Third Coast Guard District offices in New York City.

His assignment from August 1959 to January 1961 was as Commanding Officer, Coast Guard Cutter *Dione*, a rescue and law enforcement vessel operating out of Freeport, Texas.

For the next 18 months, Rear Admiral Scarborough served as Commander, Coast Guard Group Sabine and Captain of the Port for the Texas-Louisiana maritime area, including the ports of Beaumont, Orange, Port Arthur, and Lake Charles.

Following graduation from the Armed Forces Staff College in January 1963, he remained in the Norfolk-Portsmouth, Virginia area for assignments as Executive Officer of Coast Guard Group and Captain of the Port, Norfolk; Chief of the Fifth Coast Guard District Readiness Branch; and for a second tour on the Cutter *Ingham*, this time as Executive Officer from May 1964 to August 1966.

His assignment for the next three year period was on the Pearl Harbor based staff of the Commander, Anti-submarine Warfare Force Pacific (now Commander Third Fleet, U.S. Navy) in operational and planning posts and as liaison for the Commander, Western Area, U.S. Coast Guard. For the next year he was Chief, Personnel Division of the Fourteenth Coast Guard District, Honolulu, Hawaii.

In August 1970, Rear Admiral Scarborough went to Washington, D.C. to attend the National War College. Graduating the following summer, he was assigned to Coast Guard Headquarters as Chief, Enlisted Personnel Division.

Reassigned at Headquarters to be Deputy Chief, Office of Operations in June 1973, he acceded to the post of Chief, Office of Operations in May 1974.

Rear Admiral Scarborough became Chief of Staff of the U.S. Coast Guard on August 28, 1975.

Rear Admiral Scarborough was assigned to the post of Commander, Ninth Coast Guard District, Cleveland, Ohio on July 29, 1977.

BIOGRAPHICAL SKETCH OF REAR ADM. ROBERT I. PRICE, U.S. COAST GUARD

Robert Ira Price was born on September 22, 1921 in New York City. He graduated from the United States Coast Guard Academy, New London, CT, with a BS degree and a commission as Ensign on June 6, 1945. He first served aboard the Destroyer Escort U.S.S. *Pettit* (DE-253) in the South Pacific as a Deck Watch Officer.

From 1946 to 1949 he served in the Coast Guard Icebreaker *Northwind* as Navigator and First Lieutenant and participated in polar cruises to Alaska, the Canadian Arctic, Greenland, and the Antarctic. Having qualified for engineering duty in the Cutters *Tampa* and *Unimak*, he was selected for the three-year course in naval architecture at Massachusetts Institute of Technology, graduating in 1953 with the professional degree of Naval Engineer. Following service at the Coast Guard Yard and at sea as Engineer and Executive Officer, in 1955 he reported for duty at Headquarters in the Merchant Marine Technical Division. In 1959 he became Technical Secretary to the U.S. Delegation to the International Safety of Life at Sea Conference which was called in response to the sinking of the *Andrea Doria*.

After commanding the Coast Guard Cutter *Nemesis* in the Gulf of Mexico for two years, he returned to Coast Guard Headquarters in Office of Merchant Marine Safety. For meritorious achievement in improving the international ship-board fire safety standards following the *Yarmouth Castle* disaster, he was awarded the Legion of Merit. He received the Coast Guard Commendation Medal while Chief, Planning and Special Projects Staff, for a report submitted to the Congress in 1970 on Control of Hazardous Polluting Substances.

Between 1962 and 1971, in addition to other duties, he served as U.S. Representative for the State Department in the technical work of the Intergovern-

mental Maritime Consultative Organization (IMCO), a United Nations Agency.

For his performance of duty as Captain of the Port of Philadelphia, he received the Meritorious Service Medal in July 1973. In 1974, he was promoted to Rear Admiral and assumed the post of Chief, Office of Marine Environment and Systems. For the past two years he has been Commander of the Eleventh Coast Guard District headquartered in Long Beach, California.

RADM Price is a licensed professional engineer (D.C. 1966). In 1972 for contributions to international maritime safety and anti-pollution standards, he was elected a Fellow of the Royal Institution of Naval Architects of London.

Rear Admiral Price is married to the former Virginia Miller of Jefferson City, Tennessee, a graduate of Carson-Newman College. They have two daughters, Mrs. Andrea Stevens of Bethesda, MD., and Mrs. Kevin V. Chriss of Toronto, Canada.

BIOGRAPHICAL SKETCH OF REAR ADM. JAMES S. GRACEY, USCG, CHIEF OF STAFF, U.S. COAST GUARD

James Steele Gracey was born on August 24, 1927, at Newton, Mass., and was graduated from Needham High School, Needham, Mass.

Winning an appointment as Cadet on July 12, 1945, he was graduated from the U. S. Coast Guard Academy, New London, Conn., with a commission of Ensign on June 3, 1949, and received a B.S. Degree in Engineering.

During his four years as a Cadet, he served as the Battalion Commander, was captain of the baseball team, and was a member of both the soccer and rifle teams. On graduation day he was awarded the prizes for the Most Proficient in Practical and Theoretical Seamanship, and Proficiency in Tactics and Drills.

He remained at the Academy temporarily as Instructor in the Tactics Department until September 1949, when he was assigned as Deck Officer on board the 311-foot ocean station vessel USCGC *Barataria*, based at Portland, Maine. During the summer and fall of 1951, he attended the Provost Marshall School at the former Coast Guard Training Detachment, Camp Gordon, Georgia; the Coast Guard Explosives Loading Supervisors School at Port Chicago, CA; and the Illinois Institute of Technology course on Fire Protection Engineering.

From September 1951 to April 1953, he was stationed at the Captain of the Port Office, Boston, Mass., with duties pertinent to Dangerous Cargo and Vessel Movements. He also served as Cadet Procurement Officer for Northern New England. Between March and May of 1953, he attended the Loran Indoctrination School at Coast Guard Training Station, Groton, Conn., following which he commanded the Loran Transmitting Station, Ocean Cape, Yakutat, Alaska, for one year.

He then returned to the Academy for a brief assignment as Assistant Tactics Officer and baseball coach from June to September of 1954. During the following two years he was assigned as student at the Harvard Graduate School of Business Administration where he received an M.B.A. Degree in June 1956. As part of his work at Harvard, he spent the summer of 1955 in Industry Training at Norton Company, Worcester, Mass.

From September 1962 to April 1965, he served as Comptroller, 2nd Coast Guard District, St. Louis, Mo., with collateral duties that included Cadet Procurement in Kansas and Missouri. He next was transferred to the 3rd Coast Guard District staff in New York to serve as Assistant Project Officer for the conversion of Fort Jay, Governors Island, from an Army Post to a Coast Guard facility. His duties included developing the organization for the host command and planning all the Island's "humanities." For that duty he was awarded the Secretary of Treasury Commendation for Achievement Ribbon. From March 1966 to June 1969, he was Executive Officer of the Coast Guard Base on Governors Island, for which he received a Coast Guard Letter of Commendation. His special duties during that period included community relations with the large Island population and labor relations, including negotiating contracts with several different unions.

Deep selected for promotion to the rank of Captain, he returned to Headquarters in July 1969 to assume the post of Chief, Programs Division under the Chief of Staff. For outstanding meritorious Achievement in those duties, he received the Meritorious Service Medal in 1973. Among other accomplishments he was cited for formulating planning, programming and budgeting procedures for analyzing and developing future year budgets for the Coast Guard and for

developing a computer program for translating resource requirements into a printout display to aid the analytical processes in budget planning.

In June 1974, CAPT Gracey transferred to Portsmouth, Va. to become Chief of Staff, 5th Coast Guard District.

Following his nomination by the President on January 17, 1974, and the approval of the Senate, CAPT Gracey was promoted to two-star flag officer to rank as Rear Admiral from October 1, 1974. At that time he assumed the duties of the Commander, 9th Coast Guard District, Cleveland, which covers Coast Guard operations in the Great Lakes region. For that tour of duty he was awarded the Legion of Merit (1977). In addition to his duties as District Commander, RADM Gracey served as Chairman of the Cleveland Federal Executive Board, Chairman of the Great Lakes Basin Commission's Standing Committee on Transportation and Vice Chairman of the Winter Navigation Board. His other accomplishments included resolving long-standing issues regarding Great Lakes Pilotage and negotiating for the Secretary of Transportation a new agreement with Canada regarding those issues.

Transferred again to Headquarters in August 1977, RADM Gracey assumed his present post of Chief of Staff of the U. S. Coast Guard.

Following is a resume of RADM Gracey's appointments in rank: Cadet, July 12, 1945; Ensign, June 3, 1949; Lieutenant (jg), September 27, 1951; Lieutenant, January 1, 1955; Lieut. Commander, July 1, 1960; Commander, July 1, 1965; Captain, August 5, 1970; Rear Admiral, October 1, 1974.

RADM Gracey is married to the former Dorcas R. Neal of Needham, Mass., a graduate of Middlebury College and the University of Maryland Graduate School of Education. They have one son and two daughters, Kevin S., Cheryl A., and Pamela R.

RADM Gracey is the son of Mr. Ernest J. and Mrs. Edna S. Gracey who are living at 69 Plymouth Road, Needham, Mass.

Senator MAGNUSON. Admiral Siler, would you introduce the nominees, and then we'll be happy to hear from Senator Stevens.

Senator STEVENS. Thank you.

NOMINATIONS

STATEMENT OF ADM. OWEN W. SILER, COMMANDANT, U.S. COAST GUARD; ACCOMPANIED BY VICE ADM. ELLIS L. PERRY, VICE COMMANDANT; REAR ADM. JOHN B. HAYES, COMMANDER, 17TH COAST GUARD DISTRICT, AND COMMANDANT NOMINEE; REAR ADM. ROBERT H. SCARBOROUGH, COMMANDER, 9TH COAST GUARD DISTRICT, AND VICE COMMANDANT NOMINEE; REAR ADM. ROBERT I. PRICE, COMMANDER, 11TH COAST GUARD DISTRICT, AND COMMANDER, ATLANTIC AREA, NOMINEE; REAR ADM. JAMES S. GRACEY, CHIEF OF STAFF, AND COMMANDER, PACIFIC AREA, NOMINEE; CAPT. NORMAN B. LYNCH, DEPUTY CHIEF COUNSEL; REAR ADM. WILLIAM M. BENKERT, CHIEF, OFFICE OF MERCHANT MARINE SAFETY; REAR ADM. ANTHONY F. FUGARO, CHIEF, OFFICE OF MARINE ENVIRONMENT AND SYSTEMS; CAPT. CLYDE ROBBINS, CHIEF, PROGRAMS DIVISION; AND CAPT. WILLIAM F. MERLIN, CHIEF, BUDGET DIVISION

Senator MAGNUSON. We should consider the nominations first. We will put their biographical sketches in the record.

Admiral SILER. Thank you, Mr. Chairman, I am pleased and proud today to have the opportunity to introduce the leadership for the next 4 years for the Coast Guard.

On my right I have Rear Adm. John B. Hayes, who was my Comptroller and is now the Commander of the 17th Coast Guard District.

On my left I have Rear Adm. R. H. Scarborough, who was my Chief of Staff and is now Commander of the 9th Coast Guard District.

At the far right I have Rear Adm. R. I. Price, who was my Chief of the Office of Marine Environment and Systems and is now the Commander of the 11th Coast Guard District.

On the far left I have Rear Adm. J. S. Gracey, who was Commander of the 9th Coast Guard District and is now my Chief of Staff.

I am sure that they would be ready to respond to any questions that either of you may have.

Thank you, sir.

Senator MAGNUSON. All right.

Now, Ted, did you want to say something?

Senator STEVENS. Well, I do, Mr. Chairman.

I want to welcome all of the nominees and second your statement concerning Admiral Siler and Admiral Perry. It's been a real pleasure to work with you gentlemen. We certainly wish you well. In fact, we are envious of the opportunity you may have now to do a little bit of fisheries research and a few other things.

But I would like to support the nomination of a good friend that we have adopted as an Alaskan, Adm. Jack Hayes. It's been a pleasure to work with you, Jack, since you became commander of the 17th Coast Guard District, our Alaska District. I have a statement here that I want to put in the record as to your past service in the Coast Guard and the work that you have done for the Coast Guard system.

I want to point out, Mr. Chairman, that we have just come through what I consider to be one of the most difficult periods of Alaska's history with the construction and initiation of the Alaska pipeline. We had to have a tanker control system built from scratch—one that the industry, the people of Alaska and people of the country would have confidence in.

The Coast Guard, working under the direction of Admiral Hayes, has installed that system. It has been one that has been installed with an eye toward costs but, at the same time, with a primary objective of preventing tanker accidents and improving navigation and vessel surveillance.

I am very proud of the job that the Coast Guard has done in Alaska. They have the confidence of our people. There are some things we would still like to work out, but I am confident that those issues will be properly addressed and that the interests of the State of Alaska and the Nation in preventing marine pollution will be foremost in the mind the Coast Guard with Jack Hayes taking Admiral Siler's position as the Commandant.

I congratulate whoever made the selection. I don't know yet how that happened, but we are happy to see all of you here. I am certain my good friend from Washington, who pioneered the whole concept of vessel traffic control and initiated that program in the approach to

Puget Sound, will still be in there helping us to let our little old system catch up over the years.

We have a good working team as far as the West and Northwest is concerned and we are delighted to see you here.

I thank you, Mr. Chairman.

I would like to put my written statement in the record.

Senator MAGNUSON. Fine.

[The statement follows:]

STATEMENT OF HON. TED STEVENS, U.S. SENATOR FROM ALASKA

Mr. Chairman, I would like to support the nomination of an adopted Alaskan and good friend, Admiral Jack Hayes, to the Senate Commerce Committee. It has been my pleasure to work closely with Admiral Hayes since 1975 when he became Commander of the Seventeenth Coast Guard District, the Alaska District.

Admiral Hayes was born in 1924 at Jamestown, New York. In 1946, he graduated from the Coast Guard Academy and subsequently served as an officer on board several East Coast cutters.

He was called to the Far East to command a long-range aid to navigation station . . . duty which undoubtedly prepared him for the difficult aid to navigation program which he administered in Alaska. I would point out to the Committee that Admiral Hayes commanded the Alaska District while the Trans-Alaska Pipeline's Vessel Traffic Control System was established. To date, that system has worked flawlessly and we have had no tanker accidents resulting from poor navigation or vessel surveillance.

After returning to the United States from a tour of duty in the Caribbean, Admiral Hayes studied at the Naval War College in Newport, Rhode Island. He has also received a Master's Degree from George Washington University.

In 1971, Admiral Hayes became Commandant of Cadets at the Coast Guard Academy and left that post in 1975 to assume the position of Commander of the Seventeenth Coast Guard District, the Alaska District. Admiral Hayes has done an outstanding job as Commander of the Alaska District. With his cooperation we have successfully been able to work out any major problems confronting the Coast Guard in Alaska.

Before concluding my statement, Mr. Chairman, I would like to point out that Admiral Hayes has won the Legion of Merit with Combat V, the Secretary of the Treasury's Commendation Medal and the Coast Guard Commendation Medal. It is my great pleasure to introduce Admiral Hayes to the Senate Commerce Committee. I strongly endorse his nomination as Commandant of the Coast Guard.

Senator STEVENS. I do want to remind you gentlemen that we not only work together here, but Senator Magnuson is now chairman of the Appropriations Committee. There are three of us that work on the oceans in this committee and who also work on the oceans in the Appropriations Committee. So if we don't get you here we will get you there.

It will be a pleasure to work with you. Thank you very much.

Senator MAGNUSON. I just have a couple questions that I want to ask Admiral Hayes.

Have you any preconceived ideas now as to what further policies you would like the Coast Guard to adopt with respect to some of the problems that have shown up during the administration of Admiral Siler? Is there anything you want to add? Do you have any new ideas, or do you expect to continue meeting them as he's done?

Admiral HAYES. Certainly, Mr. Chairman, it's clear that I would do the latter. Having been in Alaska as Senator Stevens says, we have had some rather interesting changes occur. He's mentioned the pipeline and the institution of tanker traffic in and out of Valdez.

Senator MAGNUSON. The 200-mile limit and all kinds of new things have developed—

Admiral HAYES. I was just going to mention that, sir.

Senator MAGNUSON [continuing]. Which put more responsibility on the Coast Guard. And you have to, I suppose, in meeting these new responsibilities, be pushing as much as you can to see that you have enough personnel and enough wherewithal budgetwise, administrationwise, to do these new jobs.

Isn't that correct?

Admiral HAYES. I certainly agree with you, Mr. Chairman.

Senator MAGNUSON. Yes.

Admiral HAYES. Of course, people are going to be the key.

Senator MAGNUSON. Concerning the Coast Guard budget I think sometimes—and I am not criticizing Mr. McIntyre and the rest of them—not everyone quite realizes the growth and the new problems that the Coast Guard has had to take on.

And there is only one thing that bothers me. Sometimes when something goes wrong, some of you in the Coast Guard have a tendency to say, well, we didn't get enough money and we can't do this because Congress didn't give us enough money.

Senator Stevens and I have always at least got the Senate and the House to approve what you have asked for. We never cut you on your request. But maybe the problem is that you don't ask for enough?

Admiral HAYES. It's been my observation, Mr. Chairman, that the Congress gives us good support.

Senator MAGNUSON. Now, you were liaison to the House Appropriations investigatory group. I guess they did form long-range plans for replacement of vessels, aged vessels, and things of that kind.

What has happened to that by way of funding?

Admiral HAYES. I think it has progressed extremely well, Mr. Chairman. I think it was at that time that the Coast Guard made a very substantial step forward in appropriations for our acquisition, construction, and improvement program.

Of course, your committee has supported that very substantially since that time.

Senator MAGNUSON. But you have got to get these things that are needed. I don't expect you to ask for more than is needed; but I don't think, again, there is a realization of the new responsibilities that the Coast Guard has.

Now, you were Chief of the Shore Facilities Branch, Search and Rescue. What were your duties in that position?

Admiral HAYES. Well, at that time one of my principal duties had to do with our shore stations throughout the Coast Guard that were dealing in search and rescue. These were the old lifesaving stations, Mr. Chairman.

Senator MAGNUSON. Oh, yes. Is there adequacy of funding for that request?

Admiral HAYES. I think as you may be aware, sir, the principal area of inadequacy at the present time has been the need for additional personnel which we have consistently been trying to correct over several years as a major program.

Senator MAGNUSON. Now, you were also Chief of Planning and Evaluation, Office of Boating Safety. I think I understand that pro-

gram living where I live and the problems you have. But there is one thing I wanted to ask, and Admiral Siler might be the one to answer this.

When I was home, several people told me, that the Coast Guard was high-handed in handling the pollution matter aboard boats; that the cost was going to be too great; that the specifications that the Coast Guard had laid down could be met by only one or two people that made the product which would qualify for inspection; and that they couldn't get the product from them for months.

Admiral SILER. We have recognized that problem, Mr. Chairman.

Senator MAGNUSON. I didn't check to see whether this is correct, but this was their complaint.

Admiral SILER. The problem is one of our working with EPA to develop the standards, first, for what can be put into the water, and then for us to develop and to approve of equipment that will meet that standard that is established by the EPA, not the Coast Guard.

In order for us to meet that standard, we set up some requirements that equipment has to be aboard existing boats by a certain time, and subsequently realized that the problem was too great to get sanitary devices on board all boats, even though there was, we felt initially, sufficient time.

Many owners delayed, and the equipment was not produced as rapidly as we had forecasted. So we gave a 1-year delay, as long as owners have a firm order to put the equipment in, they don't have to have them installed by next January.

Senator MAGNUSON. Well, there has to be some flexibility, too.

Admiral SILER. Yes, sir.

The only thing is, there is not much flexibility in the EPA standards.

Senator MAGNUSON. I know, you are just carrying them out. I will talk to EPA about this. And in some places the cost was, they thought, too high for the boating public. We have so many people who, I think have more boats per capita than any other place in the United States or any other section.

And the cost was too great for the small boater, let's put it that way.

Admiral SILER. I understand that EPA is looking at this standard and seeing if it is completely realistic. Of course, at the same time, it is not necessary to have a passthrough device at all if you simply have the kind of a toilet that holds the effluent. It can be taken care of in that way.

Senator MAGNUSON. Yes. Now, Admiral Scarborough, your duties will be to assist the Commandant in prescribing policy, is that correct?

Admiral SCARBOROUGH. Yes, sir.

Senator MAGNUSON. What do you think is the primary problem confronting the Coast Guard now?

Admiral SCARBOROUGH. The primary problem, sir?

Senator MAGNUSON. The primary problem you see in the near future. More funds, better equipment?

Admiral SCARBOROUGH. This is a continuing problem, yes, sir.

Senator MAGNUSON. The policies, of course, sometimes are pretty much directed to you by agencies like EPA; for example, the oil spill problems and the 200-mile limit and all these things.

What is happening to the 200-mile limit? Have you had any violations lately?

Admiral SILER. Yes, sir, as a matter of fact, this afternoon there will be a ship arriving in port that we just seized. It was fishing with the wrong kind of equipment and in the wrong places. It has not been a great problem for us to enforce the law because the law was well written, I think.

Senator MAGNUSON. I thank you for that.

Admiral SILER. I mean that, sir. It was a well-written law. It made it much simpler to enforce because of the various levels of penalties that are authorized.

Also, we have been able to close some areas completely on the east coast where there is a definite need for conservation. With those areas simply closed we can determine very quickly by flying over it whether there is anybody in it or not.

Alaska is a bigger problem because it is such a large area and the law says if we are not using those resources they should be available to the foreigners. Because of that there are a large number of foreigners in the Alaskan waters. We are taking steps to increase the number of ships on the west coast and at the same time we are taking delivery in the next month or so of new C-130's that will be able to patrol the great Alaskan area.

Senator MAGNUSON. There haven't been too many violations say, off Alaska. Of course, you are dealing with such a big coastline. There hasn't been too many offshore violations in Oregon and California, have there?

Admiral SILER. Not off Washington, Oregon, and California; no, sir.

Senator MAGNUSON. I haven't heard of any.

Admiral SILER. There have been several minor violations.

Senator MAGNUSON. Oh, yes.

Admiral SILER. You never hear of the record of violation which is handled by the administrative law judge in the Department of Commerce. But if we find those we simply issue a citation on the scene at the time and then the matter is handled completely administratively.

Senator MAGNUSON. As the treaties are implemented and as the foreign fishing people know what they are and where they are, there will be less violations.

Admiral SILER. We have seen a great improvement in the recognition of our law by the foreigners with only a few exceptions. I think some people just like to probe and see how far they can go.

The other place where we are having some continuing but small problems—they are not the major type—is with our own domestic fishermen. I don't think they understood that the law as it was written was to apply to them as well as to foreigners.

Senator MAGNUSON. Some people thought we didn't mean it, but we did.

Admiral SILER. The salmon fishermen along the Washington coast have given us problems.

Senator MAGNUSON. I wouldn't ask you again, but is there any improvement timewise in our progress with surveillance in the Straits of Juan de Fuca?

Admiral SILER. We are pushing it just as hard as we can, Mr. Chairman. We will get it there in effect just as quickly as we can. We are putting all the pressure on it as we can.

Senator MAGNUSON. All right.

Now, the Secretary is holding some hearings out in, I think, Seattle.

Admiral SILER. Yes, sir.

Senator MAGNUSON. On the tanker business.

You will be represented there, I know, but has the Secretary asked any of the top level to go?

Admiral SILER. Yes, sir; Admiral Fugaro will be there. He's the Chief of the Office of Marine Environment and Systems. He will be conducting the hearing.

Senator MAGNUSON. Is that in the next week or so?

Admiral FUGARO. Next week, Mr. Chairman, Thursday and Friday.

Senator MAGNUSON. Admiral Scarborough, you were Chief of the Personnel Division, weren't you?

Admiral SCARBOROUGH. I was Chief of Enlisted Personnel Division as a captain; yes, sir.

Senator MAGNUSON. Are you having any problem getting recruits?

Admiral SCARBOROUGH. I think our recruiting—according to the report I received yesterday from the Chief of Personnel—is proceeding very well, sir, in all areas.

Senator MAGNUSON. Very well?

Admiral SCARBOROUGH. Yes, sir.

We are having a little trouble with recruiting some reservists at the moment, but in the regular service it is going very well.

Senator MAGNUSON. These are some questions for Admirals Gracey and Price. We will give them to you and you can answer them for the record.

[The following information was subsequently received for the record:]

QUESTIONS OF THE COMMITTEE AND THE ANSWERS THERETO

Senator MAGNUSON. As Area Commanders you will be responsible for the coordination of operational control and general direction of Area units under your command. Would you describe the scope and nature of these responsibilities and indicate to what extent you will have discretion to interpret the policies of the Commandant in implementing those policies. For example, will you have the responsibility of allocating between the Coast Guard's various activities?

Admiral PRICE. The Area Commander's oversight of District commands assures consistent interpretation of the Commandant's policies through inspection and audit programs as well as by Area directed training teams. The exercise of operational control by the Area Commander is reserved chiefly for situations of such scope as to involve more than one district or which require more resources than an individual District Commander may have at his disposal. Such discretion as exists in applying the Commandant's policies would largely be influenced by geographic, environmental, maritime and weather conditions—all of which vary considerably throughout the Area.

Authority of the Area Commander to reallocate resources either by geographic location or to change programs priority is, I believe, permitted on a short-term basis when essential to effective and efficient treatment of a transient problem. In other words, to allow flexibility in meeting the demands of the moment or of a temporary condition. The long term reallocation of resources resides in the Commandant who would be influenced in his determination by such studies and recommendations as I might provide as Area Commander.

Admiral GRACEY. As Commander, Pacific Area, I will serve as the agent and representative of the Commandant and will be responsible for administration

and general direction of Area units under my command. I will also be responsible for co-ordination of operations involving units from more than one of the Districts in my Area; developing and maintaining plans for search and rescue, law enforcement, polar operations, and other similar broad mission areas; scheduling and directing training; the Area Inspection program; broad co-ordination with other agencies, including mobilization planning and exercises; and other functions necessary to insure the effective performance of Coast Guard missions in the Pacific Area.

I will have discretion to interpret the policies of the Commandant within the broad limits of those policies and to the extent necessary to assure their effective implementation within my Area. This includes temporary re-allocation of resources as necessary to achieve specific objectives or conduct specific operations.

Senator MAGNUSON. Admiral Price, I noted from your biographical sketch that you served as Chief of the Office of Marine Environment and Systems. What is your assessment of the needs of the Coast Guard to fulfill their new responsibilities in this area and of the adequacies of the Administration's?

Admiral PRICE. The Coast Guard has done much within the authority and responsibility previously extended by the Congress in regard to marine environmental protection. In my District in the southwest we have developed and instituted some novel procedures to enhance our response to an environmental threat. We have capitalized on the great resilience afforded by a disciplined force in a multi-mission organization, making total use of the resources we have.

It has been nearly two years since I left the Office of Marine Environment and Systems so I am not in every good position to relate the current budget level to the Coast Guard's needs other than to point out that there is very little fat in the Coast Guard. Since still more is expected of us by the Congress and the American people concerning pollution prevention and control, we will need additional resources of special equipment and personnel trained to use it if those expectations are to be met.

Senator MAGNUSON. Admiral Gracey, you are currently Chief of Staff of the Coast Guard. Would you briefly describe your responsibilities in that position and indicate to what extent you have input into the determination of Coast Guard policy.

Admiral GRACEY. As Chief of Staff of the Coast Guard I am responsible for co-ordination of activities of the Offices and other staff elements of the Commandant. I am responsible for our planning, programming, budgeting, management analysis, and safety, programs. I also am responsible for co-ordination of these and other administrative activities among the Districts. As the principal staff officer for the Commandant and Vice Commandant, I have a major input into determination of Coast Guard policy.

Senator MAGNUSON. Admiral Siler maybe Admiral Scarborough can answer this, too, your fiscal 1978 year end strength was 583 below the levels of funds appropriated, how is that?

Admiral SILER. That is simply a matter of, first we set up a personnel plan well in advance.

Senator MAGNUSON. What is the total people on board in the Coast Guard right now?

Admiral SILER. Could I provide that for the record, sir? I am not certain I have the exact figure.

Senator MAGNUSON. Well, approximately how many?

Admiral SILER. It should be approximately 38,000.

Senator MAGNUSON. Well, 583 might mean a transfer period or changing or moving around.

Admiral SILER. Well, we have an allowance for people being transferred. But we do have some problems to keep right up to the figure at the end of the fiscal year. We are able to control it more closely in July than we are at the end of the fiscal year in October.

Senator MAGNUSON. The thing that bothers me is if this keeps at a certain level, 583 or 683 or maybe 1,000 out of your total amount, there will be long-term effects on that, won't there?

Admiral SILER. Yes, sir.

Are you speaking, sir, of the 583 under the number authorized by the Senate?

Senator MAGNUSON. That is right.

Admiral SILER. That figure of 583 under that authorized by the Congress was a reduction assigned by OMB.

They allowed us to end the year with 38,420. So that was the reason we were under.

Senator MAGNUSON. Now, GAO indicated that the Coast Guard marine environmental protection programs are understaffed by 50 percent. Do you agree with that?

Admiral SILER. That is approximately correct; yes, sir. We have testified to that before the appropriations and authorizing subcommittees for several years.

Senator MAGNUSON. You have asked for an additional amount there?

Admiral SILER. Yes, sir.

Senator MAGNUSON. All right. Now, we have been talking a little about fisheries. What about the equipment you have for the enforcement of the 200-mile limit? The *Unimak* is going to be recommissioned, is that right?

Admiral SILER. *Unimak* should be fully operational in June.

Senator MAGNUSON. Then there is decommissioning of the *Duane*, which could be used for fisheries enforcement?

Admiral SILER. The *Duane* has been used for fisheries enforcement, but she is one of the ships that is 41 years old. We have several, including the *Campbell* and *Port Angeles*, that are that age. We had the *Taney* on weather patrol last year and when it was determined we did not need a ship on weather station, we assigned the *Taney* to relieve the *Duane*, and the *Duane* would be decommissioned. We have had questions asked now as to whether it would not be a good idea to keep the *Duane* in commission rather than decommissioning it and perhaps finding that we need it again. We do have that large area of Alaska that needs to be patrolled, and the only way to patrol it is with more capable ships. So we are moving the *Sherman* from the east coast to the west coast in order—

Senator MAGNUSON. Are you using any aircraft?

Admiral SILER. We are getting C-130's.

Senator MAGNUSON. You are not running them yet?

Admiral SILER. We will be in about another month or two. We can carry a helicopter on the *Sherman* and the *Confidence*, which is in Kodiak. The *Sherman* is in the same class as the *Monroe*, that we have in Seattle, and it is a very capable class of ship. We are moving the *Sherman* now to the west coast in order to provide for better coverage in Alaska.

The question of whether we should keep the *Duane* in commission would be answered on the basis of whether we are able to replace the

Sherman's move sufficiently with the *Taney* in New England. The *Taney* is a much older ship, and does not carry a helicopter.

[The following additional information was subsequently received for the record:]

Consequent to the passage of the Fishery Conservation and Management Act of 1976 (Public Law 94-265), the Coast Guard's budget for fiscal years 1976, 1977 and 1978 included resource authorizations and appropriations for the reactivation of one high endurance cutter, procurement of four long range search (C-130) aircraft, reactivation of four Air Force medium range search (C-131) aircraft, and the procurement of ten short range recovery (SRR) helicopters along with the necessary personnel and funds to operate and support these additional facilities.

We are in the process of phasing in these additional resources to our fisheries law enforcement patrol schedules as the facilities become operational. Specifically, the high endurance cutter UNIMAK has been reactivated (but is not yet operational) and is homeported in New Bedford, Massachusetts.

In connection with the C-131 acquisitions, we were able to assign three additional medium range search (HU-16) aircraft for patrol operations out of Air Station Cape Cod, Massachusetts. The first two of these aircraft became operational in July and November of 1977; the third HU-16 is scheduled to commence patrol activity in May, 1978. Our Aviation Training Center at Mobile, Alabama, will receive an additional airframe (C-131) for fisheries enforcement in July of this year.

Of the four new C-130 aircraft, the first two will be stationed at Air Station Kodiak, Alaska, the third at Air Station Sacramento, California. These aircraft are expected to become operational prior to July 15, 1978. The fourth C-130 will be placed in the maintenance and repair pipeline.

Pending the procurement of the new SRR helicopters, we have reactivated the last five HH-52 helicopters held in storage. Four of the HH-52s have been assigned to Air Station Kodiak and are operating with our flight deck equipped cutters on Alaska Fisheries Patrol. Our Air Station at Corpus Christi, Texas, is operating the fifth of these helicopters.

Senator MAGNUSON. Now, on research and development, OMB reduced your request for research, development, test, and evaluation, from \$40 million to \$20 million. I do not think that this is consistent with the administration's strong statements on the need to improve your capabilities.

Are you going to ask the Appropriations Committee to restore that, or part of it?

Admiral SILER. No, sir. We realize that OMB looks at our budget—

Senator MAGNUSON. I know.

Admiral SILER [continuing]. And other people's budgets.

Senator MAGNUSON. Yes, I know.

Admiral SILER. We are good soldiers, sir.

Senator MAGNUSON. Yes. Well, you are retiring. You can ask for it and they will not get you in trouble.

Admiral SILER. We felt the \$40-million request was realistic. However, in order to use that \$40 million, we needed more people. There were more people in the request, as well as just the money, because we do not do very much of the R. & D. ourselves. What we try to do is to find the contractors who can do this research, which is applied research. We are not in original research. We merely try to apply the original research that someone else has done to Coast Guard projects.

Senator MAGNUSON. Well, I think on the problem of oil-spill clean-up that you do not have enough research in that. I think you need more money to do it.

Admiral SILER. Practically all of the money we have in large projects in R. & D. will be used on either the development of ships to make certain that they do not spill in the first place, or the cleanup process itself if a spill does occur. That is where we are putting the greatest part of our money.

Senator MAGNUSON. Now, on construction and improvements, and acquisition, what is the current status of the Coast Guard's program on new medium endurance cutters?

Admiral SILER. We have a contract signed with Tacoma Boat to build four ships. We have in this request two additional ships of the same class. We have not addressed yet how we would sign a contract for those additional two. The four we have the contract for at Tacoma Boat I think will be delivered in 1981.

Senator MAGNUSON. But the administration requested fundings for the purchase—this is the further purchase—of two more?

Admiral SILER. Yes, sir.

Senator MAGNUSON. And the House Merchant Marine and Fisheries Committee authorized the funding for three?

Admiral SILER. Yes, sir.

Senator MAGNUSON. What are the advantages or disadvantages of purchasing two or three?

Admiral SILER. If we can buy three we probably can get a better price, depending on where we sign the contract.

Senator MAGNUSON. And delivery?

Admiral SILER. We could get a faster delivery. Usually, because of inflation, we keep the price down a little bit more. However, there is always a trade-off between spending money now and spending money later.

Senator MAGNUSON. Yes. Now, you presented your budget last fall.

Admiral SILER. Yes, sir.

Senator MAGNUSON. You had a pretty rough winter, did you not?

Admiral SILER. Very definitely.

Senator MAGNUSON. Did that up your maintenance and repairs considerably?

Admiral SILER. Yes, sir, we had storm damage that amounted to approximately \$3.6 million this winter. I would like to provide some amplifying details for the record.

[The following information was subsequently received for the record:]

In the 1976-77 winter season, we suffered damage of approximately \$1,300,000. Inasmuch as Congress appropriated funds to cover these costs, there was relatively little negative impact at that time. Many Coast Guard operating facilities suffered heavy storm damage and/or incurred higher heating fuel costs because of the coal strike during the 1977-78 winter, which was of course one of the most severe on record. Our total damage is estimated at \$3,580,000, as set forth below:

Land and structures.....	\$2,363,000
Aids to navigation.....	791,000
Vessels	208,000
Other	58,000
Heating fuel.....	160,000
Total.....	3,580,000

In the New England region, nine vessels and thirty-six shore facilities sustained structural damage to the extent of \$1,036,000, a figure which assumes

that all repairs can be made by Coast Guard personnel without contractor assistance. Further, severe erosion has occurred on the eastern face of Boston Light which may involve impairment of the light structure itself. If the foundation is significantly undermined, repairs could reach as high as \$500,000.

Eighteen shore stations and numerous aids to navigation in the Great Lakes region have been damaged and repairs are estimated at \$540,000; also, because of the severe weather, it has been necessary to operate our icebreaking vessels for a longer period than planned to assist commerce, resulting in a fuel cost deficit of \$160,000.

In the Third District, headquartered in New York City, we have sustained a \$384,000 loss to our shore stations, vessels and aids to navigation, and have incurred abnormal utility cost increases in the amount of \$130,000.

Aids to Navigation with a replacement cost of \$100,000 were destroyed in the Chesapeake Bay area, together with accessories (batteries, lamps, etc.) worth \$150,000.

The heavy rains and flooding in California all but destroyed our station near San Luis Obispo. We will require approximately \$300,000 to restore it to operability.

Marcus Island Loran station in the Pacific was extensively damaged by Typhoon Ivy. The estimated cost of repairs is \$280,000.

Senator MAGNUSON. Now, we did talk about tanker inspection and enforcement. I do not think we need to go into that any more. We understand that.

It has been suggested that the State boating safety assistance program contain a 2-year phaseout. How many States have advised you that they would suffer from this reduction? Have any complained?

Admiral SILER. Yes, sir. When I first testified this spring before the House Appropriations Committee, I testified that most of the States that had responded had said it would not create much of a difficulty. However, since that time we have gotten about 20 States that have said it would give them problems.

Senator MAGNUSON. What has been the trend in boating casualties? Has it been going down since we have had the safe boating program?

Admiral SILER. We just received the figure today as to the actual number of casualties. It has been the same this year as last year. But each year there is a large increase in the number of people who are boating. So the rate is actually decreasing rather substantially.

Senator MAGNUSON. Yes. And that means we are making some progress if they are remaining the same, because there are more boats, there are more people boating, and therefore you would suggest that it has been a success?

Admiral SILER. Yes, sir. There is approximately a 6-percent increase in the number of boats each year. If we keep the number of casualties about the same, we are making a 6-percent improvement.

Senator MAGNUSON. All right.

You have a statement. Do you want to summarize it now for us, and we will put the statement in the record in full.

AUTHORIZATIONS

Admiral SILER. Thank you, sir.

[The statement follows:]

STATEMENT OF ADM. OWEN W. SILER, U.S. COAST GUARD, DEPARTMENT OF TRANSPORTATION

Mr. Charman and members of the committee. I have with me at the table this morning the vice commandant, Vice Admiral Perry; my Chief of Staff, Rear

Admiral Gracey ; the Chief of Programs Division, Captain Robbins ; and the Chief of Budget Division, Captain Merlin.

It is my privilege again to appear before you to present our request for the authorization of Coast Guard appropriations for fiscal year 1979. This will be, as you know, my final appearance before the committee. As such, I would like to take this opportunity to thank you, Mr. Chairman, the Committee, and your staff for the support and cooperation which I feel has been instrumental in moving the Coast Guard forward into a new era of responsibility and challenge. To meet this challenge requires innovation and imagination. I think the Coast Guard's fiscal year 1979 budget request is particularly reflective of those qualities and is wholly consistent with the President's goal of limited growth in the federal budget.

Perhaps in no other appropriation is this as well illustrated as in our operating expenses appropriation which, as you know, provides funding for the normal day-to-day operations of the Coast Guard. This year we are requesting no additional personnel, but rather, we have chosen to provide resources for new initiatives by reprogramming from lower priority support activities. This will not be an easy accomplishment, but the new endeavors or initiatives for which we are requesting reprogramming, are important to our effectiveness and cannot be postponed to future budget years. The total of \$944.8 million we are requesting is comprised of \$912.3 million to continue operations from fiscal year 1978 and \$32.5 million which represents the net change of program increases and decreases. Much of this latter sum is tied directly to built-in adjustment for restoration of buying power. However, I would like to call to your attention several items which are particularly important in this appropriation.

Mr. Chairman, last year, the President and Congress provided important leadership in developing a strong policy on the prevention and treatment of oil pollution problems in the marine environment. Our fiscal year 1979 budget request contains several items which are directly related to these initiatives. In the operating expenses appropriation, we have included requests to augment our response capability, increase our foreign tanker examination activities, and expand our existing marine safety information system for our captains of the port. This is of particular importance because it meets the criteria in the presidential mandate for vessel classification and identification. While interim in nature, this system is designed to help prevent future disasters, such as the Argo Merchant by identifying vessels which have a history of recurring casualties, and examination discrepancies. With this information in hand, we can effectively close ports to ships which endanger our safety and well being. As I will explain shortly, a more comprehensive system, begun in 1974 and still under development, is expected to replace the interim system, possibly as early as fiscal year 1980.

As you know, for several years, we have been increasing our role in border management activities. It is imperative that our operations in this area be conducted without fear of compromise. We have recently completed an evaluation of electronic equipment which will provide a capability for conducting voice communications in a secure mode during enforcement activities. The \$1.9 million we are requesting will outfit all our operational units with this equipment. I believe it will be a key element in our enforcement capability.

The final item which I would like to highlight in this appropriation is the completion of and placing into operation of four 140-foot icebreaking tugs for the Great Lakes. We expect these vessels, which are to replace our old 110-foot icebreaking tugs, to be operational in time for the 1979-1980 icebreaking season.

Our AC&I appropriation this year continues the heavy emphasis on replacing our overaged, technologically obsolete vessels and aircraft. Most important in this request, which totals \$279.2 million this year, is the continuation of the replacement program for our World War II vintage high and medium endurance cutters. Mr. Chairman, we are having an increasingly difficult time keeping these ships operational. We must continue this replacement program at the current pace. We have recently awarded the contract for the first four of these vessels, and I fear any delay in the remaining procurement will result in an inability to perform our seagoing duties adequately.

We are also continuing our replacement effort for two of our aviation workhorses, the HH-52A helicopter and the HU-16E fixed wing aircraft. Our request for five helicopters this year, when added to the ten previously funded, will provide the first increment of a multi-year contract for a total of 90 helicopters. We expect this procurement to be highly competitive as there are a number of manufacturers we expect to answer our request for proposals.

The twelve HU-25A medium range search aircraft we are requesting this year constitute the third increment of this multi-year procurement for 41 aircraft. The first of which should be delivered in August of 1979. In addition to its replacing a number of aging aircraft in the fleet, this new aircraft will provide, by a large order of magnitude, an increase in our capability to detect and identify vessels breaking the laws of the United States.

Mr. Chairman, you will notice there is an increased emphasis this year on shore station construction and rehabilitation. While I have had to place primary emphasis on our vessel and aircraft programs, I am concerned to the point where I feel special consideration of these shore facilities is warranted. Many of these projects are necessary for compliance with OSHA and EPA requirements; however, the majority are required because the deteriorated state of the facilities no longer respond to normal maintenance. This new emphasis on capital plant restoration should continue for the foreseeable future. I should point out that two of these projects, the expansion of our simulator training building at our aviation training center in Mobile, Alabama, and the relocation of our existing station located on Quillayute Indian land at La Push, Washington, will be constructed on leased property.

With the exception of the new Loran station on Vancouver Island, which is required to provide full, accurate Locan C coverage of the vital tanker route from Alaska to Puget Sound, none of the Shore Station projects in this budget will result in a new operating facility.

The last topic I wish to cover in this appropriation is our continuing efforts regarding vessel traffic services. Our request this year contains two items of special import in this vital area. First, we are seeking \$4 million to complete the expanded radar coverage of the Puget Sound VTS. Although negotiations with Canada on the proposed vessel traffic management agreement are still in progress, a final agreement is expected and should be in force by the time this expansion to the VTS is complete. We are also requesting \$927,000 which, combined with the funds provided last year, will install surveillance radar in the lower Mississippi River in the vicinity of the pilottown anchorage. Completion of the VTS in New York later this year will bring to six the number of major vessel traffic systems operational in the United States.

Mr. Chairman, I think that it is appropriate to observe that the acquisition, construction, and improvement appropriation undertakes no new starts and but a few significant expansions of current endeavors. Essentially, it is a replacement program.

Moving now to our research, development, test, and evaluation appropriation, this year it concentrates quite heavily on projects which are directly related to prevention, detection, and removal of oil spills. I would like to take a moment to elaborate on this area as it is one in which research has the probability of paying good dividends. I'm not so naive as to think there won't be marine casualties in the future, but I feel the best defense against groundings and collisions is a well-organized offense, the first step being the sound marine safety information system to which I referred earlier. This will permit analysis of those types of casualties and operations most likely to affect the environment. Through use of this knowledge, we hope to determine the regulatory action and/or standards which will provide the greatest impact in safeguarding life, property, and the environment. When a spill occurs, the equipment and techniques we use to contain and eliminate the spill must be the most mobile, efficient, and thorough available. Our R&D efforts in this area continue to emphasize these parameters. Previous efforts in equipment development have been encouraging with the high speed delivery sled, airborne oil surveillance system, and the air deliverable antipollution transfer system (ADAPTS) now operational.

Finally, I would like to call to your attention changes which we have made in two of our other appropriations. In our state boating safety assistance appropriation, we are requesting authorization to begin a two-step, phase-out of boating safety assistance grants. This program has been effective in developing boating safety programs throughout the United States, but we now feel increased liaison with the states will produce the most significant improvements without further federal grants.

Our request for \$34.6 million in the alteration of bridges appropriation will provide for full funding of three new starts in fiscal year 1979 to remove unreasonable obstructions to navigation, and completion of alterations on two bridges

that were started in previous years. Alteration or removal of the bridges at Newark, New Jersey, Hastings, Minnesota, and Pearl, Illinois, will significantly improve the safety and freedom of passage for marine traffic in those areas. The increase of appropriations requested is due to the change to full funding for all new starts, and will not increase obligations nor outlays over 1978 levels.

Mr. Chairman, before I close, I believe that some observations of changes in the coast guard during my tenure as commandant are in order. In the summer of 1974, the coast guard was completing the phaseout of the ocean station program, and many of our aging high endurance cutters were decommissioned. Before this action was complete, new initiatives in law enforcement activities posed new challenges, and since that time, our activity level in all mission areas has increased, some dramatically in four short years, our mix of operations has changed significantly due to initiatives in marine safety, enforcement of laws and treaties; and marine environmental protection. At the same time, the workload in search and rescue and aids to navigation has grown steadily with increasing use of our waters. Throughout the period, we have met the challenges with essentially the same number of personnel and operating facilities.

Inflation has accounted for a major portion of the budgetary increases we have received. The pace of having to meet changing demands and higher expectations of our services has required extensive reprogramming. While this process has caused us to be leaner, it also has forced us to be more effective. We are emerging from this period with a modest but important modernization program well underway and with a better understanding of our priorities and what is needed to achieve further productivity increases within the personnel strength constraints we are facing. I am confident that this approach will pay many dividends to the taxpayers as well as to the citizens and other maritime recipients of our services.

Again, it has been a pleasure to have worked with you and this committee over the past four years. The cooperation, understanding, and patience you and your staffs have exhibited are most appreciated.

I and my staff will be pleased to answer any questions you may have on these matters.

Senator MAGNUSON. We have covered a great deal already. Please proceed.

Admiral SILER. We are changing places to bring Vice Admiral Perry to the table.

Senator MAGNUSON. We do not have a full committee membership here, but I am going to suggest on the Coast Guard nominations that we poll the committee before our next executive meeting.

Admiral SCARBOROUGH. Thank you, sir.

Admiral SILER. I have at the table with me Vice Admiral Perry, Vice Commandant.

To my right is Captain Robbins, Chief of Programs Division. To my left is Captain Merlin, Chief of my Budget Division, and Admiral Gracey, who is presently my Chief of Staff.

Senator MAGNUSON. Now, before we get into that, just for the record, fiscal 1977, you had \$1,307,818,000; in fiscal 1978, you had \$1,392,822,000; and fiscal 1979 is \$1,681,141,000 authorization. Is that correct?

Admiral SILER. Yes, sir.

Senator MAGNUSON. So that is up about \$290 million, approximately?

Admiral SILER. Approximately.

Senator MAGNUSON. And the outlays were higher in 1977 than the appropriations. There must have been a carryover. In 1978 they were a little under. And outlays for 1979 are approximately \$1,460,456,000; is that correct?

Admiral SILER. Yes, sir; that is correct.

Senator MAGNUSON. I wanted the record to be clear on that.

Admiral SILER. Mr. Chairman, the statement that I have prepared here requests authorization of our operating expense, which is our day-to-day operations of \$944.8 million, which is \$912.3 million to continue the things that we have been doing in 1978, and \$32.5 million, which is the net total of program increases and decreases.

The greatest part of this increase has to do with the cost-of-living increases, but there are several things that I would like to call your attention to. A great deal of it has to do with our emphasis on the oil-pollution problems in the marine environment, and most of this has to do with things that were proposed in the President's initiatives which were announced in March of last year. We do have in operation at the present time a marine information system which allows us to provide information to each of the captains of the port before a foreign ship comes in. While we have a much better system that will be developed in research and development in the future, this is assisting us a great deal at the present time.

We have been increasing our activities in border management and law enforcement along the coast in particular. We have asked for \$1.9 million to provide for some secure communications so we can keep the lawbreakers from knowing exactly what we are doing, and they will not be able to monitor all of our transmissions. We have been very successful along the Florida coast in interdicting the drugs.

We have an item in the budget as well to the four icebreaking tugs that we are building at the present time at Tacoma Boat. The first of these will be in operation this fall, and the other three will be in operation the next fall for the 1979-80 icebreaking season.

The acquisition, construction, and improvements appropriation requests amounts to \$279.2 million, which is largely for the continuation of the replacement of the medium endurance cutters we discussed a little while ago. This request would provide funding for two more of these. We also have in this request money for replacement of the old HH-52 helicopter, which is the helicopter we have in Port Angeles, Wash. This budget gives us the money to buy 5 more, which, when added to the money that was previously allowed for enforcement of the fishery laws, will give us a total of 15.

Senator MAGNUSON. In other words, you will replace the one at Port Angeles?

Admiral SILER. Yes, sir, this is the class that we would be putting there.

Senator MAGNUSON. Yes.

Admiral SILER. This is the first buy of a total that we will have, 90, in the long term, to replace all of this class of helicopter. We also have a request in this acquisition, construction, and improvement appropriation for 12 more of the medium-range search airplanes that will be replacing the old Grumman Albatross that is reaching the end of its operational life.

Most of the things that are in the budget have to do with simply replacing our old and wornout equipment. In this budget we are talking about shore stations more than we have in the past. We have an item in here for a simulator at Mobile, Ala. And we have a station

at Quillayute, La Push, Wash., and also some modernization of the air station at Port Angeles.

An exception to the replacement of existing equipment is the Loran station at Vancouver Island, which will give us the full coverage of Puget Sound with Loran C.

Also, there is the money in this request for additional radars for the vessel traffic service in Puget Sound.

Senator MAGNUSON. Is the Loran station on Vancouver Island way out at the west end, way out at the tip?

Admiral SILER. Yes, sir, up at Fort Hardy.

Senator MAGNUSON. Yes.

Admiral SILER. Most of the A.C. & I. as I said is simply a replacement program. In the research and development, the emphasis is on the defense against oilspills—pollution of the seas. When an oilspill does occur, the equipment we use to contain and eliminate the spill has to be mobile, efficient, and readily available. So our R. & D. emphasizes these parameters.

The R. & D. budget request also contains an item to produce a better system of marine information so that we will know everything about a ship before it comes into our ports.

Senator MAGNUSON. How much have you requested for that? Any increase over last year for that particular phase of your activities?

Admiral SILER. Yes, sir, there is a fairly large increase in the budget for that.

Senator MAGNUSON. Because I think that is very important and because the Coast Guard has been criticized—sometimes unjustly, by not knowing just what kind of ship is coming in, or you could not find out, or you did not do something you should do—it is important you have that in there.

Admiral SILER. We have a system now that is working. It gives us a lot of information. But we are improving that system so that we will have full information instead of only partial information, as we do now.

Senator MAGNUSON. Well, that is good.

Admiral SILER. The other items that I think we ought to talk about a little are the State boating assistance program, which we mentioned.

Senator MAGNUSON. We mentioned that before.

Admiral SILER. Yes, sir. In our alteration-of-bridges appropriation, we are requesting full funding for three new starts in 1979. These would be the bridges at Newark, N.J.—which is a very grave hazard to navigation of the large container ships—Hastings, Minn., and Pearl, Ill. All are significant obstructions to river navigation and are the cause of rather frequent accidents.

These are the main items in the authorizations request. In closing, I would just like to say while I have the floor that it has been a real pleasure to work with the Authorization Committee while I have been the Commandant for the last 4 years. Thank you very much, Mr. Chairman.

Senator MAGNUSON. Now, I think you can accomplish some of these things, or at least make a start on them, especially in the new responsibilities that occurred during your administration and that are re-

flected in the present budget, which is approximately up, in round figures, \$290 million over last year?

Admiral SILER. We can make some progress. It is not as much progress as I would like.

Senator MAGNUSON. No.

Admiral SILER. I think one of the disappointments that a Commandant always has is that he cannot accomplish all the things that he would like to do.

Senator MAGNUSON. I understand that. But it is some progress, and you have been assuming these new responsibilities with the same personnel, and the same amount of money, the same amount of ships. But this will give you a little more modernization, a little more personnel, probably a little more technology. Maybe not as much?

Admiral SILER. No, sir, the personnel figure is exactly the same.

Senator MAGNUSON. It will be exactly the same?

Admiral SILER. Yes, sir, we are allowed exactly the same figure. Of the items shown in this budget \$180 million are for the comprehensive oil pollution and liability fund, which has not been authorized by law yet.

Senator MAGNUSON. So you are down to barebones again?

Admiral SILER. Yes, sir.

Senator MAGNUSON. We will take a look at it in the Appropriations Committee. I am wondering if maybe I should not take a look at making the authorization a little bit more flexible so when we get to appropriations we have got a little more leeway to work with.

Admiral SILER. Of course, we initially asked for more than is in the bill. It, of course, goes through several reviews before it gets to you. It is cut down every time.

Senator MAGNUSON. I wish you would put in the record, or I could ask you, in what places do you think the authorization might be a little bit too tight. Would it not be everywhere? But what would be the priorities of that? What might be too tight?

Admiral SILER. The House Committee on Authorization, and I have their report here, I think did a rather good job of looking at what we could use. And they spoke of the operation of the *Duane*, for example, for another year or more until we can replace it with the cutters that are being built. We have been cut down very close on the number of personnel. We have asked for several years for increases in order to reduce the workweek of our personnel. We have tried to reduce an average workweek on our rescue stations such as Quillayute, we mentioned before, or the one at Cape Disappointment, so that they only work 68 hours a week. We do not feel this is a very short week—they are working very much like firemen would have to. Their workweek in the summertime is well over 100 hours a week.

There are some additional things that we can do with inspection of the tankers as they come in and additional inspection of oil spills which were not allowed. The Outer Continental Shelf efforts, if they are authorized by the bills that are in Congress now, will require us to make at least twice as many inspections as we do at the present time. We are not inspecting all of the manned structures offshore at the present time, and the bill that is being considered now requires two inspections per year: one a scheduled inspection, and one an unscheduled inspection.

We should also look at the safety and health items at the same time as we are looking at the standard Coast Guard things that have to do with lifesaving and firefighting.

So it increases our responsibilities. It requires more than twice as many inspections, and we do not have the personnel to do even all of the offshore structures.

Senator MAGNUSON. I have not read the House report yet. Does the House report refer to this personnel problem in numbers, or do they have a figure?

Admiral SILER. Figure, sir? Money?

Senator MAGNUSON. Which would allow more personnel?

Admiral SILER. Yes, sir.

Senator MAGNUSON. OK.

Admiral SILER. I think they have figures in as well, of the number of people, in another section I was looking at. They authorized 911 more people, because this committee has to authorize the total number of military personnel for a year-end figure.

Senator MAGNUSON. All right.

Admiral SILER. They do authorize 911 more military people.

Senator MAGNUSON. Let us get this straight, now. I just found out that this will be in the House bill. We do not have it in this bill; is that correct?

Admiral SILER. You have not the 911 more; no.

Senator MAGNUSON. No, but it is in the House bill?

Admiral SILER. It is in the House report.

Senator MAGNUSON. The House report?

Admiral SILER. Yes. The bill has not been acted on the floor yet.

Senator MAGNUSON. Oh, the bill has not been acted on. This is a subcommittee report?

Admiral SILER. Yes, sir.

Senator MAGNUSON. All right.

Admiral SILER. I think the bill is expected to come up on the floor today in the House.

Senator MAGNUSON. Does the bill that is coming up today include the 911?

Admiral SILER. Yes, sir.

Senator MAGNUSON. Which we do not have?

Admiral SILER. That is correct. You have the lower figure.

Senator MAGNUSON. We have the lower figure; is that right?

Admiral SILER. That is correct. In acquisition, construction, and improvements, we were requested in the House what five things we would ask for if we were told that we could look for five more things. One would be a faster buy of the cutters. We have some air station fire protection that we feel is important. Some more oil recovery equipment. Our radiobeacon program we feel should be increased in its speed, and Kodiak has a water system that needs renovation.

Senator MAGNUSON. Well, we will take a look at the House bill and we will know when the House acts today what they did. We still have to report this to the full Commerce Committee and we will have a chance to make some of these adjustments and changes.

Admiral SILER. Now I understand that the House action has been postponed until Monday.

Senator MAGNUSON. Anyway, they will have acted by the time we get it to the full committee.

Admiral SILER. Yes, sir.

Senator MAGNUSON. So we will take a look at it. I think in the tanker thing you have just got to be sure you have got enough to do it. If they do not, you are going to be subject to a lot of criticism if something happens that probably could have been avoided if you had sufficient personnel and equipment to do it. They are going to criticize the Coast Guard first. These things are intangibles. We do not know when they are going to happen or how they are going to happen. The just show up.

We will put your statement in the record in full. We appreciate your testimony.

Admiral SILER. Thank you, sir.

Senator MAGNUSON. The record will be left open in case you want to add anything.

Thank you all very much for coming.

Admiral SILER. Thank you, Mr. Chairman.

[Whereupon, at 11:06 a.m., the hearing was adjourned.]

[The following information was subsequently received for the record:]

QUESTIONS OF THE COMMITTEE AND THE ANSWERS THERETO

YEAR-END STRENGTH

Senator MAGNUSON. Why, despite the Coast Guard's increased responsibilities, is the Administration's request for fiscal year 1979 year-end strength the same as the fiscal year 1978 strength?

Admiral SILER. This is consistent with the Administration's "zero growth" personnel policy. Therefore, in order to free up resources for new initiatives in the marine environmental protection area, we will satisfy new operational needs primarily through reprogramming from existing staff and support resources.

Senator MAGNUSON. Where is the reduction from the level for which funds were appropriated coming from?

Admiral SILER. The fiscal year 1978 reduction of 583 military positions was mainly taken through scheduled decommissioning of ships (*Duane, Burton Island*) and shore units, postponement of the establishment of Aids to Navigation Teams (ANTs) in certain areas, and substitution of civilian contractual support for security services at Governor's Island, New York.

PUGET SOUND TANKER SIZE LIMITATION

Senator MAGNUSON. What is the current status of the Coast Guard's interim regulation and proposed rulemaking on the limitation on the size of tankers allowed into Puget Sound?

Admiral SILER. In Interim Navigation Rule was issued by the Secretary of Transportation on 14 March 1978, which prohibits entry of oil tankers in excess of 125,000 deadweight tons into the Puget Sound area east of Port Angeles, Washington. The interim rule is effective through 9 September 1978. The Coast Guard commenced rulemaking action on 27 March 1978, publishing an advance notice of proposed rulemaking. This advance notice solicits comments, from all interested parties, concerning the substance of proposed rules, to be published by the Coast Guard as a notice of proposed rulemaking as soon as possible after 1 June 1978. Public hearings on this advance notice were held in Seattle on 20 and 21 April 1978. Concurrently, the Coast Guard is conducting analytical studies of large tank vessel hydrodynamics, to determine what options are available in the way of ensuring the continuous controllability of these ships, if permitted to enter this area. The results of these studies and the information gained through the public consultation process will form the basis of the final rulemaking by the Coast Guard.

TANKER INSPECTION AND ENFORCEMENT

Senator MAGNUSON. In the spring of 1977, the Coast Guard began its Tanker Boarding Program and established a Marine Safety Information System. How is this tanker boarding program administered? How many tankers entering U.S. ports have been found to be in violation of safety and environmental regulations? How many of these tankers have been denied entry to our ports? What are the plans for the continuation and strengthening of this program?

Admiral SILER. The foreign tanker examination program is being administered in accordance with the guidelines contained in instructions promulgated specifically for this program. Under the authority of the Officer in Charge Marine Inspection, each foreign flag tank vessel shall be examined by a qualified marine inspector at least annually with reexaminations conducted as necessary to insure the correction of outstanding deficiencies. The scope of the examination will insure that each foreign flag tank vessel entering U.S. waters is in compliance with the general safety control provisions of SOLAS 60, the applicable International Load Line Convention (1930 or 1966) and with all applicable U.S. regulations. Deficiencies discovered in the course of the examination, depending on the nature of the deficiency, may be required to be permanently or temporarily corrected prior to cargo transfer, prior to the vessel's departure from port, or permanently corrected by a future date not to exceed one year. In those cases where foreign flag tank vessels are found to have deficiencies which are violations of applicable U.S. regulations, all reasonable efforts are made to require permanent correction of the deficiency immediately. In the 15 months (21 January-14 April 1978) that the foreign tanker examination program has been in effect, there have been 3,203 examinations; 1,491 examinations revealed no deficiencies aboard the vessels while the remaining 1,712 examinations resulted in the issuing of deficiency letters to the Masters of these foreign flag tankers.

The Tank Vessel Act (46 USC 391A) provides authority to deny entry into the navigable waters of the U.S. to a tankship which is not in compliance with applicable provisions of the Act or regulations issued thereunder. The Captain of the Port has been delegated this authority by 33 CFR 160.37 and my exercise this authority when noncompliance constitutes a hazard to the environment or the safety of the port. Since the beginning of the present foreign tanker boarding program, such action has been taken on 4 occasions.

In a similar vein, Regulation 19 of Chapter I, SOLAS 60 authorizes enforcement officers of parties to SOLAS to intervene in cases where the conditions of a ship subject to SOLAS may present a danger to passengers or crew of the ship if it is permitted to sail. This procedure has been taken with respect to 13 foreign flag tank vessels since the examination program began.

With respect to the continuation of this program, Coast Guard Budget Line item OE 3d.(2) requests 51 additional military billets with a dollar cost of \$1,108,000 for the foreign tanker examination program.

Senator MAGNUSON. How is the Marine Safety Information System administered? What information does it contain, and how is it used in enforcing Safety and environmental regulations against tankers?

Admiral SILER. The U.S. Marine Safety Information System (MSIS) is a computerized system consisting of a network of 53 remote terminals located in Captain of the Port Offices, Marine Safety Offices, Marine Inspection Offices, and Coast Guard District Offices. The system contains records comprising the recent history of tanker casualties, pollution incidents, violations of Federal safety and pollution prevention regulations, and results of boardings and examinations. The source of data for the majority of information in the system is from Coast Guard reports and documents and is supplemented by such outside sources as Lloyds Register, Marine Management System, and the Tanker Advisory Center. All of the data, with the sole exception of boarding and examination results, is entered at Coast Guard Headquarters. Field units, through their terminals, enter boarding and examination results so that the information is immediately available to other units on the system. It is intended that the system will store vessel stockholder information. Federal Register, Vol. 43, No. 72—Thursday, April 13, 1978, contained the Notice of Proposed Rulemaking requiring all oil tankers of 20,000 DWT or more, U.S. and foreign, that call at U.S. ports to report certain ownership information.

When advance notice of a port entry is received, the local Captain of the Port and/or the local Officer in Charge, Marine Inspection requests the vessel's history from the MSIS. This information is used to determine allocation of resources and to ascertain the nature of previous Coast Guard boardings and inspections, in

addition to advising the port captain if the vessel was in compliance with safety and environmental protection regulations. Using MSIS, boarding and examination personnel can also check their findings against examinations to determine whether violations or deficiencies previously reported have been satisfactorily corrected.

STATE BOATING SAFETY ASSISTANCE

Senator MAGNUSON. The Administration's request contains a two-year phase-out of the state boating safety assistance program. How many states have advised you that their boating safety programs would suffer from a reduction and/or elimination of federal funding?

Admiral SILER. To date twenty-four states have responded to my letter of January 21, 1978, advising State Governors of the expected phase-out of the program. Seventeen advised that their programs would suffer from the loss of federal funds. In December 1976 the Chief of the Office of Boating Safety sent a letter to the State Boating Law Administrators requesting their thoughts on various questions pertaining to the assistance program. Thirty-four administrators responded to the letter. With one exception each respondent indicated that if the program was discontinued, either their boating safety program would have to be curtailed to varying degrees, or registration fees raised.

Senator MAGNUSON. Has the program ever been fully funded at the Federal level, as originally planned by Congress?

Admiral SILER. The program has never been fully funded at the levels authorized. The Federal Boat Safety Act of 1971 originally authorized \$7.5 million annually for five years, fiscal years 1972-76. Appropriations for these years amounted to a total \$22.6 million. The program was extended for two additional years, 1977 and 1978, and the authorization increased to \$10 million per year. Approximately \$12 million was appropriated for these two years.

Senator MAGNUSON. Please provide for the record figures on federal funding and state contributions to the program.

[The information follows:]

[In millions of dollars]

Fiscal year	Federal funding	State funding
1972	\$3.0	(1)
1973	4.5	(2)
1973	4.5	21.1
1974	3.5	25.7
1975	5.8	33.0
1976	5.8	34.8
1977	5.8	38.0
1978	5.8	

¹ Unknown.
² Estimated.

Note: Fiscal year 1974 is the 1st year for which State expenditures for boating safety were required to be reported for purposes of fund allocation.

Senator MAGNUSON. Since passage of the Safe Boating Act, what has been the trend in boating casualties?

Admiral SILER. We have seen a downward trend in the fatality rate per 100,000 boats. I would like to provide supporting data for the record.

[The information follows:]

Year	Fatalities	Coast Guard estimate of boats (millions)	Fatality rate per 100,000 boats
1971	1,582	7.85	20.2
1972	1,437	8.50	16.9
1973	1,754	9.60	18.3
1974	1,446	10.75	13.5
1975	1,466	11.80	12.4
1976	1,264	12.75	9.9
1977	1,312	13.60	9.6

Senator MAGNUSON. Did your Office of Boating Safety ever perform any studies of the effectiveness of the program? What were its conclusions? Please submit a copy of the study for the record.

Admiral SILER. The Office of Boating Safety developed a study of the effectiveness of the State Boating Safety Assistance Program in the summer of 1977 using data collected from the States over a two year period, along with other available data. This study was considered in the fiscal year 1979 zero-based budgetary review. The study found that the financial assistance program has been vital in meeting the intent of Congress in that it provided the incentive to the States to develop what is logically and statutorily a joint responsibility. The Federal infusion of funds and generation of a multiplier effect upon the States, regarded in proportion to the rate of increase in the boat population, had a distinct bearing on the reduction of fatalities.

A copy of this study is provided for the record.

[The information follows:]

STATE BOATING SAFETY ASSISTANCE PROGRAM EVALUATION

The States' use of boating safety financial assistance has been under Coast Guard review for some time. Over the past two years we have been collecting data from the States on the levels of their boating safety activities so as to evaluate the effectiveness of the Federal grant program. A study of the program was developed in the summer of 1977 using available data, and was considered in the fiscal year 1979 zero-based budgetary review. The study determined that, by building on the Federal financial assistance base, State commitments to boating safety have steadily risen. The States' appropriations for safety programs went from \$26 million in 1974 to nearly \$37 million in 1976. A further benefit was that the Coast Guard, in administering the grant program, was better able to coordinate a more uniform National boat safety effort and to exercise its leadership role.

In a majority of states, Federal funding has encouraged states to increase their boating safety programs. Education and law enforcement for most states have shown a significant improvement. For example, States were induced to adopt recommended boating safety education strategies, many inaugurating programs to reach the newer generations of recreational boaters in public schools. Many states have significantly increased the number and capabilities of their patrol craft as well as the level of their enforcement activity. Following the guidance provided at our National Boating Safety School in Yorktown, Va., several States restructured their enforcement programs along lines suggested by the Coast Guard as a national standard, thereby improving the uniformity in enforcement sought by the Act. This latter effort has been extremely productive. Moreover, upgraded State personnel and equipment has resulted in a concurrent improvement in State search and rescue capability primarily on State waters, inland and near shore. Overall, the vast majority of states manifesting program improvements have also reflected a decreasing rate of fatalities. We believe that this level of state activity is significant, because although the Coast Guard has developed regulations on new boat construction, the full impact of those regulations will not be reflected until their implementation is complete and the boats are in general use.

The cooperation and assistance between the States and the Coast Guard has also furthered the Congressional mandate of uniformity in boating laws and regulations. By 1976, fifty-one of fifty-five States and territories had met established basic criteria for an acceptable boating program. The establishing of uniform boat numbering systems and vessel casualty reporting systems, in particular, are good examples of cooperation. We hope to move further into areas of cooperation such as accident investigation and building a uniform data base.

In summary, our study found that the financial assistance program has been vital in meeting the intent of Congress in that it provided the incentive to the States to develop acceptable boating safety programs, and to assume a major share of what is logically and statutorily a joint responsibility. The key elements are more boats, more boaters, and a range of funding responsibilities on the part of state officials which resulted in lives saved. The Federal infusion and generation of a multiplier effect upon the States, regarded in proportion to the rate of increase in the boat population, had some distinct bearing on the reduction of fatalities. The financial assistance provided by the Federal Government has

allowed the States to concentrate on establishing administrative organizations, purchase basic equipment and initiate education and enforcement techniques to stimulate increased boating awareness. Although our study found that elimination of federal assistance might create problems in states with small boating populations, we feel that where there is substantial boating activity, sufficient state revenues should be available to provide adequate boating safety programs. It now seems reasonable that we should be able to phase out the Federal financial assistance program and to expect the States to provide the necessary funding through their own revenues.

As the program is phased out, the States will be encouraged to continue their boating safety responsibilities. The Coast Guard will continue to vigorously pursue all goals of the Federal Boat Safety Act, maintaining close working relationships with the States. The Coast Guard will continue many of the positive initiatives already underway with the States, particularly in training State officers, guiding education programs, and assisting and participating in the fine work of the substantive committees of the National Association of State Boating Law Administrators.

Analytical portions of the Coast Guard study and some of the basic data utilize in measuring effects of Federal financial assistance funding on State boating safety programs over the period 1974 through 1976 are attached.

Specific legislative directives of the Federal Boat Safety Act of 1971 relating to Coast Guard/State cooperation were reviewed.

Section 18 of the Act prescribes that "the Secretary shall establish by regulation a standard numbering system for vessels." In 1970, 26 states met the criteria for approval of standard numbering systems. In 1976, 51 state jurisdictions had met all of the established criteria for an acceptable boating program. (See attached charts) Now only four State jurisdictions, Alaska, Washington, New Hampshire and American Samoa, are outstanding in this regard.

As New Hampshire and Washington have ongoing boating safety programs, they participate partially in the financial grant program. Alaska and American Samoa, however, do not participate because of their inability or unwillingness to meet the matching fund requirements. The infusion of the Federal grant assistance was a major factor in generating this response toward a needed standardization. Because of the deadline imposed in Section 18, at least 25 states may not have enacted conforming amendments for uniform numbering systems this rapidly without the impetus provided by the financial assistance.

Section 37 of the Act directs that "the Secretary prescribe a uniform vessel casualty reporting system." All states with approved numbering systems have instituted reporting systems in accordance with our regulations. We feel that the accurate analysis of accident information is a necessary part of developing future regulations if we are to reduce fatalities as well as accidents and property damage. As one-third of all fatal accidents occur on waters of sole state jurisdictions, the Coast Guard must rely on the investigative practices of state and local officials. Here again, the Coast Guard has sought to develop an investigative model which the state law enforcement personnel can adapt and apply to their local needs. That analytical capability, which integrates and then advises the states on how to improve their own casualty reporting systems, is part of the continuing consultative role which the Coast Guard performs. In this regard, the state effort will still require considerable guidance.

At the outset of the grant program, the Coast Guard sought to bring about, under Section 18 of the Act, the maximum uniformity in state numbering systems. The states responded to this initiative accordingly. Now, we are engaged in an advanced phase, under Section 37 of the Act, which will enable significant development of state accident procedures, investigative techniques, data bases and general law enforcement.

State/Jurisdictions Meeting Numbering System and Program Content Requirements Under the Federal Boat Safety Act

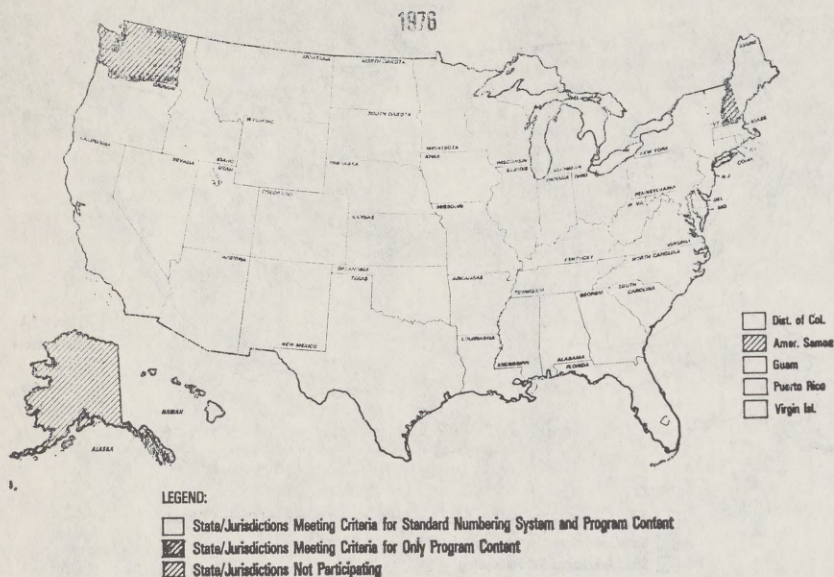


CHART 2

What has been the discernible result in monetary terms and results of the infusion of the Federal funds? In terms of generating state response chart I (attached) provides some indication of the multiplier effect. As 1974 represents the best year in which reliable data could establish a measurable basis, we have illustrated a comparison between 1974 and 1976. Between 1974 and 1976, the Federal grant funding to the states increased \$2 million from \$3.4 to \$5.5 million; the Federal appropriations, although significantly below the authorized annual level of \$7.5 million nevertheless generated an increase of \$11 million in state funding from \$25.7 million to \$36.7 million. The combined Federal-State funding increased from \$29.1 million to \$42.1 million.

During this same time frame, (see chart 2) the number of reported annual registrations continued a steady increase of about 8 percent per year, from a total of 6.8 million to a 1976 total of over 8 million recreational boats. At the same time, our analysis of the fatality rate indicates that there must be effectiveness in the overall effort of the state grant program. Returning to 1974, our base year for comparison, it is obvious (see again enclosure 1, chart 2) that the high fatality rate of 1754 in 1973, was partially the result of significant improvements in the Federal-State casualty reporting system. Prior to that time, because of the lead time necessary to develop reporting reliability, fatality data cannot be considered to accurately portray actual conditions. Nevertheless, it can at least be postulated that the 27.9 percent reduction from 1973 to 1976 was partially the result of the overall Federal-State effort which began in 1971, and had attained a significant impact stage at that time.

From 1974 to 1975, that overall reduction was sustained despite the continuing increase in the recreational boating market and the resultant increase in the number of registrations which have been increasing on an average 8 percent annual basis. The 1 percent increase from 1446 to 1466 must take into account the increasingly more reliable casualty reporting systems. Reviewers of these data

should not succumb to the "fallacy of reductionism," often cited as the basic weakness of cost-effectiveness theory. Rather, reviewers should concentrate on the hard facts: more reliable data, certainly more boats, and obviously a sustained declining death rate.

In 1976, the number of fatalities declined to 1264, representing a 13.8 percent decrease from 1975 (or 12.6 percent from the base year of 1974). Again, precise correlation is difficult with the range of economic (inflation, higher gas taxes, boat usage, deferred usage), seasonal variations, weather, and other relevant factors; but better reporting figures, combined with higher numbers of boat sales and registrations, still stand in the face of declining casualties. Although we have refined our data bases, by means of a nationwide survey which considers exposure hours per registered boat and utilizes this variable in our total planning effort, the lack of sufficient precision in this regard necessitates that we measure our progress with primarily the increase in annual registrations.

So, we return to the bottom line—fewer fatalities, which is certainly encouraging. At the present time one useful measure of effectiveness is the annual number of fatalities per 100,000 boats. In 1974, the fatalities per registered boat was .0002 (or at 2 per 10,000); in 1976, that index approximates to .0001 (or at 1 per 10,000). That 50 percent reduction is also some acceptable barometer of effectiveness. In terms of viewing the impact of more successful state programs, we have selected a cross-section of seven states for comparison; four with large boating populations including a Great Lakes state, two smaller coastal states and one Gulf state. The seven reflect wide geographic distribution, and with differing increases in the annual number of registrations, but ranging from 5 percent to 13.5 percent and averaging 7.1 percent—California, New York, Louisiana, Michigan, Texas, South Carolina and Virginia. All but one state increased funding in a range from 9 percent to 382 percent. The state of New York, probably because of the severely austere budgetary climate, actually decreased its funding 38 percent. It must be noted, however, that New York had been one of the few states which had a well funded and effective state program prior to the federal grants, and thus has been able to continue to achieve results despite the reduced funding. In each of these states, there was a significant decrease in the number of reported fatalities from 1974 to 1976, whether we regard the direct percentage decrease of 30 percent or calculate the fatalities per registered boat, which results in a 61 percent decrease (see chart 3). The State of New York, as did three smaller states, experienced only a 5 percent increase in annual registrations. A key factor appears to be the overall increase in state gunding, which averaged 98 percent for the seven states as it responds to the increase in the boating registrations.

It is also useful to examine states (see chart 4) which indicate a counter pattern to the otherwise favorable trend. The states of Indiana, Mississippi, Arkansas, Oregon, Kentucky, North Carolina and Washington all fall into this category and comprise the state in the larger percentages of increased fatalities. These states also have generally smaller boat populations than states with favorable fatality trends, but have experienced larger increases in the number of annual registrations—ranging from 5 percent to 56 percent and averaging 23 percent. In each of these states there was a significant increase, in the number of reported fatalities from 1974 to 1976, with a direct percentage increase of 65 percent or a 24 percent increase in the fatalities per registered boat. The key difference between the two groups of states, in our judgment, appears to be the ratio of state funding to the annual increases in boating registrations. In the seven states with declining fatalities, state funding increased an average of 98.9 percent compared to a 71 percent increase in the selected states with increased fatalities. This lesser expenditure response was compounded by an average 23 percent increase in the annual registration of the higher-fatality states, or over three times as large as the 7.1 percent increase in the reduced-fatality rate states. The reduced fatality states show a 61 percent average reduction rate versus a 24 percent increase in fatalities rate for the higher fatality states. A variety of statistical configurations and cost-effectiveness theories could be constructed and charted. However, the key elements are more boats, more boaters, and a range of funding responsiveness on the part of state boating officials which resulted in lives saved. The Federal infusion and generation of a multiplier effect upon the states, regarded in proportion to the rate of increase in the boat population, has some distinct bearing on the reduction of fatalities.

Although it is not included in the financial assistance program, the effect of the Coast Guard's national manufacturers' standards program will require con-

siderable lead time to measure its overall impact in relationship to other education and enforcement prevention strategies. If we consider that manufacturing standards apply only to new boats and the newer watercraft may be to some extent less accident-prone than older motorboats, this would admit that the newer boater might also be less experienced and more accident-prone.

Enclosure (1)

Comparison of 1974 and 1976 Federal and State Funding for Boating Safety Grant Program Administered Under the Federal Boat Safety Act

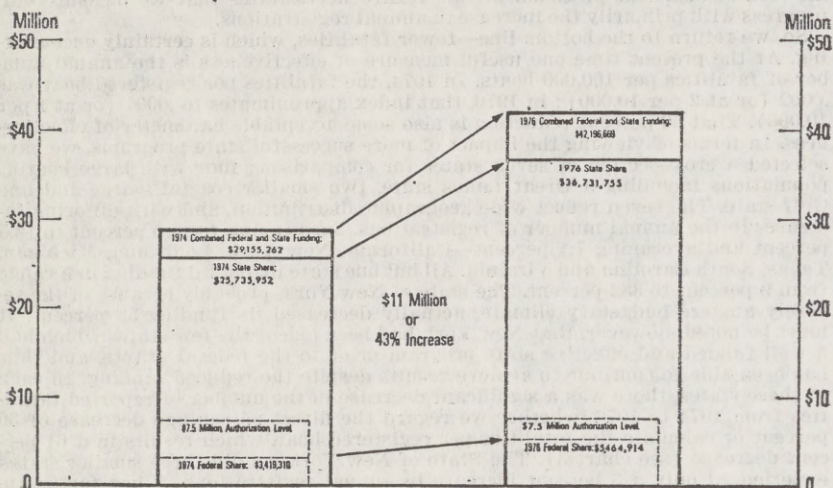


CHART 1

Annual Fatalities in Recreational Boat Accidents 1971-76 Juxtaposed with Estimated Number of Annual Boat Registrations

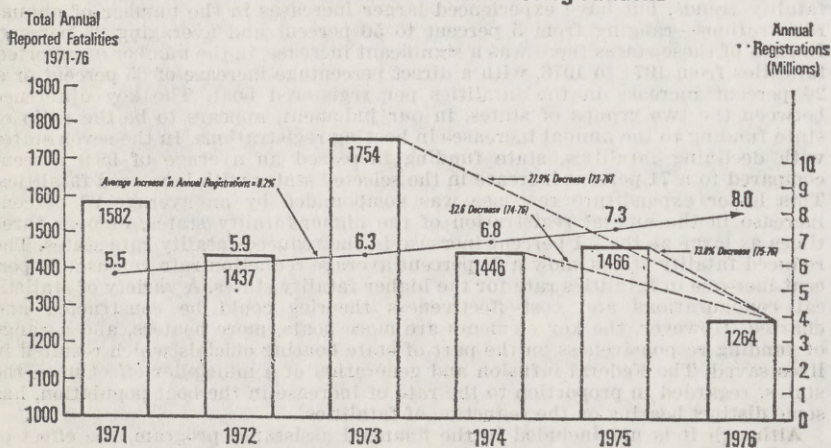


CHART 2

Annual Reported Fatalities in Recreational Boat Accidents 1974-1976 for 7 Selected States with Decreasing Fatalities

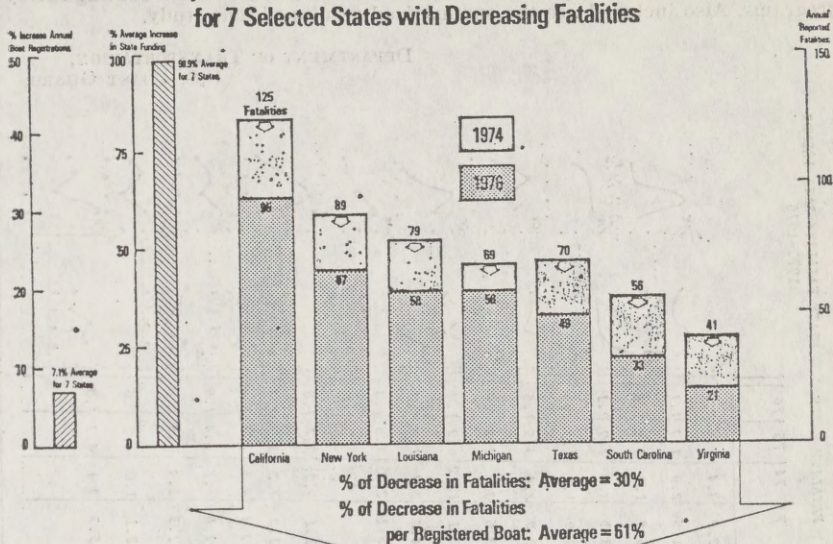


CHART 3

Annual Reported Fatalities in Recreational Boat Accidents 1974-1976 for 7 Selected States with Increasing Fatalities

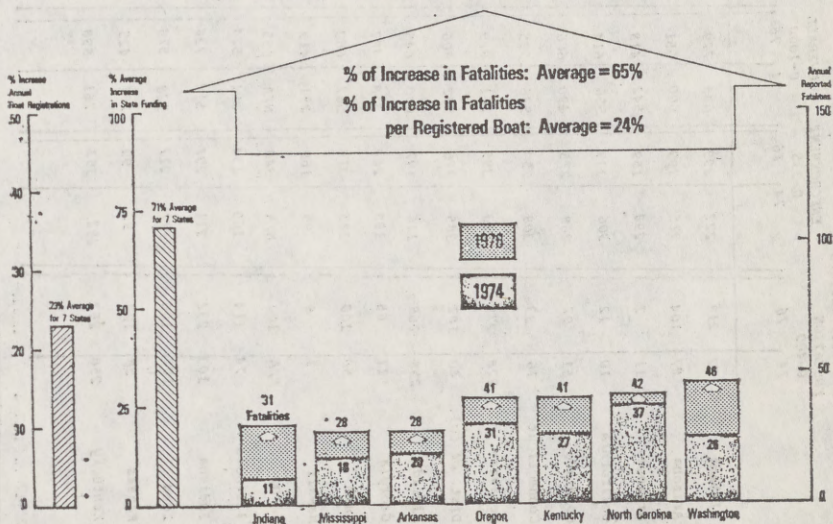


CHART 4

Attached is Commandant Notice 16750 which directed District Commanders to collect objective data and make subjective evaluations of state boating safety programs. Also included are the summarized results of that study.

DEPARTMENT OF TRANSPORTATION,
U.S. COAST GUARD.

Enclosure (3)

STATE FATALITY RATE TRENDS
1973-1976

	ACTIVITY INDEXES		ENFORCEMENT		OVERALL		EXPENDITURES		FATALITY RATES				
	74	76	0-335	0-1000	74	76	74	76	73	74	75	76	
Alabama	172	216	227	299	648	779	1,414	1,411	2.9	3.4	2.6	2.9	
Arizona	87	104	275	299	600	651	151.5	291.7	1.5	2.9	1.3	1.1	
Arkansas	11	7	298	159	542	418	186	197	5.9	1.9	1.8	1.8	
California	10	12	206	339	556	614	1,129	3,658.5	3.1	3.0	2.9	2.1	
Colorado	51	97	268	275	450	606	102	200.5	3.0	1.1	1.5	1.5	
Connecticut	16	33	308	250	536	505	363	497	2.8	2.4	3.5	1.5	
Delaware	228	279	233	385	711	929	140	277	3.6	0.7	2.8	.8	
Dist. of Col.	40	182	385	376	532	806	486.8	765.7	12.1	17.2	6.9	1.8	
Florida	258	268	116	197	600	645	1,094	1,857	4.4	2.7	1.8	1.8	
Georgia	11	65	198	268	358	487	157.4	2811.5	3.1	2.3	1.5	1.3	
Guam	50	100	385	314	567	660	103	154					
Hawaii	3	6	95	169	291	419	154	156.6	1.1	5.0	3.7	1.8	
Idaho	N/A	100	N/A	348	N/A	655	80	128	1.2	2.2	2.2	0.9	
Illinois	74	114	169	154	391	524	921	688	3.4	2.1	2.5	1.6	
Indiana	103	232	211	297	514	738	586	626	1.8	.7	1.4	1.9	
Iowa	102	106	187	217	528	578	659.7	719	1.3	1.4	.8	1.8	
Kansas	58	188	96	99	287	425	129.6	144.4	2.1	1.0	2.0	.6	
Kentucky	250	252	282	383	761	898	411	655	5.3	3.1	4.3	1.0	

Enclosure (3)

ACTIVITY INDEXES
EDUCATION

ENFORCEMENT
0-375

OVERALL
0-1000

EXPENDITURES
\$1,000's

FATALITY RATES

STATE FATALITY RATE TRENDS
1973-1976

	ACTIVITY INDEXES EDUCATION		ENFORCEMENT 0-375		OVERALL 0-1000		EXPENDITURES \$1,000's		FATALITY RATES				STATE FATALITY RATE TRENDS 1973-1976			
	74	76	74	76	74	76	74	76	73	74	75	76	73	74	75	76
Louisiana	70	76	135	195	380	458	724	900	4.9	5.1	2.9	2.5				
Maine	13	13	77	117	281	317	144	258	1.4	2.9	1.2	1.9				
Maryland	257	259	286	306	755	787	1,049	3,615	4.2	4.1	1.5	2.4				
Massachusetts	140	129	183	164	540	494	548	650	3.4	2.2	3.0	1.1				
Michigan	83	137	289	366	503	734	2,232	2,490	1.6	1.3	1.2	.9				
Minnesota	98	36	95	312	383	583	1,939	1,571	1.0	1.2	1.3	1.1				
Mississippi	270	204	284	301	661	768	253	499.6	4.3	2.5	3.15	3.2				
Montana	N/A	87	N/A	338	N/A	642	93	171	8.4	4.8	4.7	4.4				
Missouri	218	383	211	253	662	901	554	718	1.2	1.8	1.0	1.4				
Nebraska	116	144	265	287	564	586	85.5	159.5	3.6	.6	.8	.5				
New Jersey	150	200	358	316	752	781	1,192	1,338	2.3	1.7	2.9	1.8				
New Mexico	109	101	129	171	415	507	75.6	131.2	1.1	0	2.5	1.2				
New York	77	72	262	274	546	503	1,090	771	3.6	2.5	2.4	1.8				
Nevada	99	64	297	376	575	656	194	249	2.4	1.0	1.8	1.7				
New Hampshire	N/A	253	N/A	378	N/A	859	300	311	10.5	8.6	5.8	0				
North Carolina	150	240	218	201	651	596	776	968	4.9	3.3	4.3	2.6				
North Dakota	N/A	66	N/A	212	N/A	525	59	99	1.5	4.1	0	0				

ENCLOSURE (3)

ACTIVITY INDEXES	EDUCATION 0-400		ENFORCEMENT 0-335		OVERALL 0-1000		EXPENDITURES \$1,000'S		FATALITY RATES				STATE FATALITY RATE TRENDS 1973-1976
	74	76	74	76	74	76	74	76	73	74	75	76	
Ohio	178	182	277	385	690	831	779	1,254	4.6	2.6	2.4	1.4	
Oklahoma	50	100	140	235	390	555	424.5	591.8	1.0	1.4	1.4	1.0	
Oregon	91	130	341	385	657	678	424.5	791.5	1.7	3.1	3.1	3.6	
Pennsylvania	112	300	322	372	680	926	1,577	1,814	2.3	2.0	2.6	1.2	
Puerto Rico	150	300	266	203	621	691	144.8	228	2.0	2.9	9.1		
Rhode Island	N/A	338	N/A	217	N/A	760	89.8	236	4.0	1.6	0.9	1.3	
South Carolina	15	16	248	354	449	601	247.5	968	4.5	3.9	3.6	2.1	
South Dakota	61	66	221	144	472	437	63.	41.5	3.6	1.0	0.4	1.3	
Tennessee	90	141	78	256	385	609	373.2	901.8	2.7	2.0	1.6	1.4	
Texas	182	216	233	255	549	611	3,694	4,932	2.1	1.4	1.5	1.0	
Utah	40	41	365	325	554	641	241.5	442.5	2.1	2.7	4.1	.2	
Vermont	60	346	330	274	583	868	102	144	5.8	.9	3.4	.8	
Virginia	167	188	190	118	569	442	353.5	403	3.4	3.3	3.2	1.6	
Virgin Islands	58	188	348	385	536	635	75.3	147.6	3.1	2.8	3.5	2.2	
Washington	N/A	116	N/A	196	N/A	491	166	303	1.7	2.0	2.8	3.2	
West Virginia	158	296	323	261	713	818	125	132	9.2	5.2	4.5	2.9	
Wisconsin	25	45	180	285	433	588	728.8	901.8	1.5	.9	1.0	.9	
Wyoming	85	101	385	296	691	521	92.7	77.9	16.4	6.8	6.9	5.8	

4-10-76

STATE FATALITY RATE TRENDS 1973-1976

COMMANDANT NOTICE 16750

Subject: Evaluation of State Boating Safety Programs.

1. *Purpose.* This Notice directs that certain data be collected by each District Commander for an evaluation of State boating safety programs.

2. *Background.* In 1974 the Coast Guard evaluated State boating safety programs to determine eligibility for full participation in the financial assistance program authorized by the Federal Boat Safety Act of 1971 and subsequent amendments. That effort is being repeated this year, and possibly next year, using a point system criteria similar to that of 1974 but modified after considering critical comments received on the 1974 criteria from State Boating Law Administrators and district boating safety staffs. An additional purpose of gathering this data is to determine the need for further extension of Federal financial assistance to State boating programs beyond FY 1978.

3. *Discussion.* Enclosure (1) (State Boating Safety Program Checklist) lists that information for each State which must be collected to evaluate the State's boating safety program. Enclosure (2) (Definition of Terms) provides additional information needed to complete the State Checklist. Enclosure (1) is used to report program activity, but additional input from the district is needed to evaluate quality. Enclosure (3) (District Checklist for State) will be used by the District Commander to assign quality point factors to those aspects of the State program listed. Enclosure (4) (Explanation of Formulas) is provided for the District Commander's information. This Enclosure explains the formulas used and shows the maximum points for each area. Also in Enclosure (4) are explanations of the quality factors assigned by each district. The information contained in Enclosure (4) is not intended to be released to the States in order to avoid any influence which knowledge of the criteria may have on the information reported. States will be advised at a later date of the results of the evaluation and areas of improvement indicated.

4. *Action.* District Commanders shall:

a. Collect the information listed on the State Boating Safety Program Checklist, (Enclosure (1)), reviewing the information provided for consistency with what is known of State practices.

b. Complete the District Checklist (Enclosure (3)) following guidelines contained in the Explanation of Formulas (Enclosure (4)).

c. Return the completed State Boating Safety Checklist and District Checklist for each State in your District to the Commandant (G-BLC) prior to 1 March 1977.

5. *Cancellation.* This Notice is cancelled on 1 March 1977.

D. F. LAUTH.

ENCLOSURE (1) COMMANDANT NOTICE 16750

State of

STATE BOATING SAFETY PROGRAM CHECK LIST

P1 Patrol Activity:

- (a) No. of Boating Safety Patrol Officers
- (b) (1) Multi-purpose patrol officers
- (2) % of time spent on Boating Safety

P2 Equipment:

- (a) (1) Radio equipped boats
- (2) % of time in Boating Safety
- (b) (1) Non-radio equipped boats
- (2) % of time in Boating Safety
- (c) (1) Aircraft
- (2) % of time in Boating Safety
- (d) (1) Patrol vehicles
- (2) % of time in Boating Safety

P3 Search & Rescue:

Number of incidents in which boaters were assisted by state or local agencies.

P4 Accident Report Review & Investigation:

- (a) Accidents reported to the State (BAR submitted)

- (b) Accident reports reviewed and cause assigned
- (c) Accidents investigated
- P5 Initial Training:
 - (a) Number of patrolmen who have received at least one 32 hour course in Boating Safety
 - (b) Patrolmen who have attended NBSS
- P6 Annual Training:
 - Number of patrolmen with a minimum of 8 hr/yr training beyond initial training dedicated to Boating Safety.
- P7 Public Education:
 - (a) Adults (over age 17) who received state sponsored courses 4 hours or more in length.
 - (b) Adults (over age 17) who received state recognized courses 4 hours or more in length from public service or boating organizations.
- P8 School Programs:
 - (a) Elementary & High School students who received state sponsored or recognized boating safety education courses of at least 4 hours in length.
- P9 Education by Boating Safety Officers:
 - Number of hours spent by Boating Safety Patrol Officers in public education activities.
- P10 Safety Material Distribution:
 - (a) Boating safety pamphlets distributed
- P11 Media:
 - (a) TV spots distributed
 - (b) TV stations distributed to
 - (c) Radio spots distributed
 - (d) Radio stations distributed to
 - (e) News releases
 - (f) Newspapers distributed to

Note: With the exception of P5 all questions refer to calendar year 1976.

(No further monies or other benefits may be paid out under this program unless this report is completed and filed as required by statute (46 U.S.C. 1475).)

ENCLOSURE (2) COMMANDANT NOTICE 16750

DEFINITION OF TERMS

P1 Boating Safety Patrol Officer.—Any patrolman who has spent, during the past calendar year, more than 200 hrs in on-the-water patrols devoted solely to boating safety. This includes a seasonal or part-time patrolman if his sole mission area is boating safety and he has spent more than 200 hours in on-the-water patrols. One-half of the travel time to and from patrol sites may be counted towards the 200 hour minimum).

Multi-purpose Patrol Officer.—A patrol officer who, during the past calendar year, has spent more than 200 hours in on-the-water patrols including, but not limited to, boating safety functions.

P2 Equipment.—All equipment counted must be owned or leased by the State or a political subdivision thereof. Not included are boats or vehicles used only for training or demonstrations.

Radio-equipped Boats.—This includes boats on which two-way radios are permanently installed or on which portable radios are normally carried and used.

Patrol Vehicles.—Shore patrol vehicles performing boating safety functions. This does not include vehicles the only purpose of which is to transport boats and personnel to a patrol site.

Accident Reports Reviewed and Cause Assigned.—Those BAR's reviewed by the State on which the State has made a determination as to the cause of the accident.

P7 State Sponsored Course.—A boating course for which the state is responsible for the conduct and content of the course. This includes correspondence courses conducted by the State.

State Recognized Course.—A boating safety course taught within the State by a public service or boating organization for which the State, although not responsible for the conduct of the course, accepts the course as adequate to meet the basic educational needs of the boater.

P9 Public Education Activities.—Includes presentations to civic organizations, boat show demonstrations or exhibits, formal classes, and participation in radio and TV discussion programs. This includes participation in State spon-

sored or State recognized courses. This does not include any on-the-water education oriented boardings.

ENCLOSURE (3) COMMANDANT NOTICE 16750

District Check List for State of
Quality Factors Assigned: _____

P1 Patrol Activity	f= _____
Explanation:	
P2 Equipment	f= _____
Explanation:	
P4 Accident Report and Investigation	f= _____
Explanation:	
P5 Initial Training	f= _____
Explanation:	
P7 Public Education	f= _____
Explanation:	

Enclosure 4 COMMANDANT NOTICE 16750

Explanation of Formulas

P1 Patrol Activity

$$P1 = (f) \frac{(200,000) (L1 + \%L2)}{\# \text{ of boats}}$$

L1 = Number of Boating Safety Patrol Officers. A Boating Safety Patrol Officer is any patrolman who has spent more than 200 hours in on-the-water patrols devoted to Boating Safety. This includes seasonal and part-time patrolmen as long as their mission area is Boating Safety, and they spend more than 200 hours in on-the-water patrols. (one half of the off-water travel time involved may be included in this on-the-water time determination.)

L2 = Number of multi-purpose patrol officers who spend more than 200 hours in on-the-water patrol, not limited to, but including, boating safety functions.

% = That percentage of time the average officer counted in L2 spends on Boating Safety. See COMMANDANT NOTICE 7040 dated 15 July 1976.

(f) = Quality evaluation of State water safety patrol assigned by the district of a value between .7 and 1.3 where:

0.7 = Water safety officers "show the flag" but do not pursue an active law enforcement or inspection program. Very heavy reliance on BOSDETS.

1.0 = In cooperation with BOSDETS an effective law enforcement and inspection program.

1.3 = A very effective law enforcement and inspection program with no need for BOSDET help or assistance.

A seasonal or part-time patrolman is weighed at the same level as a full-time patrolman. This tends to compensate for the patrol requirements of different zones of boater activity. A seasonal patrolman, active during the boating season, performs the same function in a State with a short season as does a full-time patrolman in a State with a long boating season when viewed in relation to boater activity.

To get the maximum score of 100, a State would need one boating safety patrol officer for each 2000 boats. The constant in the formula is then:

$$P1 = 100$$

$$L1 + L2 = 1$$

$$\# \text{ of boats} = 2000$$

$$100 = \frac{(K)(1)}{2000}$$

$$K = (100)(2000) = 200,000$$

Example:

$$L1 = 8$$

$$LE = 3.$$

$$X = 15\%$$

$$\# \text{ of boats} = 24,764$$

$$P1 = \frac{(200,000) (8 + (.15)(3))}{24,764}$$

$$P1 = \frac{(200,000) (8.5)}{24,764}$$

$$P1 = 69$$

P2 Equipment

$$P2 = \frac{(f) (2XB1) + B2 + (2A) + V (200,000)}{\# \text{ of boats}}$$

B1 = # of boats that are radio equipped multiplied by the percentage of time on the water devoted to boating safety. This applies only to boats owned by a State or political subdivision thereof. The radio could be any two-way radio, installed or portable.

B2 = # of boats not radio equipped multiplied by that percentage of time on the water devoted to boating safety. This does not include boats used only for training or demonstrations. Boats must be owned by the State or a political subdivision thereof.

A = # of Aircraft multiplied by that percentage of air time devoted to boating safety. Aircraft must be owned by the State or a subdivision thereof and be available for off-shore search and rescue work.

V = # of other patrol vehicles multiplied by that percentage of time in use which is for boating safety. This does not include vehicles, the only purpose of which is to transport boats and personnel to a patrol site. It does include shore patrol vehicles if performing a boating safety function.

f = quality factor assigned by the Coast Guard District and can be any value from 0.7 to 1.3 where:

0.7 = Equipment inadequate overall

1.0 = Equipment adequate for minimum performance of required missions

1.3 = Quality of equipment substantially improves the effectiveness of the boating safety program

To get the maximum score of 100 a State must have at least one boat or vehicle for every 2000 boats. The constant used is then:

$$P2 = 100 = \frac{(K) (1)}{2000}$$

$$K = 200,000$$

Example:

A State has:

- 33 full-time radio-equipped boats
- 29 radio-equipped boats used 35% for boating safety
- 11 full-time nonradio-equipped boats
- 68 non-radio equipped boats used 25% for boating safety
- 3 aircraft used 35% for boating safety
- 39 vehicles used full time for boating safety
- 50 vehicles used 10% for boating safety

Most vehicles are well equipped and used effectively, several much better than average.

$$\# \text{ of boats} = 251,246$$

$$B1 = 33 + (.35)(29) = 43.15$$

$$B2 = 11 + (.25)(17) = 15.25$$

$$A = 0 + (.35)(3) = 1.05$$

$$V = 39 + (.10)(50) = 43$$

$$F = 1.1$$

$$P2 = \frac{(1.1)(200,000) [(2)(43) + 15 + (2)(1) + 43]}{251,246}$$

$$P2 = 128 = \text{Max. score } 100$$

P3 Search and rescue

$$P3 = \frac{30 S}{D + S}$$

S = # of boater assistance calls

D = # of boating fatalities

Assistance calls include any efforts by State or local officials to assist boaters in distress situations.

The maximum score of 30 points would be attained by a State with no fatalities. (i.e., a State which rescues every distressed boater). The larger the number of assists in relation to fatalities, the higher the score.

Example:

If a State has 4509 SAR cases, and 318 fatalities then:

$$S = 4509$$

$$D = 318$$

$$P3 = \frac{(30)(4509)}{(4509+318)} = 28$$

P4 Boating Accident Report & Investigation

$$P4 = (f) (16.5) \frac{RR}{R} + \frac{15RI}{R}$$

R = The number of boating accidents reported to the State and BAR filed.

RI = The number of State or local investigations into boating accidents.

RR = The number of boating accident reports reviewed by the State and a finding of cause determined by the State and listed on the report.

f = quality factor assigned by the district of any value from 0.7 to 1.3 where:

0.7 = investigations are superficial, non-boating safety oriented

1.0 = investigations adequate for valid cause determination

1.3 = indepth investigations into all factors surrounding accidents

To receive the maximum score of 100, a State must review all accident reports and investigate 1/3 of all accidents reported. In the formula, an investigation is weighed at 5 times a review. The constant to be used is then:

A State with 3 accidents reported must review all three and investigate one.

$$100 = K \frac{3}{3} + (5) \frac{(3)(1)}{(3)} = K (1+5)$$

$$K = 100/6 = 16.6 \approx 16.5$$

Example:

If a State had 112 accidents reported

112 reports reviewed ..

40 accidents investigated, but investigations are superficial, non-boating safety oriented, then the score would be

$$P4 = (.7)(16.5) \left(\frac{112}{112} + \frac{(15)(40)}{112} \right) = 73.$$

But, if the same State investigated only 20 accidents, but in depth, then

$$P4 = (1.3)(16.5) \left(\frac{112}{112} + \frac{(15)(20)}{112} \right) = 80$$

P5 Initial Training

$$P5 = \left[\frac{(90)(f)(L1)}{L} \right] + (2)(L2)$$

L = # of patrolmen with boating safety duties

L1 = # of patrolmen who have received a minimum 32 hour course in boating safety

L2 = # of patrolmen who have attended NBSS. (This does not have to coincide with initial training)

f = quality measure of State training course of a value from 0.7 to 1.3 assigned by the District in which:

0.7 = training inadequate overall

1.0 = training produces a well-informed patrolman competent in most areas of boating safety

1.3 = training of such superior quality that patrolmen are knowledgeable about boating safety and can be an effective force in promoting all aspects of the boating safety program.

Initial training must be consistent with an officer's first six months. On-the-job training does not qualify. The training course must be in an established, recognizable format. It could include Coast Guard conducted training.

To receive the maximum score of 90, a State must provide each patrolman with 32 hours initial boating safety training. For each officer who has attended the National Boating Safety School, the State receives an additional 2 points.

Example:

A State has 181 patrolmen of which 6 have received initial training of 32 hours in boating safety. That training is strictly law enforcement and spectator control oriented and ignores all other aspects of the boating safety program. No patrolmen have attended NBSS.

$L = 181$

$L1 = 6$

$L2 = 0$

$f = .8$

$$PS = (90)(.8) \frac{6}{181} + (2)(0) = 2$$

Example:

A State has 70 patrolmen of which 51 have received initial training of 32 hours in boating safety. That training touched all areas of boating safety, however, accident investigation was touched only lightly. One patrolman has attended NBSS.

$L = 70$

$L1 = 51$

$L2 = 1$

$f = 1.1$

$$PS = (90)(1.1) \frac{51}{70} + (2)(1) = 74$$

P6 Annual Training

$$P6 = \frac{L1}{L} (45)$$

L = # of patrolmen with boating safety functions

$L1$ = # of patrolmen with a minimum of 8 hour/year formal boating safety training beyond the initial 32.

To receive the maximum score of 45, a State must provide refresher training for all patrolmen.

Example:

A State has 54 patrolmen and provides each with 16 hours annual training.

$$P6 = \frac{54}{54} (45) = 45$$

P7 Public Education

$$P7 = (f) (1125) \frac{E1 + E2}{\# \text{ of boats}}$$

$E1$ = # of adults (over age 17) who received State-sponsored boating safety courses of 4 hours or more in length.

$E2$ = # of adults (over age 17) who received State-recognized boating safety courses of at least 4 hours in length from a boating club or organization.

f = quality of State course. Assigned by District a value from 0.7 to 1.3 where:

0.7 = State-sponsored course is grossly inadequate.
Information provided is often in error.
Instructors are unfamiliar with the subject.

1.0 = State-sponsored course meets the needs of the boater, covering safe boating procedures and the applicable Rules of the Road.

1.3 = State-sponsored course covers those boating skills needed by the student thoroughly and in depth.

To receive the maximum score of 225, a State would have to educate one person for every five boats yearly. To obtain the constant to be used:

$$225 = (K) (1)/5$$

$$K = 1,125$$

Example:

A State with 135,000 vessels has had 5,000 persons attend State-sponsored or accepted courses. The course meets the needs of the boater, providing him with information on safe boating practices and rules of the road.

$$E1 + E2 = 5,000$$

$$f = 1.0,$$

$$\# \text{ of boats} = 135,000$$

$$P7 = (1.0) \frac{(1125) 5000}{135,000} = 42$$

P8 School Programs

$$P8 = 750 \frac{S}{\# \text{ bts}}$$

S = # of elementary & high school students educated in a State-sponsored or recognized boating safety program. (4 hour minimum course)

To receive the maximum score of 75 a State must educate 1 student for every 10 boats.

Example:

A State has educated 750 students in school boating safety programs. That State has 43,000 boats.

$$P8 = (750) \frac{(750)}{43,000} = 13$$

P9**Education by Boating Safety Officers**

$$P9 = \frac{15,000 E}{\# \text{ boats}}$$

E = Number of man-hours spent by boating safety patrol officers in public education activities. This does not include any on-the-water education oriented boardings. It does include presentations to civic organizations, boat show demonstrations or exhibits, formal classes, and participation in radio and TV discussion programs.

To receive the maximum score of 100, State boating safety patrolmen must spend one man-hour per 150 boats in public education activities.

Example

A State with 4 full time officers has devoted 2,080 man-hours to education activities. The State has 354,155 boats.

$$P9 = \frac{(15,000)(2,080)}{354,155} = 88$$

$P10$ = Safety Material Distribution

$$P10 = (f) \frac{25D}{\# \text{ of boats}}$$

D = # of pamphlets or other pieces of literature distributed.

f = quality factor of between 0.7 and 1.3 assigned by the District where

0.7 = literature of poor quality with incomplete information and distributed haphazardly

1.0 = literature adequate with sound distribution

1.3 = high quality literature which stimulates boating safety awareness with distribution to all boaters or potential boaters.

To receive the maximum score of 40, a State must distribute 1.5 pieces of boating safety literature per boat.

Example:

A State with 482,844 boats has distributed 450,000 pamphlets. Pamphlets review the states boating laws and federal requirements and are distributed through boat shows, marinas, and boat registrations.

$$P10 = (1.1) \frac{(25)(450,000)}{482,844} = 26$$

$P11$ Media

$$P11 = (425,000) \frac{4 \frac{(TVM)(TVU)}{TV} + 2 \frac{(RM)(RV)}{R} + \frac{(NR)(CNV)}{N}}{\# \text{ of boats}}$$

TVM = # TV messages

TVU = # of TV stations distributed to

TV = # of TV stations in the State

RM = # of radio messages

RV = # of Radio stations distributed to

R = # of Radio stations in the State

NR = # of newsreleases

NU = # of newspapers distributed to

N = # of newspapers in the State

To receive the maximum score of 20 a State would have to provide:

- 1 Boating safety message to each TV station in the State, and
- 2 Boating safety messages to each radio station in the State, &
- 4 News releases to each newspaper

per every 150,000 boats in the State.

Example:

No media program

p11 = 0

P12 Administration

This value, no greater than 75, is assigned by the district based on its evaluation of the overall effectiveness of the administration of the State boating safety program.

Factors which should be considered, with recommended values, include:

- The control of the SBLA over the program 0-30 pts
- Management of the Federal Grant Funds 0-10 pts
- Efforts undertaken to come into full compliance with the standard numbering system 0-10 pts
- Effectiveness of education coordination 0-20 pts
- SAR organization; assignment of SAR coordinator 0-5 pts
- Aggressiveness of law enforcement programs 0-15 pts
- Participation in NASELA, regional organizations, district seminars 0-10 pts

The District may use any combination of these values, or may assign points in other areas which reflect the administration of the State program.

P10 Safety Material Distribution

f= _____

Explanation:

P12 Administration

P 12= _____

Explanation:

Senator GRIFFIN. It is my understanding that Michigan has, relatively speaking, an excellent State boating safety program. What has been the Coast Guard's impression of Michigan's boat safety effort?

Admiral SILER. In a subjective evaluation of Michigan's boating safety program made by the Ninth Coast Guard District in early 1977, the State received the highest possible marks in all areas.

In the first years after the passage of the Federal Boat Safety Act of 1971, Michigan brought its law into compliance with Federal standards. Emphasis was then placed on improving professional knowledge in boating safety. To this end, in 1974 the Coast Guard worked with the State in providing training to 98% of all Michigan Sheriff Marine Patrol officers and in 1975 to 98% of all State Department of National Resources officers. In 1976, all new and remaining officers were trained and some accident investigation instruction was introduced. Equipment was upgraded to conform with Coast Guard Auxiliary standards. Accident investigation and reporting showed dramatic improvements. As the Ninth CG District reported in early 1977:

"The bottom line results from 1972 through 1976 are an increase in compliance (with boating safety laws) from 18% to 92% and a fatality index drop from 19.0 to 7.7 (per 100,000 boats)."

Senator GRIFFIN. Statistically speaking, is there any evidence that boating safety has improved during the last five years of Federal assistance to State recreational boating programs?

Admiral SILER. There is positive evidence that boating safety has improved during the last five years as manifested in the fatality rate per 100,000 boats. This rate per year is as follows:

Year	Fatalities	Coast Guard estimate of boats (millions)	Fatality rate per 100,000 boats
1973.....	1,754	9.60	18.3
1974.....	1,446	10.75	13.5
1975.....	1,466	11.80	12.4
1976.....	1,264	12.75	9.9
1977.....	1,312	13.60	9.6

Senator GRIFFIN. It appears that Federal-State cooperation has proven highly successful in this particular area. Do you think it is advisable to terminate this joint effort in view of the relatively small amount of Federal funds involved?

Admiral SILER. The financial assistance program has been vital in meeting the intent of Congress in that it provided the incentive to the States to develop acceptable boating safety programs, and to assume a major share of what is logically and statutorily a joint responsibility. At this point, we should be able to phase out the Federal assistance and expect the States to provide the necessary funding through their own revenues. As the program is phased out, the States will be encouraged to continue their boating safety responsibilities. For our part, the Coast Guard has no intention of diminishing the cooperative efforts in boating safety between the Federal Government and the States. In my letter of 21 January to the State Governors advising them of the prospective termination of Federal financial support, I wrote:

"The phase out of direct financial assistance does not mean that the Coast Guard is lessening its concern for boating safety. To the contrary, we will continue to pursue all mandates of the Federal Boat Safety Act. We sincerely hope to maintain our close working relationship with your State. We will, as before, offer training to your boating safety personnel and provide other assistance as our resources permit. More than ever, we see a need to work closely with your State Boating Law Administrator and the National Association of State Boating Law Administrators in continuing to achieve our mutual goals."

REPLACEMENT ICEBREAKERS

Senator GRIFFIN. How much money will the Coast Guard need to procure a large icebreaker suitable for Great Lakes service? (Last year's Coast Guard authorization bill for fiscal year 1978 earmarked \$60 million for this purpose.)

Admiral SILER. You should be aware that the first reasonably useful estimated cost for budgetary purposes for the B-AL icebreaker will be developed in the course of the preliminary design which is currently in progress. However, based on the estimated displacement and the stage of our current design development, the acquisition cost would be about 90 million dollars.

Senator GRIFFIN. If sufficient funds were available and the Coast Guard decided today to procure a large icebreaker for Great Lakes service, when could we expect the vessel to be put into operation?

Admiral SILER. The Coast Guard is currently engaged in the B-AL design process, specifically the preliminary design phase. The present Implementation Plan Schedule calls for award of a contract about May 1981. Assuming a construction contract of about 4 years, the vessel would be delivered to the Coast Guard in early 1985. After delivery, a period of several months to a year will be necessary to allow for shakedown, testing and discrepancy correction before the vessel is ready for unrestricted operations, possibly during the winter of 1985-86.

Senator GRIFFIN. Do you see a point in the future when the Coast Guard would request funds for the procurement of a replacement for the *Westwind* or the *Mackinaw*?

Admiral SILER. The B-AL is planned as a replacement for *Westwind*, and it is anticipated that appropriations will be requested to accommodate the Implementation Plan Schedule. The *Mackinaw* does not require replacement in the near future. Our present planning is that *Mackinaw* should be capable of continued effective operation until the year 2000.

Senator GRIFFIN. Last year, a record 60 million tons of cargo moved through the Montreal-Lake Ontario section of the St. Lawrence Seaway. In addition, last year, as the closing date for the Seaway arrived, an unprecedented number of ocean-going vessels remained in the Lakes despite the expensive possibility of being trapped for the winter. In fact, U.S. and Canadian authorities are for the

first time proposing detailed procedures for the annual closing of the St. Lawrence Seaway in order to avoid the jam of ships that has developed in the past. At last year's Coast Guard authorization hearing (April 25, 1976, page 280) the Coast Guard testified that you kept channels on the Lakes open wherever operators wanted to operate. Doesn't the last minute traffic jam at the Seaway indicate to you that many operators want to stay on the Lakes as long as possible and that if year-round Great Lakes navigation were available, many carriers would take advantage of that opportunity?

Admiral SILER. Certainly there are indications that there is potential for additional traffic on the Great Lakes-St. Lawrence Seaway during the winter season. However, the situation which occurred at the end of the last season in the St. Lawrence Seaway was probably a result of a combination of factors including not only the desire for additional operations, but also a reflection of specific conditions this year in which more ships than normal were in the Great Lakes due to abnormally high demands for the import of steel and the export of grain.

COAST GUARD USE OF AVAILABLE DOD SAR ASSETS

Question. The GAO report stated that of the 8,734 Maritime SAR missions flown by CONUS based SAR aircraft during fiscal year 1975, the Coast Guard flew 8,501 and 18,040 of the 21,655 hours flown. These figures mean the Coast Guard flew 97 percent of the Maritime SAR missions flown in that fiscal year. The report also shows that DOD SAR aircraft during that fiscal year flew a total of 13,606 hours on other than SAR and SAR training flights, representing a potential availability for SAR mission use.

Further, the report states that the Air Force, Navy, and Coast Guard together flew an estimated 27,864 SAR training flight hours, many by already qualified crews, during fiscal year 1975.

Finally, GAO identified over 2000 DOD CONUS based administrative and support aircraft, including over 440 C-130s like the Coast Guard long-range search aircraft, and several hundred DOD helicopters, that could be called upon to perform SAR missions.

Don't these figures represent a tremendous potential SAR resource that the Coast Guard could tap for SAR purposes? The fact that the Coast Guard flew 97 percent of all Maritime SAR missions flown from CONUS bases in fiscal year 1975 indicates that this potential SAR resource has gone virtually untapped. Why is that?

Don't these figures clearly mandate the need to establish greater coordination in the computation of SAR requirements and use of available SAR assets among the Coast Guard and DOD components? If not, why not?

Wouldn't such increased coordination lead to better and more economical SAR requirements determinations and use of available resources? What would be the effect on Coast Guard SAR aircraft and supporting resources requirements if the DOD Components flew more Maritime SAR missions?

Admiral SILER. The fact that the GAO reports that there are aircraft in the DOD agency inventories which could be available for SAR purposes does not mean that these aircraft are suitable for maritime SAR missions or that they are, in fact, available for such missions when needed. Many of these aircraft may be wholly unsuitable for overwater SAR operations because of lack of endurance, shortcomings in navigational capabilities, or lack of provisions to provide appropriate assistance to persons or property in distress.

The GAO appears to assume that the DOD-owned administrative and support aircraft are not fully employed for their intended purposes in the various armed services branches and that they would be available wherever or whenever needed to respond to maritime SAR. In fact, most of these aircraft were procured for specialized missions not related to SAR and in performing these missions they are made unavailable for SAR missions. The nature of search and rescue is such that a continuous readiness to respond must be maintained; any delay in providing assistance usually exacerbates the distress condition. The Coast Guard maintains this readiness posture; when DOD assets are available and appropriate, they are tapped for SAR purposes. This point has been stated both to the GAO and to the House Committee on Appropriations.

The mission and flight-hour statistics which the GAO uses in its report are prefaced by the statement that they are derived from Coast Guard coordinated maritime SAR missions. For this reason, the GAO is referring to only a portion

of the total SAR, maritime or otherwise, performed in the United States. Since the Coast Guard keeps records only of incidents in which its resources were deployed, the figures used by the GAO are dominated by Coast Guard actions. The SAR resources of the DOD agencies have not gone untapped, as stated by the GAO—they have merely gone unreported and therefore unnoticed by the GAO.

Since the figures used by the GAO are incomplete, they do not, in themselves, mandate a need to establish greater coordination in the computation of SAR requirements and the use of available SAR assets among the Coast Guard and DOD components. The coordination among those agencies is specifically provided in the National SAR Plan which delineates the areas in which each service will provide SAR services. The Air Force provides SAR coverage for its military operations and for the continental regions of the United States. The Navy and Marine Corps provide SAR coverage for their deployed units and for their military operations. The Army provides SAR support for its land operations. The Coast Guard is tasked by the plan and by Federal statute to provide SAR services in the maritime regions. Each component will assist the other when requested.

Increased coordination would perhaps lead to better response and flexibility in responding to specific SAR incidents. It would not necessarily reduce the need for Coast Guard resources which are deployed to provide continuous SAR response coverage to all areas of the United States. It should be remembered that if this service is to be continued despite DOD force realignments, base closures, or reallocation of aviation resources, any reduction in Coast Guard aviation resources could require a corresponding increase in the resources required by the DOD agencies to both meet their military requirements and provide dedicated continuous SAR coverage for the civilian population in the maritime region.

If the DOD components flew more maritime-region SAR missions as envisioned by the GAO, there would be no substantial effect upon Coast Guard aircraft and support requirements. Coast Guard aircraft are procured, deployed and operated to perform a great variety of Coast Guard missions. If not actually performing SAR missions, the aircraft are utilized to perform such tasks as law enforcement surveillance, fisheries surveillance, marine environmental protection surveillance, and operations in support of domestic and polar ice breaking.

WARTIME AVAILABILITY OF DOD ASSETS FOR CIVIL SAR MISSIONS

Question. Responding to the question "Do you feel the Coast Guard should be required to work with the branches of the Department of Defense in determining their SAR resource needs?" before the House Committee on Appropriations, Subcommittee on Transportation and Related Agencies Appropriations for 1979, the Coast Guard Commandant replied "* * * The search and rescue efforts of the Coast Guard and the other military agencies can be considered complementary, with each service specializing in an area of prime concern. The Coast Guard is statutorily required to provide search and rescue services to the general public in the maritime region of the United States. Since the resources of the Department of Defense military branches are acquired and assigned to fulfill their military missions, they are usually subject to deployment, reassignment, or mission realignment without regard to the impact upon the civilian community. The Coast Guard believes that it should continue to determine its search and rescue requirements based upon the continuing needs of the public and call upon the Department of Defense to augment our resources when certain situations warrant." However, the GAO report points out that the Navy has no plan to relocate its shore-based search and rescue helicopters in the event of mobilization. And, the Air Force, while planning to deploy some of its search and rescue units in the event of mobilization, plans to use its U.S. based SAR units as rotation bases for overseas units. This would indicate a continuing Air Force SAR capability during wartime. Both services told GAO representatives they knew of no plans to relocate their SAR assets during peacetime.

The use of DOD assets for 233 Maritime SAR missions totalling 3615 flight hours in fiscal year 1975 is indicative of their capability to do the job. Why, given the peacetime as well as continued wartime availability of DOD SAR assets, couldn't the Coast Guard work with the DOD branches in determining SAR resource needs?

The GAO report points out that the Coast Guard's projected total composite aviation requirements for fiscal year 1979 are over 89,000 flying hours. Over 39,000 hours of this total are projected for enforcement of laws and treaties and marine environmental protection, with 32,600 hours projected for SAR. Addi-

tionally, the Coast Guard could increase its aircraft utilization rate at any given time to provide additional flying for SAR.

Don't these factors represent a flying hour surge capability by the Coast Guard for SAR? If not, why not?

Admiral SILER. The GAO, both in its report and its questions, assumes the continued peacetime and wartime availability of DOD SAR assets which would be available for use. The Coast Guard experience has been to the contrary. At present, for example, the Coast Guard is faced with increasing its SAR readiness posture in Mobile, Alabama as a result of decreased Navy capabilities at Pensacola, Florida. Coast Guard plans to relocate its air station from San Francisco, California to Hamilton AFB this year were shelved when Hamilton AFB was deactivated. The Coast Guard is attempting to ensure its continued operations at Ellington AFB, Houston, Texas in the face of the Air Force withdrawal there. The Coast Guard assumed complete responsibility for operation of portions of Ramey AFB, Puerto Rico and Otis AFB, Cape Cod rather than relocate its operations as a result of base closures there. Within the past few years, this represents unplanned DOD realignments at twenty five percent of Coast Guard air stations. For this reason, among others, the Coast Guard is hesitant in depending upon continuing support by other DOD branches in meeting its statutory responsibility of providing SAR services to the citizens of the United States.

Instead, as provided for in the National SAR Plan, the Coast Guard works closely with DOD branches so that each can augment the other's assets when needed. Normal operations involve planning and coordination with DOD agencies to request specialized SAR resources when needed, such as helicopters with inflight refueling capabilities or the services of pararescuemen. Thus, there is in fact considerable coordination to allow cross-utilization of service-unique resources.

The GAO further states that the Coast Guard could increase its utilization rate at any given time to provide additional flying for SAR. It is true that from time to time overload SAR requirements may be met from available resources. On the whole, however, Coast Guard aircraft are funded, manned, and programmed to fly a specified number of hours each year. The GAO's contention that a surge capability is present in the Coast Guard is true on a short term, case-by-case basis; any long-term increase in SAR flight hours would produce a corresponding decrease in flight hours devoted to other purposes when the aircraft are fully utilized at their programmed rate. To increase the total number of flight hours flown by the Coast Guard would require additional equipment, funds and personnel.

USE OF COAST GUARD AND DOD SAR TRAINING HOURS FOR ACTUAL SAR MISSIONS

Question. The Coast Guard flew 28,925 training hours during fiscal year 1975 in fixed and rotary wing aircraft. GAO estimated Coast Guard SAR training hours in that fiscal year totalled 7,809. In addition, the Air Force flew 10,508 hours and the Navy an estimated 9,546 hours for SAR training during that time.

Many SAR training hours flown by the three services were to maintain pilot and crew proficiency in SAR capabilities.

GAO discussions with Air Force officials revealed that a minimum of 2500 SAR training flying hours and, depending on the type of missions, as many as 62,000 hours flown in fiscal year 1975 could have been attained through flying actual SAR missions.

Testifying before the House Appropriations Subcommittee on Department of Transportation and Related Agencies Appropriations for 1979, Admiral Siler said some Coast Guard SAR training is done on actual SAR missions. He indicated, however, that because of the varying types of search and rescue tasks performed by Coast Guard personnel a wide spectrum of training is required.

Coast Guard aviator training requirements as of 1975 called for 14 flight hours annually on upgrade syllabus and check flights, and an additional 46 hours to satisfy "operational proficiency requirements." (These requirements were for the average Coast Guard aviator qualified in one type of aircraft.) Operational proficiency requirements included such flying as day and night take-offs and landings, over water operations, instrument flying, SAR procedures, and emergency procedures.

In view of the large number of SAR training hours being flown by the Navy and Air Force, and recognizing the Air Force could feasibly satisfy as many as 60 percent of their SAR training requirements (depending on types of missions)

flying actual SAR missions, to what degree has the Coast Guard coordinated with the DOD branches to determine availability and use of these flying hours for SAR missions?

To what degree has the Coast Guard managed its own SAR flight training programs to attain as much training time as possible on actual missions? Can you assure this Committee that none of your scheduled SAR training flying hours can be picked up on actual SAR missions? Don't your aviators receive a wide variety of flying on actual SAR missions over the course of the year, including such activities as day and night take-offs and landings, over water operations, instrument flying, and SAR procedures?

Admiral SLER. Before answering the specific questions I must begin by addressing some of the statistics and apparent misconceptions cited above.

First, the aviator training quota of 60 hours per pilot is not a requirement. It is a planning factor used to predict the possible future training demand and is rarely attained by any but the newest aviators. Of the 46 hours cited for "operational proficiency", 12 hours are satisfied in a flight simulator (for helicopter pilots) and additional hours are satisfied during normal operational flights. The 14 hours per pilot associated with "upgrade and check flights" essentially equates to the 7,809 hours cited for SAR training. It is this type of flight training which does not lend itself to accomplishment on operational missions.

Second, SAR is a "demand" mission which requires that fully qualified pilots and aircrewmembers are always available to respond. Although the Air Force feels some of their training could have been accomplished on actual SAR, the fact is that when called they are not always available to respond, whatever the reason.

In response to specific questions, the Coast Guard does coordinate with DOD branches to determine availability of SAR resources. The availability of SAR hours cannot be scheduled since, as I mentioned, SAR is a demand business. This coordination also reveals that, in most cases, DOD branches are not available on a full-time (24 hour) basis. The fact that SAR hours are available at only certain times is of little use when a response is required at all times. Hence, the "capability" to utilize DOD SAR hours does not insure that they will in fact be available when actually needed.

As we have stated, both in prior testimony and in response to the GAO, actual SAR is not the appropriate environment for training. The training value of actual SAR accrues mainly to the copilot and the observing aircrewman who gain experience and knowledge by observation of the fully qualified aircraft commander and crewman.

I can assure you that the scheduled SAR training flights were so scheduled because they could be accomplished on actual SAR cases. To do so would have been an abrogation of our responsibilities to provide professional SAR assistance to the maritime community.

Since our aviators receive a wide variety of flying on actual SAR missions, the general flying skills are not practiced on SAR training flights. As I mentioned above, SAR training is limited to specific SAR skills and check flights.

To bring this issue into proper focus, consider yourself on a sinking boat, at night, in heavy seas and strong winds, having called the Coast Guard for assistance. Certainly you would expect (and hope) the aircrew responding to your distress is professional and well trained. You would not expect (and you would not get) a pilot or aircrewman who has never made a hoist in bad weather at night. This is hardly the time or place to be executing this hazardous (to both you and the aircrew) evolution without appropriate prior training. This is the type of dedicated SAR training which must be done before the distress occurs. The 7,809 SAR training hours equates to only 12 hours per pilot. I do not feel this is an excessive "overhead" for the services we render.

Question. Will the Coast Guard provide vessel traffic control systems in those ports that have significant traffic in LNG tankers and other hazardous cargoes?

Answer. The coast Guard has provided manned, active vessel traffic services (VTS) in five port areas: Prince William Sound, Puget Sound, San Francisco, Houston-Galveston and New Orleans. A sixth VTS is being provided for the Port of New York. In addition, certain parts of the Gulf Intra-coastal Waterway are being examined to evaluate the need for active vessel traffic service. Although other ports have been examined and are reevaluated at routine intervals, no other active VTSs are planned for implementation at this time. It is not envisioned that VTS would be established in a port area based solely on the fact that vessels transporting LNG or other hazardous cargoes navigate the waters.

This would, however, be one of the many factors considered when evaluating the need for VTS in a specific area.

Question. What is the present plan for controlling the operation of LNG tankers and other marine traffic in those ports which contain approved LNG terminals?

Answer. The Coast Guard Captain of the Port (COTP) having responsibility for the area involved evaluates local conditions such as waterway configuration, traffic density and patterns, meteorological and hydrographic peculiarities, proximity of population centers, and other industrial activities, etc. Based on this appraisal of the particular combination of factors, which could only be meaningfully made at the local, on scene level, and after consulting with local authorities, the COTP develops an LNG operations plan. This plan implements requirements of the Ports and Waterways Safety Act and is tailored to neutralize or minimize the specific hazards existing in the individual port.

Question. How will the Coast Guard provide adequately trained inspectors for each LNG tanker operating in U.S. waters and each U.S. LNG import or export terminal?

Answer. The Coast Guard has qualified inspectors in the field capable of conducting inspections on the various types of vessels and facilities in the merchant marine including LNG vessels and facilities. The quality of these inspectors is high and is kept there by a continuing training and education program. Although resources have been strained with initiation of the foreign tanker boarding program and expansion of Outer Continental Shelf activities, this program has kept pace with the ever increasing demand.

The training of inspectors follows a prescribed pattern. Commissioned officers and warrant officers, selected for their initial (or qualification) tour at a field unit performing marine safety duties, are for the most part, junior officers who have had seagoing experience and who have requested marine safety duties. These officers having completed their initial tour at Marine Safety Offices/Marine Inspection Offices (MSO/MIO) or Captain of the Port Office (COTP) may be transferred to other marine safety duties or may "rotate" to sea. Qualified marine safety officers, returning from sea, serve their subsequent assignments in higher echelon billets at MSO/MIO's. Petty officers are assigned to marine safety duties on the basis of their ratings. They usually have indicated a desire for MSO/MIO duty. Prior sea experience of enlisted personnel depends upon the rating. For example, a yeoman processing ship officer license candidates may have had only minimal sea time; a boatswain's mate serving as an assistant inspector may have spent most of his career afloat. All first tour commissioned and warrant officers, ordered to MSO's, MIO's or COTP units, are required to attend a 12-week Marine Safety Basic Indoctrination Course (MSBIC) at RTC Yorktown.

The MSBIC is designed to indoctrinate the student officers with the procedures, practices, policies and regulations applicable to each of the marine safety programs. The basics of liquefied natural gas properties, hazards, technology, and cargo operations are covered. Upon completion of the course, officers assigned in designated training billets will undergo periods of on-the-job qualification, under the supervision of experienced officers, in each of the various departments of their respective units. During this period, the officer in training progresses through a "watch-me" stage to a "hands-on" stage and finally to a "solo" performance in each of the many departmental inspection tasks. Most of this training is performed in the field away from the unit under the supervision of a qualified inspector. Anticipated training periods vary in time depending on (1) the rank and experience of the officer, (2) whether the unit is an MIO, MSO or COTP unit, and (3) the ability of the individual. Chief warrant officers undergoing qualification in the Inspection, Port Operations and License and Documents Departments at an MSO will typically complete their qualification in 18 months. Training for junior officers at MSO's qualifying in all 4 departments will take about 36 months.

Subsequent to this initial training, selected inspectors are designated for Level II training. This Level II training consists of training which supplements Level I training. While Level I training provides the basic knowledge and skills for personnel to perform marine safety functions, Level II training provides the higher level of knowledge and/or skill for personnel to perform the more specialized and technical marine safety functions. Level II training includes formal specialized resident training that is desirable to improve the professional knowledge and skills directly related to marine safety. A 3-week Hazardous Chemicals

Course for officers and petty officers devotes 34 hours to direct instruction and 23 hours to indirect training on chemical and gas hazards, properties, technology, and cargo operations. A 5-week Marine Safety Petty Officer Course also dedicates a considerable amount of time to liquefied gas hazards, properties and cargo operations.

In addition, there are 50 Level II courses being conducted through various colleges, universities, private industry, and government agencies. Each of these courses is designed to meet a particular professional performance in marine safety. Within this group of courses, there are 29 which directly deal with LNG vessel design, construction or inspection. Academic training on a post-graduate college level is also offered to qualified officers in such LNG vessel related areas as chemical engineering, marine engineering and naval architecture, environmental management, and marine transportation. Graduates of these academic programs are assigned to technical positions in Coast Guard district offices and Coast Guard Headquarters where they provide graduate level technical assistance to field units.

Question. How will the Coast Guard ensure the competency and training of crews of several nations operating LNG tankers in U.S. ports?

Answer. The ultimate answer to competency and training of crews of foreign LNG tankers will be addressed in the forthcoming, 14 June to 7 July 1978, conference to adopt the International Convention on the Training and Certification of Seafarers, 1978 (pertinent draft resolution is attached). In the interim, until the results of this convention are realized, the Coast Guard is addressing the questions of safe operation through our boarding and transfer operations monitoring program and by a cooperative approach with the vessel operating companies. These companies have demonstrated full cooperation and have required specialized training for their vessel personnel. Coast Guard personnel in boarding the vessels and monitoring transfer operations not only check to insure that the cargo control systems are operating properly, but also that the personnel operating them are competent.

**DRAFT RESOLUTION 8.—TRAINING AND QUALIFICATIONS OF MASTERS, OFFICERS
AND CREWS OF SHIPS CARRYING LIQUEFIED GASES IN BULK**

The conference, being aware of the possible dangers to human life and to the environment from accidents involving the handling and carriage of liquefied gases in bulk, recognizing that suitable arrangements for the mandatory training of masters, officers and of ratings having special responsibility for handling such cargoes are not widely available, being of the opinion that mandatory minimum requirements should be established as soon as practicable,

Recommends: (a) that all Governments concerned take account of the guidance contained in the Annex to this Recommendation on training and qualifications of masters, officers and crews of ships carrying liquefied gases in bulk; (b) that masters, all officers and all crew members aboard such ships should be required to complete satisfactory Administration-approved basic training in safety, emergency procedures and fire-fighting. Such training should be of adequate scope and duration to ensure that crew members appreciate not only the hazards involved, but also the safety features included in the design and construction of the ship so that they may handle emergencies and small casualties without indecision or panic; (c) that masters, all deck and engineer officers and those ratings having specific duties and responsibilities in connexion with the cargo and cargo equipment should be required to complete satisfactorily Administration-approved special training courses and that such courses should be of adequate duration and supplemented by shipboard training and experience; (d) that all Governments concerned in recognizing standards of proficiency may require separate assessment upon the conclusion of the prescribed training or may accept successful completion of approved courses of training which are closely monitored and may include periodic assessment and an overall evaluation by the instructor of the performance and participation of the student; (e) that all Governments concerned should satisfy themselves as to the standard of competency of the officer primarily responsible for cargo and should ensure that appropriate documentation is issued to those so qualified by training and experience.

Invites the Inter-Governmental Maritime Consultative Organization: (a) to keep this Recommendation under review and to bring any future amendments to the attention of all Governments concerned; (b) to communicate this Resolution to all Governments invited to the Conference.

ANNEX.—RECOMMENDATION ON TRAINING AND QUALIFICATIONS OF MASTERS,
OFFICERS AND CREWS OF SHIPS CARRYING LIQUEFIED GASES IN BULK

Introduction

Any training should be divided into two parts: (a) supervised instruction, conducted in a shore-based facility or aboard a specially equipped ship having training facilities and special instructors for this purpose, dealing with the principles involved and the application of these principles to ship operation. In special situations Administrations may permit a junior officer or rating to be trained aboard the ship to permit him to serve for a limited period, to be established by the Administration, if such crew member does not have duties or responsibilities in connexion with cargo or cargo equipment and provided that he is later trained in accordance with this Recommendation for any subsequent service; (b) supplementary shipboard training and experience wherein the principles learned are applied to a particular type of ship and cargo containment system.

In drawing up an Administration-approved syllabus of training, the IMCO Code for Construction and Equipment of Ships Carrying Liquefied Gases in Bulk and the ICS Tanker Safety Guide (Liquefied Gas) should be taken into account.

The training should be at the following levels:

A. MASTERS, ALL OFFICERS AND ALL CREW MEMBERS

1. *Basic safety training courses of gas carriers.*

This training should preferably be conducted at an approved shore training establishment prior to an assignment to a ship. Alternatively, the safety training could be given in organized approved shipboard training programmes conducted by a qualified person under the supervision and direction of the master. Such safety training should include the following:

(a) General: (i) Types of gases carried. (ii) Hazards associated with those gases which are likely to be handled. (iii) General description of cargo carrying systems. (iv) Loading/unloading systems including cargo vent systems. (v) Design safety features and special requirements.

(b) Fire Safety: (i) Shipboard fire prevention, fire-fighting equipment and fire extinguishing.

(c) Health hazards and personnel protection: (i) Hazards of skin contact and inhalation of cargo vapours or inert gas vapours. Types of antidotes and their effects. (ii) Use of protective clothing and breathing apparatus, resuscitators, and rescue equipment. (iii) Entry into closed spaces.

(d) Emergency procedures: (i) Basic outline of emergency plan. Procedures in cast of fire, collision, liquefied gas spills or leaks, and personnel casualty.

2. *Basic fire-fighting course to include the specific characteristics of fires aboard gas carriers*

This training should be given at a shore establishment or aboard a specially equipped ship having training facilities and special instructors for this purpose.

3. As soon as new crew members have joined a ship, they should be made fully acquainted with all aspects of the emergency procedures listed.

B. MASTERS, ALL DECK AND ENGINEER OFFICERS AND THOSE RATINGS HAVING SPECIFIC DUTIES AND RESPONSIBILITIES IN CONNEXION WITH CARGO AND CARGO EQUIPMENT

1. This Part should apply in full to the master, chief officer, chief engineer, second engineer officer and officer primarily responsible for the cargo if he is not included in the preceding four designations.

2. The Administration may, however, permit variations in the depth of knowledge required in the following syllabus according to the duties and functions to be performed by other crew members.

3. Specific duties and responsibilities in connexion with cargo and cargo equipment are those concerned with cargo loading or discharging, cargo care, processing or supervisory duties for the use of cargo and operation or maintenance of equipment related thereto.

4. Such training should include but not necessarily be limited to:

(a) Chemistry and physics: An introduction to basic chemistry and physics as it relates to the safe carriage of liquefied gases in bulk in ships:

(i) Properties and characteristics of liquefied gases and their vapours: definition of gas, simple gas laws, gas equation, density of gases, diffusion and

mixing in gases, compression of gases, liquefaction of gases, refrigeration of gases, critical temperature, practical significance of flashpoint, upper and lower explosive limits, auto ignition temperature, compatibility of gases reactivity, and polymerisation.

(ii) Properties of single liquids: densities of liquids, variation with temperature, vapour pressure and temperature, vapourization and boiling liquids.

(iii) Nature and properties of solutions: solubility of gases in liquids, miscibility between liquids and effects of temperature change, densities of solutions and dependence on temperature and concentration, effects of dissolved substances on melting and boiling points, hydrates, formation and dispersion, hygroscopicity, drying of air and other gases.

(b) Health hazards: (i) Toxicity: modes by which liquefied gases and their vapours may be toxic, toxic properties of inhibitors and of products of combustion of both materials of construction and the liquefied gases carried. Threshold Limiting Value (TLV). (ii) Hazards of skin contact, inhalation and ingestion. (iii) First aid and administering of antidotes.

(c) Cargo containment: (i) Principles of containment systems. (ii) Rules. (iii) Surveys. (iv) Tank construction, materials, coatings, insulation, and (v) Compatibility.

(d) Operational procedures: (i) Regulations and Codes of practice. (ii) Familiarization with IMCO, ICS and national codes. (iii) Port regulations. (iv) Importance of ship's emergency plan and allocation of responsibilities.

(e) Pollution: (i) Hazards to human life and to the marine environment (ii) Effect of specific gravity and solubility. (iii) Danger from vapour cloud drift. (iv) Jettisoning of cryogenic liquids. (v) National, international and local regulations.

(f) Cargo handling system: (i) Description of main types of pumps and pumping arrangements and vapour return systems, piping systems and valves. (ii) Explanation of pressure, vacuum, suction, flow, head. (iii) Filters and strainers. (iv) Expansion devices. (v) Flame screens. (vi) Commonly used inert gases. (vii) Storage, generation, distribution systems. (viii) Outline of different types of systems and their safe and efficient operation and service. (ix) Temperature and pressure monitoring systems. (x) Cargo vent systems. (xi) Liquid re-circulation and re-liquefaction systems. (xii) Cargo gauging and instrumentation systems. (xiii) Gas detection and monitoring systems. (xiv) CO₂ monitoring systems. (xv) Cargo boil-off systems. (xvi) Auxiliary systems.

(g) Ship operating procedures: (i) Loading and discharging preparations and procedures. (ii) Check lists. (iii) Cargo condition maintenance on passage and in harbour. (iv) Segregation of cargoes and procedures for cargo transfer. (v) Changing cargoes, tank cleaning procedures. (vi) Cargo sampling. (vii) Ballasting/de-blasting. (viii) Warm up and cool down systems. (ix) Warm up and gas freeing procedures. (x) Procedures for cool down of gas free system from ambient temperature and safety precautions involved.

(h) Safety practices and equipment: (i) Function and use of portable measuring instruments. (ii) Fire-fighting equipment and procedures. (iii) Breathing apparatus. (iv) Resuscitators. (v) Escape sets. (vi) Rescue equipment. (vii) Protective clothing and equipment. (viii) Entry into enclosed spaces. (ix) Precautions to be observed before and during repair and maintenance of cargo and control systems. (x) Supervision of personnel during potentially hazardous operations. (xi) Types and principles of certified safe electrical equipment. (xii) Sources of ignition.

(i) Emergency procedures: (i) Emergency plan. (ii) Emergency shut-down. (iii) Emergency cargo valve closing systems. (iv) Action in the event of failure of systems/services essential to cargo. (v) Action in event of collisions, spillages, envelopment of ship in toxic or flammable vapour.

5. Supplementary shipboard training and experience based on the ship's operation manual should include the following systems as applicable:

(a) Cargo handling system: (i) Piping systems, pumps, valves expansion devices and vapour system. (ii) Service requirements and operating characteristics of the cargo handling system. (iii) Liquid re-circulation.

(b) Instrumentation systems: (i) Cargo level indicators. (ii) Gas detection systems. (iii) Hull and cargo temperature monitoring systems. (iv) Various methods of transmitting a signal from a sensor to the monitoring station. (v) Automatic shut down systems.

(c) Boil-off disposal: (i) Used as fuel: compressors, heat exchanger, gas piping and ventilation in machinery and manned spaces. (ii) Principles of dual-

fuel: boilers, gas turbines, diesel engines. (iii) Emergency venting. (iv) Reliquefaction.

(d) Auxiliary systems: (i) Ventilation, inerting. (ii) Valves: quick closing, remote control, pneumatic, excess flow, safety relief, pressure vacuum. (iii) Steam systems for voids, ballast tanks, condenser.

(e) Operating procedure: (i) General principles of operating the cargo handling plant: inerting cargo tanks and void spaces, tank cool down, loading, operations during loaded and ballasted voyages, discharging and tank stripping, emergency procedures, including pre-planned action in the event of leaks, fires, collision, grounding, emergency cargo discharge, personnel casualty.

GENERAL NOTE

It is recommended that as much use as possible is made of films, visual and other suitable aids and that there should be discussion on part that is to be played by safety organizations on board ship, and the role of the safety officers and safety committees. Encouragement should be given to the provision of such suitable aids to carry out a continuing and meaningful on-board training and safety programme.

C. THE OFFICER PRIMARILY RESPONSIBLE FOR CARGO

The officer primarily responsible for cargo should: (a) be directly responsible to the master; (b) have successfully completed all the required training; (c) have served aboard a ship carrying liquefied gases in bulk for at least two months, such service to have: (i) been performed under the direction, supervision and training of an officer primarily responsible for cargo; (ii) included cargo transfers, both loading and discharging; (d) satisfy the master as to his overall qualifications and ability.

D. DOCUMENTATION

1. Administrations should ensure that an appropriate document is issued to those who are by training and experience qualified in accordance with this Annex to serve as an officer primarily responsible for cargo.

2. Under appropriate Administration-approved standards, the master of each ship should ensure that the officer primarily responsible for cargo possesses such document and has had recent adequate practical experience aboard the appropriate type of ship to permit him to perform his duties safely.

3. The Administration should, in consultation with all interested parties, formulate or promote the formulation of an appropriate pattern of refresher and updating courses.

Question. Will the Coast Guard sponsor any research or development leading to improve techniques for inspection or monitoring LNG tanker operations?

Answer. The Coast Guard has conducted and will continue to conduct research and development related to LNG transport. We will also draw upon work performed by other agencies, foreign governments and the industry. Numerous inspection and monitoring techniques already exist and have been tested during prototype containment system evaluation. Inspection and monitoring considerations are specifically evaluated by experienced engineers during each design evaluation. This includes foreign, as well as U.S. vessels, under the Letter of Compliance (LOC) program. Specifically, gas detection installations are required to be designed so that they can be readily tested. Testing and calibration is carried out at regular intervals and is monitored by Coast Guard personnel. Gas detection systems are used in conjunction with temperature indicating devices and pressure gauges to detect possible leakage. To date, only a few cases of cargo tank leakage have occurred and all have been detected quickly, and the extent of the leakage accurately assessed by these systems. All transfer operations in U.S. ports are monitored by trained Coast Guard personnel and transfer operations are not permitted unless control and monitoring systems are operating properly. With the initiation of the foreign tanker examination program, the Letter of Compliance program, applicable to foreign LNG tankers, has been expanded to include an annual examination of all facets of the vessel's safety.

Question. How will LNG research sponsored by the U.S. Coast Guard be utilized in the Coast Guard process of establishing tanker and terminal design standards: controlling LNG tanker or terminal operations; and responding to possible LNG tanker spills?

Answer. The LNG research sponsored by the Coast Guard is designed specifically to improve and maintain safe maritime operations and to protect the marine

environment. The establishment of terminal design standards has relied heavily upon this research to insure that these terminals will be structurally sound. The research has shown the need for redundant fail-safe types of operations as well as highly trained competent personnel. Proposed regulations have been designed with these requirements in mind. Extensive ongoing studies have determined the hazards involved with large scale spills of LNG. With the results of those studies, design criteria have been established to reduce the hazard of a spill and aid fire suppression. The Chemical Hazard Response Information System (CHRIS) and the Hazard Assessment Computer System (HACS) were developed to provide field and Headquarters units with a tool for emergency response and for advance planning. The goal was to gain a capability for predicting the consequences of a cargo release in terms of where the cargo travels (air/water dispersion, for example) and how the cargo reacts chemically (radiative heat flux and reaction products); this is independent of geography and location. Over a dozen modules were developed to model a single event in the development of a spill sequence such as pool fire radiation flux, vapor dispersion, and vaporization from a pool. CHRIS is composed of a set of manuals containing chemical data, graphs, and simple equations and the user must perform relatively simple calculations in order to carry out an estimation. HACS, unlike CHRIS, is entirely computerized, with the user inputting only the property values unique to the event being stimulated, such as wind speed and tank opening diameter; typical default values are stored in the computer for those values not known by the user. Currently chemical data exists for 900 chemicals, with LNG being one of the most important.

Chemical data is in a computer-compatible form on tape and printed in the "CHRIS/HACS Chemical Property File" while similar data is presented in a more conventional form in the "Hazardous Chemical Data" volume. In performing a simulation, data from the user and chemical data from the system is used in those modules which are needed to model the spill sequence. For example, with LNG, in calculating the maximum downwind hazardous distance, the venting rate module calculates the rate of LNG release from the storage tank on the basis of data describing the tank and the tank opening. The vapor dispersion module then gives the maximum downwind distance. Similar modules cover the fire scenario. Note that only those modules actually needed must be run; if the LNG release rate is known the first module may be bypassed. While the basic CHRIS/HACS is complete, new modules are being developed and existing ones validated and improved where necessary. The data base is being expanded by adding new chemicals and improved by experimentally developing data where gaps exist in the existing data base. The following publications have been issued:

- a. Condensed Guide to Chemical Hazards, CG-446-1 (GPO 050-012-00106-5),
- b. Hazardous Chemical Data, CG-446-2 (GPO 050-012-00094-8),
- c. Hazard Assessment Handbook, CG-446-3 (GPO 050-012-00105-7),
- d. Response Methods Handbook (Appendix Only) CG-446-4 (GPO 050-012-00104-9),
- e. "CHRIS/HACS Chemical Property File" (NTIS AD-A034607),
- f. "CHRIS: Preliminary System Development" (NTIS AD-757473),
- g. "CHRIS: Appendices to Preliminary System Development" (NTIS AD-757472),
- h. "Assessment Models in Support of the Hazard Assessment Handbook" (NTIS AD-776617),
- i. "Development of Additional Hazard Assessment Models."

Other Projects.—There are a number of Coast Guard projects that do not involve LNG directly, yet, to the extent they succeed in improving the safety of particular portions of the marine systems will also improve LNG safety. The emphasis in this group of projects is on the conventional aspects of ship design and ship operations. Some of these projects are: a. Bridge Personnel Factors Analysis, b. Cargo System Maintenance Analysis—Problem Identification, c. Cargo Tank Vent Systems, d. Casualty Frequency, e. Chemical Cargo Fire Suppression, f. Collision Energy Absorption, g. Collision Inspection Program, h. Collision Scenario Analysis, i. Fast Time Simulator (Ramming and Groundings Prevention), j. Maritime Transportation Research Board, k. Portable Gas Detectors and Emergency Breathing Apparatus, l. Structural Damping Tests, m. Survey of Piloting Practices, n. Tank Pressurization Tests, o. Toxic and Flammable Vapor Releases, p. Vapor Recovery Systems—Detonation Tests, q. Vapor Recovery Systems—Flame Arrestors.

Question. Is the Coast Guard developing siting information regarding harbor conditions or ports traffic or tanker operations which will be useful for decisions on LNG facility siting by the Department of Energy?

Answer. The responsibility of the Coast Guard for developing siting information relating to Waterfront Liquefied Natural Gas Facilities (WLNGF) is set forth in a Memorandum of Understanding (MOU) between the Coast Guard and the Materials Transportation Bureau (MTB) of the Department of Transportation (DOT) for regulation of WLNGF. The MOU limits Coast Guard responsibility as to facility site selection to establishing regulatory requirements relative to the management of vessel traffic in and around a proposed LNG facility.

The Coast Guard assessment of marine transportation and safety aspects of a proposed LNG site includes information as to the depth and width of channels to be used by LNG ships; the necessity of dredging; the adequacy of surveys and charts; currents and tides; and the density, types, and location of other marine traffic. This information is made available to the Department of Energy (DOE) for their use in siting decisionmaking. Should the Coast Guard determine that unacceptable navigational and/or operational hazards exist at the proposed site or on its approaches, DOE would be so advised. The Coast Guard would recommend against the issuance of a Certificate of Convenience and necessity in such a case.



