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Navy Fact File

7th Edition

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DEPARTMENT OF THE NAVY
OFFICE OF INFORMATION
WASHINGTON, D.C. 20350

October 1984

FOREWORD

The Seventh Edition of what was formerly titled CHINFO Fact File has been updated, expanded, and newly formatted to meet our responsibility to disseminate accurate, current information to the American public about the Navy's mission in the 80's. You'll find timely information about such subjects as Technology Transfer, the Battleship Navy, and Strategic Homeporting cited in this revised publication. All material is unclassified.

We have tried to produce a more useful document for easier reference when preparing speeches, news releases, or responding to inquiries. Additionally, we have also credited the source of the material and included a contact telephone number, if needed. The Speakers Bureau, would welcome your comments at telephone (703) 697-0333.

Eight members of the Reserve Public Affairs Community produced this resource file under the guidance of the Director of the Speakers Bureau. I am grateful for the interest and hard work dedicated to this project.

Credible spokespersons armed with reliable information are the backbone of the Navy's Public Affairs effort. I hope this expanded, revised, and updated Fact File will be an important part of that effort.

JACK A. GARROW
Commodore, U. S. Navy

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INTRODUCTION -- SEAPOWER

Seapower includes much more than naval power. It is comprised of elements that enable a sea-dependent nation to project its political, economic, and military strengths seaward, and to extend and maintain them beyond the seas. In addition to ships, aircraft, weapons and trained personnel, equally important and advantageous are: the shore establishment, well-sited bases, commercial shipping and international alignments. The capacity of a nation to exercise seapower is based also upon the character and number of its population, the character of its government, the soundness of its economy, its industrial efficiency, the development of its internal communications, the quality and number of its harbors, the extent of its coastline and the location of the homeland, bases,and overseas territories with respect to sea communications.

The true strength of a Sea Power can only be measured in terms of its ability to use the sea in the furtherance of its national objectives despite any atmosphere created by rivals or competitors. This ability will be in jeopardy, and eventually lost, if any of these elements are weak or lacking.

I -MARITIME POLICY: UNITED STATES

A--THE U. S. DEPENDENCY ON FOREIGN TRADE

Life Lines of America

For many decades the United States produced more raw materials than its growing industrial complex could consume. From a raw-materials-surplus-nation we have become a raw-materials-deficient-nation -- dependent upon waterborne commerce to bring to our shores, from all corners of the earth, the many products so essential to the high velocity, twentieth century industrial system.

America is no longer independent. Almost half of the free world's mineral production is channeled to the needs of our industrial machine. In turn, other nations are dependent upon American raw material production to sustain healthy economies at home. The products of American factories are sold throughout the world. American investment capital and management expertise have spawned a growing number of industrial plants in overseas countries often dependent upon waterborne commerce to import raw materials and, in turn, export finished products to world-wide consumer markets.

The arteries of international commerce, so essential to the health of the U. S. industrial machine and the employment stability of its huge skilled labor force, are critical to national security. The changing technology sustaining a strong American defense posture is dependent upon a modern, often revolutionary, highly productive industrial system. Shortages of essential raw materials would strike a blow at our national security as well as the stability of our domestic economy.

Therefore it is critically important that: (1) Raw materials throughout the world be fed into the U. S. industrial machine by waterborne commerce; (2) Manufactured products be moved into the world marketplace by ocean shipping; (3) Sea lanes be kept open and secure in time of peace and tension -- and denied to our enemy in time of war.

Imports create and support jobs for such occupations as shippers, longshoremen, transportation workers, insurers, bankers, retailers, and wholesalers. It is estimated that in 1981 an additional 11.5 million people engaged in our $250 billion import trade.

Total U. S. jobs resulting from export/import activities - about 18,500,000.

Examples and percentage of industry jobs directly related to exports:

PRODUCT	DIRECTLY RELATED		INDIRECTLY RELATED	TOTAL JOBS
Machinery (except electric)	386,000	(16%)	140,000	2,415,000
Chemicals	96,000	(10.5%)	75,000	915,000
Transportation	252,000	(14%)	67,000	1,771,000
Electric Machinery and Equipment	226,000	(12%)	117,000	1,961,000
Paper Products	25,000	(4%)	48,000	646,000
Total Manufacturing Employment	1,505,000	(14% D+I)	1,335,000	20,662,000

Imports

Total Number of Basic Strategic Materials in U. S. Inventory - 93

Total Basic Number of Strategic Materials Imported (in part or entirely) - 93

Examples	Major Sources	% Imported	Important Uses
Asbestos	Canada South Africa	65	Building materials, paints, plastics, textiles, insulators
Antimony	Africa, Bolivia, China Bel.-Lux., Mexico	52	Metals, medicines, chemicals, rubber, glass, ceramics, electronics
Bauxite	Jamaica, Australia, Guinea, Surinam	96	Pots, pans, aluminum, engines, filters
Beryllium	Brazil, China, Rwanda, S. Africa	W*	Nuclear reactors, telephones, spark plugs, X-ray equipment
Chromium	USSR, Africa, Philippines, Yugoslavia	77	Cutting tools, refineries, jets, stainless steel

Examples	Major Sources	% Imported	Important Uses
Cobalt	Zaire, Zambia, Lux-Belg., Canada, Japan, Norway	96	Gas turbines for high performance aircraft, tools, steel, super alloys
Columbium	Brazil, Canada, Thailand	100	Steel
Corundum	S. Africa	100	Steel
Industrial Diamonds	USSR, Zaire, Bel-Lux., U.K.	100	Industrial Abrasives
Graphite	Mexico, China, Brazil, Madagascar, Rep. of Korea	W*	Lubricant
Manganese	Africa, Brazil	99	Stainless and carbon steels, batteries, paints
Mica	India, Brazil, Belgium	100	Thermal batteries, insulation, coils, transformers
Nickel	Canada, Norway, Australia, Botswana	77	Aircraft, stainless steel, turbines, nuclear reactors, jets, electronics
Platinum	USSR, S. Africa, U.K.	84	Oxidation catalyst to produce nitric acid and sulpheric acid, petroleum industry
Rubber	SE Asia	100	Tires, wire insulation, medical tools
Tantalum	Thailand, Canada, Malaysia, Brazil	91	Refineries, jets, turbines abrasives, electronics industry
Tin	Malaysia, Bolivia Thailand, Indonesia	72	Electronics, bearing, tinplate, ceramics

Examples	Major Sources	% Imported	Important Uses
Tungsten	Bolivia, Canada, China	39	Industrial production, steel hardener for cutting tools, armor piercing projectiles, contact points in heating elements

*W - withheld to avoid disclosing company proprietary data.

Individual Products Dependent on Materials Imported in U. S.

Automobiles - 31 materials imported from 32 countries
Newspapers - nearly three/fourths of our newsprint imported
Missiles - 10 materials imported from 15 countries
Television and household appliances - many imported materials
Tools and machines - alloying materials
Jet planes - must import cobalt, chromium nickel, bauxite (to produce aluminum) and rutile (to produce titanium)

Examples of Commodities (FY 83)

Animal and Vegetable Products	$18.1 billion
Capital Goods (Trucks, etc.)	$75.6 billion
Textile Fibers/Products	$ 5.0 billion
Foods, Feeds, Beverages	$35.3 billion
Industrial Supplies	$70.5 billion

Value of Goods Exported ($ billions)

1958	1968	1978	1981
$17.9	$34.6	$143.7	$233

Recent U. S. Exports (Jan-Oct 1981)

Items	Value ($ millions)
Drilling & Oilfield Equipment	3,742.0
Industrial Machinery, Components and Parts (pumps, compressors, valves, bearings, furnaces)	4,518.0
Logs, lumber, plywood, veneers	2,096.0

Civilian aircraft - complete, all types	7,178.7
Parts for civilian aircraft	3,416.9
Electric household appliances	1,556.1
Manufactured consumer durables (rugs, furniture, musical instruments, cameras, optic and hearing aids)	1,374.8
Textile products (except rugs)	1,317.4
Medicinal & pharmaceutical preparations	1,932.8
Military aircraft	1,369.7
Engines & turbines for military aircraft	75.9
Military trucks, armored vehicles	92.0
Tanks, artillery, missiles, rockets, guns and ammunition	835.5
Parts for military equipment	942.8
Automotive parts, engines, bodies	9,023.7
Railway transporation equipment	465.6
Industrial diamonds, sulphur, other nonmetallic minerals	765.5
Broadcasting & communications equipment	4,792.6
Telephonic & other electrical apparatus	4,257.0
Electronic computers & parts	7,313.1
Metallurgical grade coat	2,902.5
Fuel oil	1,391.5
Aluminum	1,436.9

In Fiscal Year 1961 we also exported the following:

$ 8 billion of wheat and flour
$ 9 billion of corn
$ 6 billion of soybeans
$1.3 billion of tabacco
$2.2 billion of cotton
$1.5 billion of rice
$3 billion of horticultural products (fruits, nuts, vegetables)
$ 3 billion of textiles, yarn, fabrics
109,230,000 tons of coal

(Source: Undersecretary of Defense, Wash., D. C. 20301
(c) 202-697-0957)

FY '83 - 85 NAVY PROCUREMENT - AIRCRAFT

	83	84	85
A-63 (Intruder)	8	6	6
EA-6B (Prowler)	6	8	6
AV-8B (Harrier)	21	27	32
F-14A (Tomcat)	24	24	24
F/A-18A (Hornet)	84	84	84
CH-53E (Super Stallion)	11	11	10
AH-1T (Sea Cabra)	-	-	22
SH-60B (Seahawk)	27	21	18
P-3C (Orion	6	5	9
HXM/JVX	-	-	-
E-2C (Hawkeye)	6	6	6
SH-2F	18	6	6
*C-9B (Skytrain II)	TBD	TBD	TBD
UC-12B	-	-	12
C-2A COD	8	6	8
T-34C	30	-	-
T-44A	-	-	-
TH-57	21	21	36
Adversary	-	4	8
VTX	-	-	-
ECX	-	-	-
P3D	-	-	-
KC-130T	2	2	-
FEWSG	-	1	-
TOTAL	272	234	287

FY83 through FY85, C9B's procurement is in undetermined quantities not to exceed a total of twelve.

(Source: Dept. of the Navy, OP-50, Washington, D. C. 20350-2000 (c) 202-694-4214)

FY 83 - 85 NAVY PROCUREMENT - SHIPS

New Construction:	83	84	85
Trident Submarine (SSBN)	1	1	1
Attack Submarine (SSN688)	2	3	4
AEGIS Cruiser (CG-4)	3	3	3
Destroyer (DDG-51)	-	-	1
New Design SSN	-	-	-
Mine Countermeasures Ship	-	3	4
Coastal Minehunter (MSH-1)	-	1	-
Aircraft Carrier (CVN-72/73)	2	-	-
Dock Landing Ship (LSD-41)	1	1	2
Amphibious Assault Ship (LHD-1)	-	1	-
Amphibious Transport Dock (LPD-X)	-	-	-
Fast Combat Support Ship (AOE)	-	-	-
Ocean Surveillance Ship (TAGOS)	-	-	3
Fleet Oiler (AO)	1	2	3
Salvage Ship (ARS)	1	-	-
Frigate (FFG-7)	2	1	-
Repair Ship (AE)	-	-	-
Ammunition Ship (AE)	-	-	-
Survey Ship (TAGS)	-	-	2
TOTAL	13	16	21

FY 83 - 85 NAVY MAJOR PROCUREMENT

Conversion/Acquisition:	83	84	85
Acoustic Research Vessel (AG)(C)	-	-	-
Amphibious SLEP	-	-	-
Battleship Reactivation	1	-	1
Hospital Ship (TAH)(C)	1	1	-
CV-SLEP	1	-	1
FBM Supply Ship (TAK)(C)	-	-	1
Jumbo Oiler (AO)(C)	-	-	-
Range Ship (TAGM)(C)	-	-	-
Combat Stores Ships (TAFS)	-	1	-
TAKR (C)	-	4	-
Aviation Support Ship (TAVB)(C)	-	-	1
Crane Ship (TACS) (C)	-	-	2
TOTAL	3	6	6

(Source: Dept. of the Navy, OP-21,22,32, Wash., D. C. 20350-2000
(c) 202-697-0886/1981/1465)

I - MARITIME POLICY: UNITED STATES

C -- INCIDENTS AT SEA AGREEMENT

In 1968, following a naval incident in the Sea of Japan, the United States recommended to the Union of Soviet Socialist Republics that both nations get together to discuss incidents at sea and ways to avoid them in the future. In the Fall of 1970, the U.S.R.R. agreed to meet the following year to discuss the problem.

A U. S. delegation, headed by then Undersecretary of the Navy John Warner, went to Moscow and reached a limited agreement on an expanded interpretation of rules of the road which clarified the operating procedures for naval vessels on the high seas. A second round of talks was held in Washington in May 1972, to negotiate several unsettled questions. The formal executive agreement for the prevention of incidents at sea was signed by Secretary Warner and USSR Defense Minister Gorshkov in Moscow on May 25, 1972.

Among other things, the agreement requires military vessels of each party to remain distanced from each other, to avoid maneuvers that would hinder the operations of the other side's naval formations, to use international and mutually agreed signals, and to refrain from simulated attacks and other harassing activities against the other side's ships. Military aircraft are required to use "the greatest caution and prudence" in approaching military aircraft and ships of the other party and must also refrain from simulated attacks and other harassing activities. The parties also agreed to meet annually to review implementation of the agreement.

On May 24, 1973, both nations signed a protocol agreement by which they undertook to notify their non-military ships of the agreement and to refrain from simulated attacks and other harassing activities against each other's non-military ships. In May 1979, the parties exchanged diplomatic notes to update the agreement's technical references to the international rules of the road.

The agreement, as amended by the protocol and the exchange of notes, has been implemented by the operating forces of both countries. This agreement is credited with generally decreasing the number and severity of incidents.

(Source: International Law Div., Dept of the Navy,
200 Stovall St., Alexandria, Va 22332
(c) 202-697-9161)

I - MARITIME POLICY: UNITED STATES

D -- SITUATION IN THE INDIAN OCEAN

Since 1946, some 40 nations have been carved out of the land mass surrounding the Indian Ocean. These nations are of diverse, and often conflicting, cultures, religions, and governments. Thirty percent of the world's population lives within this region. Maintaining constructive, free relations with the countries and economies within this area is vital to world peace and is a long term strategic interest of the free world.

Besides the vast human economic potential in this area, more than 60 percent of the world's known oil reserves are in the Arab nations bordering the Indian Ocean. The Persian Gulf basin alone accounts for over one quarter of the total noncommunist world production. Currently, this area supplies the United States with about 20 percent of our imported oil -- Western Europe with 40 percent of its imported oil -- Japan with over 60 percent of its imported oil -- and lesser, but significant amounts to the other free nations of the world.

It is of strategic importance for the United States and its Allies to ensure that no nation nor bloc of nations prevents or tampers with this oil flow, dominates the political decisions of oil producing states which could hamper petroleum production, or holds hostage the oil fields.

Maintaining open Sea Lines of Communication through which oil and other materials of trade must pass -- east and west across the Indian Ocean and north and south around the tip of Africa -- is a major U. S. objective. The bulk of the world's oil is transferred between countries by sea, and over 40 percent of that transits Indian Ocean sea lanes. Any real or threatened interruption of this flow across the Mediterranean or Indian Ocean could lead to disruption of industry and commerce, and over a longer term, could even effect the defensive posture and readiness in the West.

Many of these trade routes are funnelled through what is called "choke points," narrow straits that could easily be closed or restricted by an unfriendly power. The Suez Canal is the only access to the Mediterranean from the Indian Ocean. All commerce to and from the Persian Gulf must pass through the Straits of Hormuz, which has been threatened by Iran. In the eastern Indian Ocean, the Straits of Malacca are the preferred passage to the Pacific. The only major trade access to the Indian Ocean not a choke point is the western passage to the Atlantic around Africa's Cape of Good Hope. Maintenance of free access to, and unrestricted passage through these choke points are essential long term strategic interests for the United States and its allies.

These factors -- access to trade routes and the freedom to trade -- can be termed our nation's "traditional" interests because they are long-term, valid, and contribute to the rationale for maintaining an effective presence in that area. From time to time, these interests might take on a different aspect; however, over the long run they do remain constant.

Contrary to the belief of some, our interests in this region are not new. Despite occasional references to the "forgotten ocean, " the fact is that the Indian Ocean has been an important commercial seaway for the United States for almost two centuries.

In that 19th century, U. S. merchantmen plied those waters in search of trade and commerce. In addition, whalers brought back oil, making New England the so-called "oil capitol" of the world.

At the beginning of the 20th century, our freighters brought back tin, rubber, hemp, cotton, teak - materials important to our then standards of living. In turn, we provided thousands with manufactured goods important to their own progress.

Today, our trade with the littoral nations of the Indian Ocean exceeds forty billion dollars annually, about two fifths of the business we do with Western Europe, and three quarters with Japan.

It has not been our forgotten ocean; we knew it was there all the time---.

The naval picture of the Indian Ocean altered dramatically after World War II because of the sharp reduction of British forces east of the Suez. Until that time, Great Britain and friendly colonial powers controlled the perimeter boundaries.

Whether it was the East African Coast - Kenya, Tanganyika, key bases at Aden, Colombo, or Singapore or islands such as Mauritius or Nicobar - British forces were at hand, and the Royal Navy was able to respond quickly for any needed show of naval presence.

A series of events in the 1950's and the 1960's caused the situation in the Indian Ocean to change. First, a number of independent states emerged with relatively weak military capability. Second, in 1968, the British, once the pre-eminent power, announced the intention of withdrawing all its forces east of the Suez. Third, the Soviet Navy, in pursuit of its own objectives, dramatically expanded its operations, filling the vacuum that was to be created by the British withdrawal.

Since then, the Soviets have become particularly cognizant and sensitive to the control of strategic oceanic highways

through which oil tankers must pass on their way to Japan, Australia, and the United States.

The most serious threat to the strategic oil supply coming from the Persian Gulf to the non-communist world has not been investigated by the Soviets. Islamic fundamentalists that replaced and purged the pro-West government in Iran have threatened to close the Straits of Hormuz. These threats have resulted from escalation of the war between Iran and Iraq, which has been raging since 1980, with no foreseeable end in the near future. Iran's transformation from a stabilizing force in the Persian Gulf to a regional threat is an example of the potential political instability underlying many of the littoral nations of the Indian Ocean.

Power vacuums, created by such political instability, are promising targets for Soviet intervention as portrayed in Afghanistan. This is more than ample rationale for Soviet presence in the Indian Ocean. The nature of the Soviet presence in the Indian Ocean is multi-directional. It is political, economic and military. It is aimed at gaining influence for the U.S.S.R. in the region at the expense of both the United States and the Peoples Republic of China.

The locations where Soviet fleet units have been concentrated are located or adjacent to logistical facilities in the hands of friendly governments and in the immediate vicinity of some of the key control areas in this ocean. Thus, they have gained positions which allow them to monitor some of the important entrances and exits of the world's third largest ocean and to maintain a close watch on the movements of materials that flow from this area to the free world. For example:

In 1973 the Soviets built an extensive long range navy facility at Berbera in the Somali Republic on the east coast of Africa. With this naval headquarters, Moscow directly controlled the movement of its warships throughout the Indian Ocean area until forced out of that country in 1977. They had transferred their support to Ethiopia, Somalia's arch-enemy, in an attempt to further increase their presence in East Africa. However, the loss of Somali facilities did not hinder them. Within a very short time, their activities were transferred due north, across the Gulf of Aden, to the port of Aden in South Yemen.

Before 1968, Soviet warships spent fewer than 100 ship days in the Indian Ocean annually. In 1968 that figure rose to 1,800. It has increased and remained steady since; in 1974 it was over 10,000, declined to 7,300 in 1976, and has remained at approximately that number.

Whereby in 1968, the Soviet Union had three ships in the Indian Ocean , it now averages 20, including modern missile cruisers and destroyers, nuclear submarines, and fishing

trawlers, utilizing port facilities in Ethiopia, Aden, India, Mozambique, Iraq, and the Seychelles for their ships. The total also includes non-combatant craft, such as hydrographic research vessels. The Soviets understand quite well that the search for strategic superiority is not only military, but also scientific, economical, technological, and especially political.

Now, what about the United States' naval presence there? From 1949 until the Iranian crisis of 1979, we had a token force of two destroyers and one command ship operating in the Persian Gulf.

We have established naval facilities on the small British-owned island of Diego Garcia, one thousand miles south of India. This outpost now includes a 12,000 foot runway and a harbor that can accommodate several ships and is an important communication link.

As to our own ships' movements about the ocean, before 1979 we deployed periodically a carrier task force from the Pacific Fleet there, but only with considerable difficulty in ship scheduling and logistics. Since the Iranian revolution and the Afghan crisis, we have maintained a sizable force in the area. In 1979 our U. S. Navy ship days in the Indian Ocean totalled about 3600 compared to the 7600 for the Soviet Navy, but by early 1980, the United States, by deploying units in the Indian Ocean and reducing deployments in the Mediterranean and Western Pacific, was clearly the superior maritime force in the area.

If the Soviets were to assume dominance in the Indian Ocean through their navy, what might be the end result?

1. They would have access to warm water ports, a dream they have coveted since the days of Peter the Great.

2. They would have the availability of Persian Gulf oil, a commodity they are currently on the verge of importing.

3. Either through treaties, pacts, or whatever, they might be in the position to have United States' access to trade or oil denied to our merchant fleet and port rights denied to our Navy.

In essence, the Indian Ocean might well achieve the status as the Sea of Okhotsk, a 600,000 square mile body of water in the North Pacific (the size of the Gulf of Mexico) that the Soviets have declared off limits to all nations -- a contention the United States shall not accept, but one that can be abrogated by showing units with the naval flag to demonstrate freedom of the seas.

On the other hand, if the United States achieves dominance in the area, what will be the result?

1. All nations in the world will have the freedom to pursue their interests in treaties, trade and commerce.

2. All nations in the world will have the freedom to trade with the Persian Gulf oil states.

3. All nations in the world will have the freedom to deploy their navies in the entire area. In fact, nothing would change. The Indian Ocean would remain as free as it is today.

(Source: OP-61, Dept of the Navy, Washington, D. C. 20350
(c) 202-695-9411)

II - MARITIME POLICY: U.S.S.R.

A -- SOVIET POLICY FOR THE WORLD'S OCEANS

Although Russia, both Imperial and Soviet, traditionally has been thought of as a land power with predominately Eurasian interests, over the last two-hundred years it has maintained one of the world's largest navies. Naval forces were instrumental in Imperial Russia's successful attempt to gain control of her Baltic and Black Sea coasts. During the 18th centry, sizable Russian naval squadrons under Admirals Spiridov and Ushako successfully conducted extended operations against the Turks and the French in the Mediterranean Sea. Since the 19th century, Imperial Russia and its Soviet successor have been confronted by hostile naval power which have forced them to defend, with varying degrees of success, four widely separate sea areas.

In its early years Soviet military strategy reflected the historical perspective of a nation subjected to two major invasions in the 20th century and of a regime that was an international outcast. This heritage fostered a military strategy in which the desire to spread the revolutionary cause by military means was forced to take the back seat to the more pragmatic necessity of assuring the survival of the Communist system in Russia. Faced with a weak national power base, the Soviets had no other option than to adopt a strategy of defense in depth. For the navy, this entailed emphasis on a large force of short to medium range submarines and surface combatants designed for coastal defense.

Unitary Nature of Soviet Maritime Policy

All facets of Soviet oceanic interest -- the legal, political, military, economic and scientific aspects -- have been integrated into a single coherent program. The simultaneous extension of Soviet maritime, naval, scientific and political aims far beyond the continental borders of the Soviet Uniion is evidence of their serious bid to become a global power.

The unification of oceans policy evolves naturally for a centrally controlled system such as that guided by the Soviet Communist Party. The close political ties among the various organizational elements of the Soviet system facilitate a coordinated policy. The dominant institutional thread is the Soviet Navy, which has a strong influence over the maritime industries. The administation of the merchant marine, fishing fleet, and oceanogaphic vessels is very closely allied with the naval command. These assets may be readily and directly mobilized under the navy's direction.

The Soviet leadership's plan for development of the world's ocean resources is both integrated with its central economic plans and inter-connected with Soviet global policy, as illustrated by the following which appeared in the Soviet economic publication, Voprosy Ekonomiki: "The seas' economy today is determined by the fishing industry and maritime transport. The situation will change somewhat as we approach the year 2000. The fishing industry will continue to occupy the leading place in the maritime economy. According to our rough estimates, second place will be taken by the petroleum and gas industry, while maritime transportation will move from second to third place. Other branches of the USSR's maritime economy will rise and be developed."

Merchant Marine

Although the Soviet merchant fleet began its expansion in 1956, the Soviet seven-year plan (1959-1965) was a major take-off point for merchant marine expansion. From that date the merchant marine grew faster in volume than did the economy as a whole. In 1946 the Soviet Union ranked 23rd in world shipping with 2.7 million deadweight tons of 507 ships. Today it ranks fifth in ship numbers with nearly 1,750 ships of over 1,000 gross registered tons and eighth in carrying capacity with nearly 20 million deadweight tons.

This expansion was in part motivated by economic and military requirements for sufficient Soviet bottoms to convey all Soviet coastal cargos, vital imports, military and economic aid to clients and to meet the support needs of the Soviet armed forces. Perhaps an even greater motivating factor was the need to earn hard currency to help offset the growing Soviet balance of payment deficits. Today the Soviets transport 60 percent of their overseas trade in Soviet bottoms, thereby minimizing their hard currency expenditures for transport services. In order to earn hard currency, between 16 and 20 percent of the total freight they transport is derived from the cross-trades of second and third party nations.

In addition to growth, the Soviets are now seeking diversification. Only recently have they entered the globe-girdling, supertanker business. This aspect, coupled with the reopening of the Suez Canal which permits their small, shallow-draft tankers to readily service the undeveloped harbors of the newly-emerged third world nations, might well project them into the center of the world's tanker field.

While the rapid development of the Soviet merchant marine has been impelled by the broad need to carry military and economic aid to countries throughout Asia, Africa, and Latin America, the supply routes to Cuba and North Vietnam were responsible for a major share of the increase in tonnage requirements.

Marine transport has also been expanded in Eurasia. The opening of the Northern Sea Route -- the formerly unnavigable Soviet Arctic route -- provides new opportunities for their merchant marine to expand its activities between Western Europe and the Far East. Likewise, the railroad "container bridge" of the trans-Siberian container-shipping service adds an alternative to the very long sea routes around the Cape of Good Hope or through the Suez Canal for Japanese and Western European trade. Stretching from the Soviet port terminal at Vostochny, near Vladivostok, to Leningrad, with rail connections to Western Europe, the service continues to capture a growing share of the freight traffic between Europe and the Far East.

In addition to delivering military and economic aid to client states, the Soviet merchant marine provides logistical support to deployed units of the Soviet Navy. Some of the fuel supplied to out-of-area Soviet warships is provided by merchant tankers. The highly specialized roll-on/roll-off ships, barge carriers, and heavy-lift load carriers joining the Soviet inventory at an unprecedented rate are valuable for operating in areas with poorly developed port facilities. They also represent a considerable resource from which to draw in support of amphibious operations. The development by the Soviets of a technologically advanced merchant marine has resulted in an attendant increase in their military ability to project power abroad.

Shipbuilding in Soviet and East European shipyards has been greatly expanded to support the increasingly important role of the merchant marine. While the Soviets continue to purchase a considerable amount of merchant, fishing, and naval tonnage from foreign yards, they have established their own strong, modern shipbuilding industry with 18 shipyards, each employing 2,000 or more workers on a full-time basis. These yards supply naval ships, not only for domestic use, but for export to other nations as well.

The Soviet Union ranks first in the world in terms of the size of its fishing fleet with over 3,600 ships. It is second only to Japan in terms of the total volume of its annual catch. Fish, as a source of protein, is an important part of the Soviet leadership's announced goal of raising the per-capita consumption of protein. An estimated 20 percent of Soviet protein consumption consists of seafood. Despite the increasing number of nations declaring a 200 nautical mile offshore economic zone, Soviet fishing fleets maintain a presence today in virtually every ocean area of the world. The Soviets have entered into a number of joint fishing ventures with other nations, particularly in the lesser developed areas of the west coast of Africa. In the Canary Islands alone nearly 1200 port calls were made by Soviet fishing vessels during 1983, and 17,000 crew members were flown in from Moscow. The Soviet fishing fleet has become a powerful tool for the expansion of Soviet economic and political influence.

Offshore development of energy and metal resources is to expand sharply in the next ten to twenty years. Offshore development of oil and gas is under way near Sakhalin Island in the Pacific. Industrial cooperation in this area between the Soviets and Western companies is a possibility; foreign capital and technology will be paid for in oil and gas. In the past, petroleum products have been the Soviets' major hard currency earner. With natural gas -- from their continental shelf and elsewhere -- they will attempt to reduce their chronic balance-of-payment deficit.

A wide range of metals are thought to be located in the coastal areas. If economically feasible, these will enter into foreign commerce.

The Soviet Union has also become a leader in physical oceanography. It can be expected that the application of this science correlates with submarine operations. The oceanographic efforts, coordinated by their Academy of Sciences, also benefit their merchant marine and fishing industries.

Naval Expansion

The Soviet Union emerged from the Second World War as not only the dominant European land power, but also as one of the major competitors for world influence and prestige. In 1945 Stalin initiated a shipbuilding program designed to give the Soviet Union an ocean-going Navy that would be competitive with those of the Western maritime powers. Stalin's future navy emphasized large suface combatants to include even aircraft carriers. However, the plans for a Soviet blue water navy ended with Stalin's death, and only a small portion of the larger combatants that Khrushchev labled as "metal eaters" were completed. The new Soviet leadership opted instead for a primarily defensive navy consisting of submarines and missile-armed surface combatants to protect the seaward approaches to the Soviet homeland. Acutely aware of the threat posed by nuclear capable aircraft abroad U. S. aircraft carriers, the Soviets gambled on long range cruise missile technology as an effective and affordable anticarrier defense. The few major surface combatants built during this period, such as the KYNDA missile cruiser, were the first such ships to be armed with long range anti-ship cruise missiles as their main battery.

The advent, in 1960,of the Polaris missile submarines radically increased the strategic threat from the sea, and this forced the Soviets to rethink both their naval strategy and the composition of their naval forces. Their embarrassment during the 1962 Cuban missile crisis also caused them to place more emphasis on the strategic wartime missions of the navy, as well as naval deployments far from home waters to support Soviet peace time objectives. They established a naval presence in

sucn areas as the Mediterranean, the Norwegian Sea and North Atlantic, and the Indian Ocean. Surface combatants with improved open ocean ASW capabilities, such as the KRIVAK FFGS, UDALOY DDG's, the KRESTA II, KARA, KIROV cuisers, and MOSKVA helicopter carriers have been deployed. The introduction of the first KIEV class carriers in 1976 allowed the Soviet Navy, for the first time, to begin to evaluate the uses of tactical airpower at sea. Although in the future, the Soviet Navy can be expectd to decline slightly in numbers, the new multi-purpose ships that are entering the fleet at a moderate rate will vastly improve the Soviet Navy's capabilities for distant operations. In addition to facilitating the extension of maritime defenses well to sea, new surface combatants and support ships have allowed the Soviets to practice the traditional uses of naval power to project influence in distant areas. In summary, the Navy has been transformed from a basically coastal defense force into an open ocean force which is designedto carry out the full range of naval wartime tasks and to support Soviet foreign policy objectives in peacetime.

(Source: Brookings Institution, 1775 Massachusetts Ave. N.E.
Washington, D. C. 20036
(c) 202-797-6000)

II - MARITIME POLICY: U.S.S.R.

B -- Soviet International Relations and Law of the Sea

The heightened interest of Soviet leaders in a global oceans program has influenced their foreign policy, their position in international organizations, and their view of the law of the sea. In recent bilateral and multilateral forums, the Soviet views on many ocean issues have become evident.

Soviet Bid for Maritime Power

During the first half of calendar year 1983, the Soviet merchant fleet made over 13,000 port calls in other than Soviet ports. Many of the ports visited were in Third World nations. This intensive merchant marine activity is valuable to the Soviets in helping to achieve several strategic goals:

* To further their economic and political penetration of non-Communist countries, including the United States.

* To earn hard Western currencies in order to off set their balance of trade deficits and to purchase Western high-technology equipment.

* To demonstrate to Third World nations an engineering equality -- even superiority -- over the most advanced Western nations.

* To provide a logistics force capable of supporting Soviet military power projection abroad and to include an amphibious lift capability.

The Soviets and their allies have aggressively sought to establish themselves as leading freight carriers on many of the world's vital trade routes. On occasion they have undercut existing rates on selected routes by as much as 50 percent. Such activities have destabilized many of the traditional shipping conferences and have contributed to the failure of a number of shipping agencies.

Where the Soviets have established a regular port-of-call, there invariably is a sudden expansion of Russian consular staffs. In many cases "joint venture" companies are also established with the host nation.

In both instances the resultant increase in the presence of Soviet nationals augments the intelligence collection capabilities of the Soviets in these port areas. In 1983, for example, the Soviet diplomat appointed to head a proposed Soviet consulate in Rotterdam was expelled from the Netherlands on an espionage charge and the Dutch have thus far refused to agree to the establishment of the consulate. Also the director of a

Soviet import company in Norway was expelled in 1983 because he allegedly was in the employ of the KGB. In addition, the Belgians who he engaged in a number of joint shipping ventures with the Soviets, have discovered that they retain little contol over these supposedly joint companies.

The Soviet Ministry of the Maritime Fleet has been quick to recognize the value of new high-technology innovations in merchant ship design. In less than 10 years, the Soviets have amassed the largest inventory, by deadweight tonnage, of roll-on/roll-off ships in the world. They have completed their own version, the ALEKSEI KOSYGIN and are currently producing a follow-on of the same class. Controllable/reversible pitch propellers and bow thrusters are being introduced on their more specialized ships, resulting in improved maneuverability and less reliance on tugs. Their ships, thus configured, are ideal for operation in small, ill-equipped ports. The Soviets are also actively engaged in upgrading their second generation satellite radio-navigation system for the merchant and fishing fleets.

In addition to enhancing the Soviet image in Third World areas, these technological advances have increased the merchant fleet's ability to act as in the words of Fleet Admiral of the Soviet Union, Sergei Gorshkov, "an important reserve of the Navy in time of war." Keeping the military application of their merchant fleet in mind, the Soviets have been careful to emphasize the acquisition of roll-on/roll-off ships. This policy reflects the military capabilities of RO-RO ships as opposed to the economic advantage of container ships in international commerce.

Soviet representatives have also played an active role in the United Nations Conference on Law of the Sea. In this forum they were faced with a dilemma whether to support or oppose the position of Third World coastal nations who want to increase their territorial and economic control over contiguous ocean waters. The USSR's decision to side with other major seapowers in opposition to the 20 mile territorial sea issue, rather than assuming its customary role as champion of the less developed states, indicates the importance the Soviet's assign to seapower.

In negotiating on law of the sea, the Soviet Union has distinct advantages over the United States owing to its global, unified, coordinated maritime policy. Considering all the areas of oceanic policy and development - merchant marine, fishing, oceanography and its dynamic naval progam - the Soviet Union each year comes closer to surpassing U. S. efforts. The day is imminent when our position as the dominant world maritime power could be usurped by the Soviet Union.

However, the process of Soviet ascendency to this exalted position stems from entirely different circumstances than when

the U. S. became the leading maritime power. We imposed no sanctions - neither political, economic, ideological, territorial, or military. We made no demands - nor would we have had a justification for doing so. The very serious question arises then: if the Red Star reaches the zenith of maritime power, how will it use the power?

(Source: Brookings Institution, 1775 Massachusetts Ave. N.E.
Washington, D. C. 20036
(c) 202-797-6000)

II - MARITIME POLICY - U.S.S.R.

C -- SOVIET OVERSEAS POLITICAL AND ECONOMIC STRATEGY (SOMALIA INCIDENT)

In recent years there have been cases where the U.S.S.R. has advantageously used its maritime forces in its political and economic strategies with regard to developing nations and, for reasons unknown, suddenly used its military muscle paradoxically to its own disadvantage.

An outstanding example is Somalia, located in the strategically important African horn in the northwest corner of the Indian Ocean.

In 1961, when the Republic of Somalia gained its independence from Great Britain and Italy, it sought economic assistance from both the Western nations and the Soviet Union. The U.S.S.R. extended tens of milliions of dollars worth of credit to this new State. Soviet ships began putting into the ports of Berbera and Mogadiscio unloading cargoes of various kinds including technicians, consultants, and advisors.

Two years later, in 1963, a military assistance pact was signed, and the number of Soviet cargo ships calling on Somali ports increased sharply. Because these ports were not able to handle the delivery of heavy equipment, the Soviets acquired more help to rebuild the port of Berbera -- ideally located at the mouth of the Red Sea and sitting on the sea lanes between the Suez Canal and the Indian Ocean.

To help Somalia's economic development, Russia then built a very large fish packing plant for that nation's fishing fleet. However, it turned out that the plant had a capacity far beyond Somalia's needs. Consequently, Russia's Indian Ocean fishing trawlers began using these Soviet-managed facilities to process their catches.

In 1965 Somalia had trouble paying its loans. The terms were readily revised when Somalia agreed to the exclusive importation of Soviet oil. This Soviet-Somalia monopoly forced all Western oil companies out of the market.

In 1967 Aeroflot, the Russian state-owned airline, began direct air service between Mogadishu, the capital, and the Soviet Union. The flow of Soviet technicians and agents increased and by 1969, 500 Somalis had been trained in Soviet military schools, and hundreds of Russian civilian technicians and advisors were scattered throughout the country.

On October 23 of that year, the president of Somalia was assassinated in a very well executed coup, and the Soviet-trained army took over what had been a Republic.

In July 1974, the Soviet Union and Somalia signed a Treaty of Friendship and Cooperation. After that event, their bilateral relations grew in depth and scope, resulting in a heavy construction program.

The naval facility at Berbera now includes a modern jet airstrip (under construction) capable of handling all types of aircraft, communications, repair and missile facilities capable of handling weapons not presently in the Somali Navy inventory. Berbera was visited by a U. S. Congressional fact-finding teams in July 1975, and their reports confirmed the large Soviet presence. Berbera was the most important facility in the Indian Ocean for maintaining the Soviet naval eskadra (squadron).

However, in 1977, in a dramatic turnaround, the Soviets swung their support to Ethopia, Somalia's arch enemy, by supplying Addis Ababa with massive arms and Cuban troops with which to fight the ethnic-Somalia insurgents fighting Ethiopia in the Ogaden. In retaliation, the Somalis expelled the Soviet advisors from their nation. Since that time, the Soviet-built facilities in Berbera, together with its natural harbor, have been virtually unused. These include the following: a 15,000 foot runway and control tower with partially completed hangers and warehouses; a pipeline for refueling ships offshore; and a large, well-protected outer harbor capable of anchoring the largest ships.

In 1980, a U. S. mission visited numerous Indian Ocean littoral states, including Somalia, in an effort to obtain base usage rights for both ships and aircraft in the area. In August 1980, the U. S. and Somalia signed agreements which allowed U.S. access to military facilities in return for military credits.

In 1984, the U. S. will provide $30 million worth of food to Somalia. The food aid, which includes grain, milk, and edible oil will make Somalia the second largest recipient of American food in Africa. The U. S. also plans to sign new technical and economic assistance agreements with Somalia worth about $53 million.

(Source: The Xinhua General Overseas News Service
1159 National Press Bldg, Washington, D. C. 20045
(c) 202-628-2738)

III- THE U. S. FLEET

A--THE BATTLESHIP

Correction of the unfavorable trend that has developed in the balance of maritime power requires both near and long-term augmentation of the principal deployment elements of the fleet: carrier battle groups, attack submarines, surface combatants, and amphibious forces. Today, the Navy is endeavoring to fulfill a three-ocean commitment with a one-and-one half ocean Navy. The toll for this in terms of both personnel and material readiness is significant. Since it takes time to construct new ships, additional initiatives that will enhance naval power and ease the excessive deployment requirements of our over-extended forces in the near-term must be pursued. Reactivation of the three IOWA-class battleships is a meaningful force-building initiative that can provide the necessary real near-term, augmentation at modest cost.

In the summer of 1981, Congress directed the reactivation and modernization of the first IOWA class battleship. Navy recommissioned NEW JERSEY as the first such ship. The accelerated reactivation and modernization of IOWA was completed in April 1984. MISSOURI arrived in Long Beach Naval Shipyard in May 1984 and initial industrial work has begun. MISSOURI is expected rejoin the fleet in April 1986. Reactivation of a fourth battleship, the WISCONSIN, has yet to be determined.

NEW JERSEY's performance during her eleven-month deployment, which commenced as a three-month shakedown cruise in June 1983, amply demonstrated the battleship's ability to carry out an assigned mission. The reliability, responsiveness and endurance of NEW JERSEY indicate the value and necessity for these platforms in today's Navy.

Battleship Mission: This mission is to conduct prompt, sustained combat operations at sea - worldwide - in support of national interests, specifically as:

- An Element of carrier battle group.
- A Central element of surface action group in company with Anti-submarine warefare and Anti-air warfare surface combatants.
- A Support for amphibious forces.
- A Naval presence.

Modernization Package:

- 8 armored box launchers for 32 missiles.
- 4 cannister box launchers for 16 missiles.
- 4 Close-in Weapons Systems.
- State-of-the-art electronics in radar, communications, navigation and electronic warfare area.
- Aviation facility upgrade/operating spot and three parking spaces.
- Conversion to Navy distillate fuel.
- Upgrades in habitability.
- Upgrades in firefighting capabililty

Manning:

- Commitment to 600-ship Navy carries responsibility to man the ships.
- Manpower requirements for battleship less skill intensive than for other Navy ships.
- Although crew size substantial, level of training and criticality of ratings assigned are less than modern frigate manned at one-tenth the crew size of battleship.
- Equipment in battleship, with exception of new combat systems, does not require same high level of technical training as new construction ships.
- No surface combatant with comparable ratio of manning to offensive striking power of battleship.

Need for four Battleships:

- With near-term proliferation of potential scenarios in which naval presence or measured military response in support of U. S. or Allied forces ashore is dictated, battleship is effective instrument of national policy.
- Four battleships provide continuous battleship availability:
- Flexibility of employment/deployment.
- Accomplishment of regular maintenance and training requirements.

Future Upgrades:

- NEW JERSEY's performance during extended deployment demonstrated battleship abililty to carry out mission in present configuration.

- Upgrades anticipated in command and control and self-defense areas.

Substantiation for Battleships:

- Battleships are not a waste of money for these reasons:

* No smaller ship can sustain comparable offensive effort in terms of volume, destruction, survivability, duration of range of fire with both guns and missiles.

* Cost to reactive battleship about the same as modern guided missile frigate.

Age of Battleships does not make them unsuitable in today's threat environment:

- Ships average only about 11 years active service life with at least 15-20 years remaining.

- Addition of cruise missile system to already impressive conventional gun system makes these ships most effective strike/anti-ship capable surface combatant in Navy today.

- Survivability features of battleship make them less vulnerable to destruction or sinking than any other in Navy inventory today.

- Up to 17" armor plating, system redundancy, compartmentation inherent last resistance.

- NEW JERSEY performance during eleven months amply demonstrate battleship ability to perform mission. Additionally showed reliability and endurance (underway 288 of 331 days).

(Source: OP-32, Dept of the Navy, Washington, D. C. 20350
(c) 202-697-5281)

TABLE A Relative U.S./USSR Standing in the Twenty Most Important Basic Technology Areas*

BASIC TECHNOLOGIES	U.S. SUPERIOR	U.S./USSR EQUAL	USSR SUPERIOR
1* AERODYNAMICS/FLUID DYNAMICS		X	
2 COMPUTERS AND SOFTWARE	←X		
3 CONVENTIONAL WARHEAD (Including all Chemical Explosives)		X	
4 DIRECTED ENERGY (Laser)		X	
5 ELECTRO-OPTICAL SENSOR (Including Infrared)	X→		
6. GUIDANCE AND NAVIGATION	X→		
7 LIFE SCIENCES (Human Factors Genetic Engineering)	X		
8. MATERIALS (Lightweight, High Strength, High Temperature)	X→		
9. MICRO-ELECTRONIC MATERIALS AND INTEGRATED CIRCUIT MANUFACTURING	X→		
10 NUCLEAR WARHEAD		X	
11 OPTICS	X→		
12 POWER SOURCES (Mobile) (Includes Energy Storage)		X	
13 PRODUCTION/MANUFACTURING (Includes Automated Control)	X		
14. PROPULSION (Aerospace and Ground Vehicles)	X→		
15. RADAR SENSOR	X→		
16 ROBOTICS AND MACHINE INTELLIGENCE	X		
17 SIGNAL PROCESSING	X		
18 SIGNATURE REDUCTION (Stealth)	X		
19 SUBMARINE DETECTION	X		
20. TELECOMMUNICATIONS (Includes Fiber Optics)	X		

*1 The list is limited to 20 technologies, which in aggregate were selected with the objective of providing a valid base for comparing overall U.S. and USSR basic technology. The list is in alphabetical order. These technologies are "on the shelf" and available for application. (The technologies are not intended to compare technology level in currently *deployed* military systems.)

2. The technologies selected have the potential for significantly *changing* the military capability in the next 10 to 20 years. The technologies are not static; they are improving or have the potential for significant improvements; new technologies may appear on future lists.

3. The arrows denote that the relative technology level is changing significantly in the direction indicated.

4. The judgments represent consensus within each basic technology area.

(Source: Undersecretary of Defense (R&E), Washington, D.C. 20301, (c) 202-695-6462)

TABLE B Relative U.S./USSR Technology Level in Deployed Military Systems *

DEPLOYED SYSTEM	U.S. SUPERIOR	U.S./USSR EQUAL	USSR SUPERIOR
STRATEGIC			
ICBM		X →	
SSBN	X		
SLBM	X →		
BOMBER	X		
SAMs			X
BALLISTIC MISSILE DEFENSE			X
ANTI-SATELLITE			X
CRUISE MISSILE	X		
TACTICAL			
LAND FORCES			
SAMs (Including Naval)		X	
TANKS		X	
ARTILLERY		X	
INFANTRY COMBAT VEHICLES		X	
ANTI-TANK GUIDED MISSILES		X	
ATTACK HELICOPTERS (VTOL)		X	
CHEMICAL WARFARE			X
BALLISTIC MISSILES		X	
AIR FORCES			
FIGHTER-ATTACK AIRCRAFT	X →		
AIR-TO-AIR MISSILES	X		
PGM	X →		
AIR LIFT	X		
NAVAL FORCES			
SSNs	X →		
ANTI-SUBMARINE WARFARE	X →		
SEA BASED AIR	X		
SURFACE COMBATANTS	X →		
NAVAL CRUISE MISSILE		X →	
MINE WARFARE		X	
AMPHIBIOUS WARFARE	X →		
COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE			
COMMUNICATIONS	X →		
ELECTRONIC COUNTERMEASURES/ECCM	X		
EARLY WARNING (Includes Surveillance & Reconnaissance)	X		
TRAINING SIMULATORS	X		

*1 These are comparisons of system technology level only, and are not necessarily a measure of effectiveness. The comparisons are not dependent on scenario, tactics, quantity, training or other operational factors. Systems farther than 1 year from IOC are not considered.

2 The arrows denote that the relative technology level is changing significantly in the direction indicated.

3 Relative comparisons of technology levels shown depict gross standing only; countries may be superior, equal or inferior in subcategories of a given technology in a deployed military system.

(Source: Undersecretary of Defense, (R&E), Washington, D.C. 20301, (c) 202-695-6462

III - THE U. S. FLEET

B -- THE AIRCRAFT CARRIER BATTLE GROUP

The aircraft carrier battle group is a vital part of the Navy's overall ability to counter aggression successfully and to protect vital sea lines. - Geographically, economically, politically, and culturally the United States is overseas oriented.

The United States, as an essentially island nation requires the ability to influence favorably international affairs. In the event of conflict, the United States must be able to engage and defeat any enemy far from its shores. Simultaneously, it must protect the vital sea lines of communication over which 95 percent of America's exports and imports flow.

The deployment of U. S. Navy sea control forces so far from continential U. S. bases and in such close proximity to hostile bases and operating areas is one of the most demanding requirements placed upon the capabilities of U. S. naval forces. These forces must be able to counter air, surface, and submarine threats simultaneously inasmuch as the enemy can have the initiative of selecting the method of attack.

The large aircraft carrier serves as the key member of a powerful, mobile naval task force, employing antisubmarine aircraft, attack and fighter aircraft, and surface and sub-surface escorts. These air, surface and sub-surface escorts provide the greatest naval power that can be assembled to counter all types of threats at sea.

The carrier battle group possesses the mobility to operate where it can be most effective against any forces threatening the free use of the seas by the United States, and it has the sensors and weapons needed to defeat these threats.

The carrier is a completely outfitted and equipped mobile air operating base for projecting power ashore. This function requires close air support and interdiction aircraft. These aircraft are able to defeat all modern aircraft; penetrate to missile defended targets; conduct precision day, night, and all-weather bombing; and perform the demanding tasks of reconnaissance and surveillance.

Moreover, the maintenance of a credible peacetime presence in trouble areas of the world is of vital importance in preventing the outbreak of conflicts which may be detrimental to U. S. political, economic, or defense interests. The carrier battle group possesses the capability to respond quickly to areas where U. S. interests require a military presence. The carrier can remain offshore, suggestive of America's interests in the affairs ashore. Furthermore, the carrier battle group

and its associated naval units possess the means to respond to virtually any contingent event.

Aircraft carrier battle groups contribute directly to the capability to counter a major Warsaw Pact attack on NATO, principally by helping to keep major sea lanes open against the gamut of potential threats. These mobile forces, together with Marine amphibious forces and selected high mobility units of the other services, also would provide major offensive initiatives during the course of a NATO/Warsaw Pact war or a lesser conflict. Carrier-based tactical aircraft could wage concentrated tactical airpower in remote areas of the world where the United States does not have land bases.

(Source: OP-551, Dept of the Navy, Washington, D. C. 20350
(c) 202-697-9361)

III - THE U. S. FLEET

C -- U. S. SUBMARINE CAPABILITIES

The U.S. Navy's submarine program is based upon two key threads which run consistently throughout current overall naval strategy:

* to deter attack on the United States, our allies and friends, and to prevent coercion under threat of attack

* if deterrence fails, to deny the enemy his war aims through full forward-pressure posture.

The Soviet Union poses the single greatest threat to maintenance of U.S. maritime superiority.

* Soviets are intent on building a first-rate, highly-capable submarine force and a competent anti-submarine force.

* The U. S. Submarine Force must continue to ride the leading edge of technology to maintain an advantage over the Soviet Union's numerically-larger maritime forces.

* Soviets have been working for twenty years to develop an anti-submarine warfare capability with which to counter the U. S. Submarine Force.

* Neither current intelligence nor our own development work in the areas of acoustic and non-acoustic submarine detection indicate any dramatic advance or imminent breakthrough that would put our submarines at significant risk.

* The sea is opaque and the extraordinary capabilities of stealth, endurance and survivability built into U. S. submarines enable them to function as a major deterrent to war, or to become a significant factor in victory should deterrence fail.

U. S. Navy Attack Submarine Force Mission

The multi-mission nuclear-powered attack submarine (SSN) will play a critical role in the Navy's full forward-pressure strategy.

* The U. S. Navy must have complete control of undersea areas in which surface forces are operating.

* The U. S. Navy has established a goal of 100 SSNs based on a need to deploy them both simultaneously and sequentially to accomplish the following missions:

1. Penetrate deeply into hostile seas to conduct sustained independent operations against enemy submarines and surface forces and, with the introduction of cruise missiles, to attack land targets.

2. Protect sea lines of communications.

3. Operate in direct support of carrier battle groups against both submarine and surface threats.

4. Conduct covert special missions such as mining, reconnaissance, and landing of special warfare teams behind enemy lines.

* Attack submarines must be effective in all ocean areas of the world including restricted waters, under the ice, in the tropics and in both deep and shallow oceans. Also must be capable of changing assignments rapidly without logistical support and be able to reposition quickly.

As of 1 August 1984, the U. S. Nuclear attack submarine force consisted of:

* 28 LOS ANGELES (688) class
* 39 STURGEON (637) class
* 13 PERMIT (594) class
* 10 Pre-594 class ships
* 2 Former SSBNs converted to SSNs
* 92 Total SSNs

It is anticipated that the Submarine Force will reach 100 SSNs in the 1990s.

The LOS ANGELES class submarine was designed in the late 1960s.

In the face of the expanding Soviet threat, we are placing high priority on improving the SSNs warfighting capability. Improvements to the LOS ANGELES class submarine include:

* LOS ANGELES class submarines (beginning with SSN 719) have been modified to include 12 vertical launch tubes which increases tactical cruise missile capacity without reducing the number of other weapons carried.

* The Submarine Advanced Combat System (SUBACS) which will incorporate new sensor and computer processing capabilities will be installed beginning with SSN 751.

Although extensive improvements are being made to the LOS ANGELES class submarines, still more improvements will be needed to counter Soviet submarine developments.

* Improvements in sound quieting, better sensors, added firepower, highter tactical speed and increased operating envelope required to address the Soviet submarine threat of the 21st century cannot be incorporated in the existing hull envelope of the LOS ANGELES class submarine.

A new design attack submarine is being developed to meet the future threat and prevail in every phase of undersea warfare. This class has been designated the SSN-21 to signify it is being designed to meet the anticipated Soviet submarine threat and high technological demands of the 21st century.

SSN-21 class background:

- Driven by dramatic improvement in the Soviet fleet.
- Exhaustive examination over 1982-1984 period.
- Conceptual design work by top submarine technical knowledge in Navy Department.
- Maximum benefit from on-going R&D programs in Navy laboratories.
- Participation by industry through open contacts.

SSN-21 performance:

- Military characteristics established which give benefits of technology and dramatic performance improvements over the 688.
  - -- Sound quieting
  - -- Sensor improvements
  - -- Firepower
  - -- Mission employment and survivability
  - -- Tactical speed
  - -- Crew operability improvements
- We have pushed R&D programs to maximum.
- Built-in growth margin.
- Quietest, fastest,most heavily-armed U. S. SSN yet.
- Designed to fight in hostile environment and survive.
- SSN-21 has acoustic advantage to maintain standoff.

SSN-21 Flexibility:

- Multiple-mission capability
- Can carry weapons entering fleet today and beyond.
- Uses same crew manning as 688 class.
- Will replace multiple-mission 637 class as they retire.
- Can carry Tomahawk land attack missile.

The three main weapons deployed in attack submarines are the heavyweight torpedo, the rocket-boosted standoff weapon and the cruise missile. All have follow-on variants in development.

The MK-48 heavyweight torpedo makes up the majority of submarine weapons complement.

* Two programs in place to improve the MK-48 torpedo in the near term and far-term:

1. Near-term: well into the program to improve the reliability of MK-48. In-service MK-48s are being modified during the upgrade to provide an interim capability against the deep, fast submarine threat.

2. Far-term: the advanced capability program (ADCAP) is developing a major performance modification to the MK-48. ADCAP will improve heavyweight torpedo performance in the following areas:

- shallow water performance
- performance in high seas
- performance within strong thermal gradients
- deep-diving capabilities
- speed capabilities

Changes in the guidance and control system of the MK-48 will improve its effectiveness against threats with reduced sonar target strength and targets which present a low doppler profile.

The Anti-Surface Warfare (ASUW) exploder sensor has been improved over that of the MK-48.

ADCAP will outperform the MK-48 in high background noise/high reverberation environments.

The submarine-launched anti-submarine [illegible] weapons (ASWSOW), which will replace the aging SUBROC [illegible] in the demonstration and validation phase of development.

* The ASWSOW will carry a newly-developed nuclear depth bomb payload and the development program includes a follow-on, conventional payload variant.

* The ASWSOW incorporates a digital guidance system - the same inertial guidance system used in the MK-48 ADCAP torpedo.

* While the SUBROC uses only a nuclear depth bomb, the ASWSOW will, in addition, have the option of using the MK-50 advanced lightweight torpedo currently in development.

* The ASWSOW is capable of deep launch from a submarine torpedo tube with one of the two warhead options. The missile then is buoyed to the surface in a water-tight container where the solid propellent rocket motor ignites and delivers the weapon to the target area at supersonic speed. At a point above the suspected target area, the warhead detaches from the rocket and parachutes to the water. Upon contact with water, the torpedo warhead assumes its search and attack pattern, whereas the nuclear depth bomb sinks to a pre-determined depth and explodes.

* The existence of the ASWSOW complements the capabilities of the MK-48 ADCAP torpedo by providing a standoff option whereby an enemy submarine can be incapacitated (with a conventional or nuclear warhead) from a distance well beyond the maximum engagement range of the MK-48 ADCAP torpedo.

Attack submarines are capable of carrying Harpoon anti-ship cruise missiles and are being given the capability of carrying the Tomahawk Cruise missile in its many variants. Tomahawk Cruise missiles will supplant Harpoon.

* Harpoon missiles, which complement the MK-48 torpedo, have performed extremely well.

* Will provide a capable, reliable weapon system of enormous significance and with much improved range over Harpoon.

* The Tomahawk anti-ship variant (TASM) has been introduced into attack submarines.

* The nuclear-armed, land attack Tomahawk was introduced into the fleet in mid-1984.

* Other initial operating capabilities (IOCs)

1. Land attack Tomahawk (unitary warhead) - March 1986

2. Land attack Tomahawk (submunition dispenser) - September 1987

Strategic Submarine Force

Deterrence of war has been the sole mission and fundamental reason for the existence of the fleet ballistic missile submarine since its inception in 1960.

This is the Navy's highest priority program and is an essential cornerstone of national security policy; functioning as a survivable and dependable leg of the strategic deterrent TRIAD.

Fleet ballistic missile submarines have successfully completed over 2,200 strategic deterrent patrols.

As of 1 July 1984, the fleet ballistic missile submarine force consisted of 31 POSEIDON and four TRIDENT submarines.

The TRIDENT submarine is a state-of-the-art replacement for the aging fleet ballistic missile submarines built during a short period in the 1960s.

* As of 1 August 1984, the TRIDENT force consisted of USS OHIO (SSBN-726), USS MICHIGAN (SSBN-727), USS FLORIDA (SSBN-728), and USS GEORGIA (SSBN-729). The fifth TRIDENT submarine, USS HENRY M. JACKSON (SSBN-730) was commissioned in October 1984.

* All four TRIDENT submarines have exceeded their performance design specifications in speed and quietness and have successfully launched Trident (C-4) test missiles.

* Eleven TRIDENTs have been authorized by Congress, and current Navy plans call for TRIDENT submarines to be authorized at a steady procurement rate of one submarine per year.

Each TRIDENT submarine is far more capable than the POSEIDON submarine it will replace, both in number of missiles carried and destructive capability.

As of 1 July 1984, there are 31 POSEIDON submarines of which 12 have been backfitted to carry the Trident I (C-4) missile.

* Deployment with the Trident I missile has enhanced markedly the survivability of the POSEIDON submarines.

* The increased-range capability of the Trident I missile provides the POSEIDON submarines with a far more expansive operating area and allows them to cover targets shortly after leaving U.S. ports.

* POSEIDON submarines will be retired and replaced by the TRIDENT submarines by the late 1990s.

The Navy began development in 1980 of a new submarine-launched ballistic missile, the Trident II (D-5), with improved accuracy, extended range and greater payload.

* The Trident II (D-5) program is in the engineering development phase.

* Trident II will deliver significantly more payload than Trident I with a major improvement in accuracy.

* Trident II full load range will be comparable to or greater than the Trident I with an option to configure for greater ranges with fewer reentry vehicles.

* Trident II will substantially improve the strategic submarine contribution to the TRIAD by providing an extended capability against a larger spectrum of targets.

* Beginning with the ninth TRIDENT submarine, all new construction ships will be equipped with the Trident II missile system as they are built.

* Eventually, all TRIDENT submarines will be configured to carry Trident II missiles.

* The first eight TRIDENT submarines will receive Trident II missiles during their first overhauls beginning in the early 1990s.

Strategic Submarine Basing

In the Atlantic, fleet ballistic missile submarines are based at Holy Loch, Scotland; Charleston, South Carolina; and Kings Bay, Georgia.

In the Pacific, the sole base is at Bangor, Washington.

Strategic submarine logistical base systems are designed to maximize the at-sea periods of fleet ballistic missile submarines.

The submarine base at Bangor is providing training, maintenance, and weapon system support to USS OHIO, USS MICHIGAN, and USS FLORIDA. (USS GEORGIA will arrive at Bangor in late 1984.)

Improvements in logistical support system have reduced refit time from 30 to 25 days for OHIO-class ships.

The TRIDENT base at Kings Bay is under construction and will have the same major facilities as the Bangor base.

The strategic systems at Kings Bay have been designed to support the Trident II.

Kings Bay will be ready to support the initial operating capability (IOC) of the Trident II missile in 1989 and the deployment of the first submarine equipped with the Trident II missle system.

Kings Bay presently supports POSEIDON submarines backfitted with the TRIDENT I missile system.

Deep Submergence Program

The Deep Submergence Program is an integral component of the Submarine Force.

* Engages in submarine search and personnel rescue.

* Is capable of performing ocean engineering taks, e.g., object search, location and recovery on or near the deep ocean floor.

Deep Submergence Systems include a variety of submersible and surface support vessels.

* Manned untethered submersibles such as DSV SEA CLIFF and DSV TURTLE.

* Unmanned tethered search equipment and recovery platforms.

* Air-mixed gas diving equipment including saturation diving systems.

* ASR-21 class ships USS PIGEON and USS ORTOLAN were designed specifically to support DSRVs.

* Systems provide Navy access to the deep ocean floor (up to 20,000 feet).

* Only two percent of the world's ocean floor is inaccessible to the Navy.

A principal element of the Deep Submergence Program is to maintain readiness for rescue of crew of a submarine immobilized on the sea floor.

* DSRV system was developed to fill the need.

* When alerted, the DSRV with support equipment is ready to be flown to an airport near the accident scene.

* The DSRV is moved overland to a nearby port where it is loaded piggyback on a nuclear submarine outfitted as a "mother sub."

* The "mother sub" transports the DSRV to the scene where the DSRV locates and "mates" with the distressed submarine to transfer the crew safely into the mother sub.

* Bilateral agreements with many of our allies have been or are being negotiated for the contingency rescue of their personnel from disabled submarines.

The Deep Submergence Program is playing an increasingly significant role in naval operations.

* Recovery of lost U.S. objects of intrinsic or strategic value.

* Participation in marine-research programs.

Submarine Force Personnel

People are the number one asset in the submarine force. It is essential to continue careful/deliberate management of this key element with meaningful forethought to maintain incentives which attract quality applicants and retain highly-trained individuals sought after by civilian industry.

Increased submarine pay, improved nuclear officer incentive pay and selective reenlistment bonuses, continuation of spot promotion authority, quality training, and the opportunity to serve in challenging assignments ashore will help sustain the positive trends in accessions and retention now evident among the officers and enlisted personnel of the submarine community.

* Officers now entering the submarine force can anticipate a sea-shore rotation of 11 and 9 years.

1. Improvement over recent past where about 14 of first 20 years were spent at sea.

2. Shore tours available for junior officers include postgraduate education; instructor duty at OCS, NROTC units and other training activities as well as staff duty at major commands.

* Approximately 600 officers enter the submarine force each year attracted by quality of the training, opportunity to be a part of an elite force, and renumeration concomitant with submarine service.

* Officer retention has increased steadily since hitting a low of 33 percent in 1981. In 1984 and 1985, retention is expected to approach 50 percent.

* Previously inadequate accessions/retention now reflected in mid-grade (LCDR - CAPT) officer shortfalls resulting in some extensions of sea tours, loss of assignment flexibility, gapping of essential ship support billets.

* Enlisted accessions meeting/exceeding goals.

* Enlisted retention, while showing a long-term increase, not as high as needed.

1. Must lift SRB ceilings, add another multiple, allow lump sum payments.

2. Some paygrades/ratings spend 5 years at sea and only 2 1/2 years ashore.

* Senior enlisted supervisory manning hovering at 100 percent compared to less than 80 percent only three years ago.

(Source: DCNO/Submarine Warfare, Washington, D. C. 20350
(c) 202-697-8704)

III - THE U. S. FLEET

D -- ANTI-SUBMARINE WARFARE

U. S. naval forces perform serveral key functions in support of U.S. national defense strategy. Operating in concert with land-based air forces and with the maritime forces of our allies, U. S. naval forces preserve access to vital ocean areas and protect the sea lanes necessary to reinforce U. S. and allied forces overseas. Naval forces also support an active forward defense of key regions on the Eurasian littoral that are integral to our defense system. Primary among these are the nations on NATO's northern and southern flanks, allied nations in the Pacific region, and friendly countries exposed to potential Soviet aggression in the Middle East and Persian Gulf regions. The Secretary of Defense, on 1 February 1984, discussing Defense Programs for the period Fiscal Year (FY) 1985 - 89, outlined several initiatives to expand and modernize our general purpose naval forces in support of these functions. Programed priorities for naval forces to pursue include four broad objectives:

* Expanding and improving power projection forces, including carrier battle groups, amphibious assault ships, reactivated battleships, attack submarines, and Cruise missiles;

* Strengthening the ability to defend vital sea lanes and naval task forces against air attacks;

* Retaining the crucial edge in antisubmarine warfare (ASW) capabilities in the face of relentless improvements in the Soviet submarine force; and

* Expanding and modernizing support forces, including logistics ships and mine warfare forces.

Additionally, over the next five years modernization of the ballistic missile force will continue by adding new Trident submarines and developing the Trident II missile. These priorities have had a significant impact on Navy programs, in particular those that comprise the Antisubmarine Warfare (ASW) Program. The following are excerpts taken from the Secretary of Defense's Report to Congress on FY-85/89 Defense Programs and present the status of planned ASW forces for that period.

Effectiveness against the Soviet submarine threat requires a layered offense-in-depth that both maximizes enemy attrition and affords a high level of protection for our naval forces. The best means of neutralizing enemy submarines is to engage them in forward areas and barriers -- before they come within attack range. To implement this, reliance is placed on long-range P-3 patrol aircraft, Captor (Encapsulated Torpedo) mines, and attack submarines, supported by undersea surveillance systems. Enemy submarines that escape forward sweeps and penetrate ASW barriers

must contend with a layered defensive screen surrounding naval task forces and convoys. Generally, long-range protection is provided to carrier battle groups by carrier-based S-3 ASW aircraft, land-based P-3 patrol aircraft, and attack submarines operating in direct support. Long-range protection for other naval task forces -- including replenishment groups, amphibious forces, and military convoys -- is provided by P-3 aircraft. Mid-range protection is provided both to carrier battle groups and to other naval task forces by formations of surface combatants equipped with towed-array passive sonar systems and torpedo-armed antisubmarine helicopters. An inner zone screen for carrier battle groups and other task forces is provided by surface combatants equipped with powerful hull-mounted active sonars, while carrier battle groups are afforded additional protection by carrier-based antisubmarine helicopters carrying specially-designed active sonars.

ASW surveillance systems

The ability to locate enemy submarines within broad ocean areas is essential to countering the large Soviet submarine force. Fixed undersea surveillance systems play a key role in this respect. The FY-85/89 program funds two new systems designed to maintain our advantage in submarine surveillance.

Surveillance Towed Array Sensor (T-AGOS)

Surveillance Towed Array Sensor (SURTASS) T-AGOS ships, towing the new mobile long-range surveillance system, joined the fleet in late 1984. These ships supplement fixed surveillance systems by extending coverage to ocean areas not presently monitored and by providing a backup system if the fixed systems is incapacitated. Congress has appropriated funds for 12 T-AGOS ships through FY-84. The five-year program requests funds for three each in FY-85/86.

Rapidly Deployable Surveillance System

To augment existing surveillance systems, development of a new mobile undersea monitoring system, designated Rapidly Deployable Surveillance System (RDSS) is underway. Designed to be dropped from patrol aircraft, the RDSS will allow forces to provide extended undersea coverage on a time-urgent basis in areas of special interest. The system is scheduled for deployment by the end of the decade.

Attack submarines

SSN nuclear-powered attack submarines remain a key element of the ASW offense-in-depth strategy and are an integral part of the forward strategy. Early in a wartime scenario, undersea forces must be capable of moving into far-forward positions,

including waters where Soviet naval forces would operate. To carry out this mission, attack submarines must retain an overall qualitative superiority over Soviet forces.

IMPROVEMENTS

With the deployment of Tomahawk Cruise missiles, attack submarines will play an expanded role in antiship warfare missions as well as projecting power ashore. These missions -- combined with the ASW missions of carrier escort, barrier patrol, and forward area operations -- establish the basis for our force goal of 100 multimission nuclear-powered attack submarines.

To achieve this later goal, a steady acceleration in the rate of submarine construction has been sought. With the authorization of three SSN-688s in FY-84 and the requested authorization of four additional units in FY-85, the production rate of these highly-capable submarines will have doubled since FY-82. Congress has authorized 44 SSN-688s to date, and funds are being requested for 20 more through FY-89.

To keep pace with improvements in the Soviet submarine force, several programs to modify and improve the SSN-688 design have been initiated. New SSN-688s are being provided additional firepower through the development of long-range standoff weapons and improvments to the SSN-688 submarine quieter. New SSN-688s also are being modified to operate under the ice -- essential for conducting forward patrols in nothern waters. Another important improvement, minelaying ability, is scheduled for incorporation in FY-85.

Further improvements to the Los Angeles class are being made in the area of sensor and computer-processing capabilities. The Submarine Advanced Combat System (SUBACS), which will be installed on all submarines authorized in FY-83 and subsequent years, incorporates the latest in computer technology, thereby improving reliability and ensuring that the technological edge in detection and targeting is maintained.

To meet the Soviet submarine threat of the 21st century, development of a new attack submarine incorporating the latest advances in technology has begun. A key design objective is to make improvements in sound-quieting. The new submarine also will carry more weapons than previous classes, will have improved sensor systems, and will be able to operate under the ice more effectively. These improvements, which cannot be accommodated within the existing SSN-68 hull, are necessary if we are to maintain our qualitative advantage over Soviet submarines and the ability to operate in forward areas. The new-design SSN also will provide the necessary flexibility to react to the inevitable changes that will occur in naval warfare over the next 40 years. Now in a preliminary design stage, the new submarine is scheduled for initial production in FY-89.

Maritime Patrol Aircraft

P-3 maritime patrol aircraft, when provided information from broad-area surveillance systems on the general location of Soviet submarines, offer the best area antisubmarine capability. Fleet exercises have demonstrated their utility as long-range protection forces for carrier battle groups and other naval task forces. Several characteristics of the P-3 system contribute to these capabilities; 1. The aircraft's long range and high endurance enable it to cover large ocean areas. 2. Its large numbers of sonobuoys and advanced data-processing systems help pinpoint the location of enemy submarines. 3. Its large payload of ASW torpedoes provides the capability to translate submarine detection into kills. The FY-85/89 program continues production of the latest model in the P-3 series, the P-3C, which is much more effective than the older A model it replaces. A total of 241-3Cs have been authorized through FY-84, and the five-year program requests funds for 45 more. All of these will be produced in the Update III configuration, which incorporates improved data-processing equipment and new air-dropped sensors.

Sea-Based Aircraft

Defense of naval task forces and convoys also is provided by sea-based ASW aircraft - considered a vital part of the layered defense surrounding these forces. Long-range protection is provided by the carrier's S-3 aircraft and inner-zone protection is provided by the carrier's SH-3 helicopters.

S-3 Weapon System Improvement

The S-3 Weapon System Improvement Program (WSIP) is a block modification upgrade to increase mission effectiveness against current and projected threats to the Carrier Battle Group (CVBG). WSIP improves the aircraft's ability to counter the outer-zone subsurface and surface threat to the CVBG. It incorporates the Navy Standard Advanced Signal Processor, increased sonobuoy receiver and sonobuoy reference system capabilities, an improved analaog tape recorder, a submarine communications down-line capability, RADAR (Inverse Synthetic Aperture Radar (ISAR) classification) and Electronic Support Measures (ESM) improvements, the addition of Harpoon, and a defensive chaff, flare and jammer dispensing capability.

Inner-zone Helicopter

The SH-3H helicopters currently in service are reaching the end of their design life. Current inventory shortages will go to 27 aircraft when the 13th squadron becomes operational in FY-85. Efforts currently are underway to hold industry competition for a new inner-zone helicopter with a proposed Initiation of Operational Capability of 1990. To fill the gap

between now and 1990, 26 SH-3D's will be converted (CILOP) to SH-3Hs with deliveries commencing in 1986. In FY-88, the SH-3Hs will have their service life extended.

Surface ship ASW systems

Tactical Towed-Array Sonar (TACTAS)

The long range detection capabilities of tactical towed-array Sonar (TACTAS) will substantially enhance the ASW capability of surface combatants, providing an essential counter to the countinuing increases in the range of weapons carried by Soviet submarines. The SQR-18 towed-array sonar system is being deployed aboard all 46 of our FF-1052 class frigates, including those in the Naval Reserve Force. The SQR-19, a more advanced towed-array sonar system, is now in the final stages of development, following a series of highly-successful sea tests. The system is scheduled for installation later in the decade on DD-963, DDG-993, and DDG-51 destroyers, and on CG-47 cruisers and active FFG-7 frigates.

Light Airborne Multipurpose System (LAMPS)

1984 marks the introduction into the fleet of the SH-60B LAMPS MK III antisubmarine helicopter, also known as Seahawk. A derivative of the Army's H-60 Blackhawk, the Seahawk, incorporating advanced electronics, allows modern surface combatants to exploit the opportunity for long-range ASW engagements offered by the detection capabilities of towed-array sonars. Engagements at extended ranges are essential if our forces are to destroy enemy submarines before they come close enough to launch salvos of long range antiship missiles and torpedoes.

Current plans call for deploying LAMPS MK III helicopters aboard some 100 surface combatants, including DD-963 and DDG-993 destroyers, CG-47 cruisers, and active FFG-7 frigates. An earlier ASW helicopter, the LAMPS MK I Seasprite, will continue to be deployed aboard reserve FFG-7s and older frigates, which will not be upgraded to support the LAMPS MK III system. An existing shortage of LAMPS MK I helicopters will be eliminated by the early 1990s through the conversion of surface combatants from the LAMPS MK I to the LAMPS MK III configuration and the continued delivery of new and refurbished Seasprite helicopters funded in FY-84 and prior years.

We plan a stable production rate of 18 SH-60B helicopters per year, with a total of 90 to be requested over the next five years. With the 66 Seahawks that have been authorized through FY-84, this will provide at least one SH-60B for each suitably-configured surface combatant.

ASW Weapons

Improved ASW weapons must be developed that incorporate qualitative improvements able to defeat the new Soviet submarines that are faster and quieter, can dive deeper, and have greater resistance to hull penetration. To that end, our heavy and light-weight torpedoes and our long-range ASW rockets continue to be improved.

MK-48 Torpedoes

Production of the MK-48 heavy weight torpedo continues. This submarine weapon can be used against surface ships and submarines. To increase its effectiveness against the new Soviet submarines now entering service, development of an upgraded version, called ADCAP (for Advanced Capability) is continuing. The ADCAP program is on schedule, and the system should be deployed in the mid to late 1980's.

Lightweight Torpedo

The inventory of MK-46 lightweight ASW torpedoes is being upgraded. These weapons can be launched from surface ships, patrol aircraft, or antisubmarine helicopters, and they also are carried as payload in long-range antisubmarine rockets and Captor mines. To provide the near-term improvements needed to counter new Soviet submarines, procurement of an upgraded version, called NEARTIP (Near-Term Improvement Program) is in effect. The program includes both new torpedoes and conversion kits to modify older ones.

For the late 1980s, development of the MK-50 torpedo, formerly known as the Advanced Lightweight Torpedo (ALWT) is being implemented. An entirely new torpedo, the MK-50 will be significantly more capable than the MK-46 in terms of speed, diving depth, accuracy, and destructiveness. The program is making impressive progress.

Long-range ASW Weapons

Development of two new long-range ASW weapons that will be able to attack enemy submarines outside effective torpedo range is continuing. The first of these, the ASW Standoff Weapon (ASWSOW), is slated to replace the aging Submarine Rocket (SUBROC) deployed with attack submarines. The second new system, called the Vertical Launch ASROC (VLA), will replace the aging Antisubmarine Rocket (ASROC) on surface ships.

Conclusion

The above programs continue to enhance existing ASW foundations and strengthen maritime defense capabilities.

Progress must be sustained to maintain the competitive edge with a full range of capabilities needed to counter the growing threat from Soviet naval forces.

(Source: OP-51B, Dept of the Navy, Washington, D. C. 20350
(c) 202-695-1545)

III - THE U. S. FLEET

E -- THE AEGIS SYSTEM

OBJECTIVE.

For more than 40 years, the U. S. Navy has developed systems and tactics to protect itself from air attacks. Since the end of World War II, several generations of anti-ship missiles have emerged as the air threat to the fleet. The first combatant ship sunk by one of these new missiles was an Israeli destroyer in October 1967, hit by a Soviet-built missile. The effectiveness of such weapons was reconfirmed as late as June of 1982, when HMS Sheffield was sunk in the Falkland Islands by a French-built EXOCET missile. These anti-ship missiles can be launched from under the sea, from the surface of the sea, and from aircraft above the sea. Many can be launched several hundred miles away. The attacks can be coordinated so that several missiles arrive almost simultaneously, and some of the missiles have a nuclear capability.

The U.S. Navy's defense against this threat has continued to rely on the winning strategy of Defense in Depth. Guns have been replaced by a new generation of guided missiles introduced in the late fifties in our ships and aircraft. By the late sixties, these missiles were performing well, but it was recognized that our reaction time, firepower, and operational availability in all environments did not match the threat. To counter this, an operational requirement for an Advanced Surface Missile System (ASMS) was promulgated, and a comprehensive Engineering Development program was initiated to meet that requirment. ASMS was re-named AEGIS (after the mythological shield of Zeus) in December of 1969.

Drawing on state-of-the-art technology -- particularly in digital computers and radar signal processing -- the Aegis System was designed as a total weapon system, from detection to kill. The heart of the system was an advanced, automatic detect and track, multi-function phased-array radar, the AN/SPY-1. This high power (4 MW) radar is able to perform search, track, and missile guidance functions simultaneously with a track capacity of well over 100 targets. After several years of development and land-based testing, the first Engineering Development Model (EDM-1) was installed in the test ship, USS NORTON SOUND (AVM 1) in 1973, and within weeks had successfully engaged the most difficult targets possible in stressing anti-air warfare (AAW) scenarios.

The AEGIS weapon system is the most capable surface launched missile system the Navy has ever put to sea and it can defeat an extremely wide range of targets -- from very high to very low altitude anti-ship Cruise missiles and manned aircraft, flying at both supersonic and subsonic speeds, and in the severest environmental conditions, both natural and man-made. The

computer-based command and decision element of the original AEGIS AAW weapons system is the core of the AEGIS combat system.

The AEGIS combat system is capable of simultaneous operation in all modes of warfare operations: anti-air, anti-submarine and anti-surface warfare. The combat system also has the capability for overall force coordination.

The objective and mission of AEGIS is to destroy enemy aircraft, missiles, submarines and surface ships. Aegis class ships will be assigned to carrier battle groups.

CURRENT STATUS.

The sophistication and complexity of the AEGIS combat system are such that the marriage of engineering and acquisition of AEGIS and AEGIS-equipped ships demands special management treatment. This "marriage" was effected by the establishment of the AEGIS shipbuilding project (PMS-400) in 1977. The special management treatment includes the amalgamation and structuring of hull machinery and electrical systems, combat systems, computer programs, repair parts, personnel maintenance documentation, and tactical operating documentation into a unified organization to create the system capability.

The charter for PMS-400 represents the most significant Navy management decision to date, one which has had a far-reaching impact on acquisition management, design, and life-time support of modern Navy ships. For the first time in the history of the acquisition of surface combatants, PMS-400 introduced an organization that has both responsibility and authority to simultaneously manage development/acquisition, combat system integration, and life-time support.

After studying several shipboard applications, the decision was made to construct AEGIS cruisers based on the hull and machinery designs of SPRUANCE class ships. The first ship of the class, USS TICONDEROGA (CG-47), was christened by the wife of the President, Mrs. Nancy Reagan on Armed Forces Day 1981, and commissioned on 23 January 1983. She deployed to the Mediterranean with the USS INDEPENDENCE Battle Group in October 1983, and supplied the best air defense coverage our ships off Lebanon had ever seen. Of the ships's performance with the Sixth Fleet the Chief of Naval Operations said, "TICONDEROGA provided to the Eastern Mediterranean Task Force an impressive new tactical dimension which included 100 percent weapon system availability and a totally coherent air picture allowing the Anti-Air Warfare Capability (AWC) (embarked on TICONDEROGA) to manage rather than react to a difficult tactical situation".

Upon her return from the Mediterranean she shot down 10 of 11 drones in a spectacular follow-on operational test and evaluation exercise in the Caribbean. She has been joined in the fleet by a sister ship, USS Yorktown (CG-48).

FUTURE OUTLOOK.

Vincennes (CG-49), and Valley Forge (CG-50) are undergoing sea trials and final stages of completion. Nine other AEGIS cruisers are either in construction or authorized. The fiscal 1984 procurement was significant in that the three ships authorized were opened to competition. Fourteen additional AEGIS cruisers are included in POM-86 for a total of 27. (See Table A).

In 1980, preliminary plans for a destroyer-size ship with AEGIS capabilities were studied. Because of advanced technology in relevant fields, it is now possible to build an AEGIS system compatible with destroyers. As a result, the first ship of the DDG 51 class is in the FY-1985 budget, and 28 others are planned. Eighteen have been programmed in POM-86 out through 1990. (See Table B).

In a very rare procedure, the lead ship of the class has been named after a living person -- the legendary Admiral Arleigh Burke -- the most famous destroyerman of World War II. "Thirty-one knot" Burke was present at the signing of the official drawing package for DDG 51 in Washington in June 1984. Contract Award is expected in early 1985 with commissioning in July 1989. The management of both the AEGIS cruiser and the AEGIS destroyer programs are in the AEGIS Shipbuilding Project (PMS-400).

BENEFITS.

The Surface Navy's AEGIS system provides area defense for the battle group as well as providing a clear air picture for more effective deployment of F-14 and F-18 aircraft. It will enable fighter aircraft to concentrate more on the outer air battle while AEGIS cruisers and destroyers assume a greater responsibility for battle group area defense. The highly accurate firing of AEGIS weapon systems will result in minimizing the expenditure of assets.

As long as our blue water Navy will be required to steam "in harm's way" in carrying out assigned missions, a formidable anti-air warfare capability will be required. The AEGIS system has given AAW forces a decided edge for the present, and planned upgrades to the standard missiles, the introduction of vertical launchers, and evolutionary improvements to AEGIS itself promises to give the fleet an extremely capable AAW system to the turn of the century.

2 Appendixes:
A. Table A - Acquisition, Aegis Cruiser
B. Table B - Acquisition (Proposed) Aegis Destroyer

(Source: OP-355, CNO, Washington, D. C. 20350, (c) 202-695-0536)

TABLE A

AEGIS CRUISER ACQUISITION SCHEDULE

SHIP NAME	HULL NO	FISCAL YEAR AUTHORIZED
TICONDEROGA	CG-47	78
YORKTOWN	CG-48	80
VINCENNES	CG-49	81
VALLEY FORGE	CG-50	81
THOMAS S. GATES	CG-51	82
*	CG-52	82
*	CG-53	82
*	CG-54	83
*	CG-55	83
*	CG-56	83
*	CG-57	84
*	CG-58	84
*	CG-59	84
*	CG-60	85
*	CG-61	85
*	CG-62	85
*	CG-63	86
*	CG-64	86
*	CG-65	86
*	CG-66	87
*	CG-67	87
*	CG-68	87
*	CG-69	88
*	CG-70	88
*	CG-71	88
*	CG-72	89
*	CG-73	89

*Name to be determined.

(Source: OP-355, Dept of the Navy, Washington, D. C. 20350
(c) 202-695-0536)

TABLE B

AEGIS DESTROYER ACQUISTION SCHEDULE

SHIP NAME	HULL NO.	FISCAL YEARS AUTHORIZED
ARLEIGH BURKE	DDG-51	85
*	DDG-52	87
*	DDG-53	87
*	DDG-54	88
*	DDG-55	88
*	DDG-56	88
*	DDG-57	88
*	DDG-58	88
*	DDG-59	89
*	DDG-60	89
*	DDG-61	89
*	DDG-62	89
*	DDG-63	89
*	DDG-64	90
*	DDG-65	90
*	DDG-66	90
*	DDG-67	90
*	DDG-68	90

*Name to be determined.

(Source: OP-355, CNO, Washington, D. C. 20350
(c) 202-695-0536)

IV - THE SOVIET FLEET

A -- U.S.S.R. NAVAL ORDERS OF BATTLE (NOV 1983)

SHIPS**	North Sea	Baltic Sea	Black* Sea	Pacific Ocean	Total
Submarines					
DELTA Class SSBN	22	-	-	14	36
YANKEE Class SSBN	15	-	-	9	24
HOTEL Class SSBN	2	-	-	-	2
TYPHOON Class SSBN	3	-	-	-	3
GOLF Class SSB	1	6	1	7	15
CHARLIE/ECHO/OSCAR Class SSGN/JULIETT/ WHISKEY Class SSG	-	-	-	-	66
ALFA/ECHO/NOVEMBER/ VICTOR/ Class SSN, BRAVO/FOXTROT/KILO/ ROMEO/TANGO/WHISKEY/ ZULU Class SS	-	-	-	-	208
HOTEL/YANKEE Class SSBN	-	-	-	-	16
Total	190	32	23	125	***370
Aircraft Carriers	0	0	0	0	0
KIEV Class CVHG	1	0	1	1	3
Principal Surface Combatants					
MOSKVA Class CHG	0	0	2	0	2
KIROV Class CGN	1	0	0	0	1
KARA Class CG	0	0	4	3	7
KRESTA I Class CG	1	1	0	2	4
KRESTA II Class CG	6	2	0	3	10
KYNDA Class CG	0	0	2	2	4
SLAVA Class CG	0	0	1	0	1
SVERDLOV Class CG	0	0	1	0	1

* Includes Units assigned to the Caspian Sea Flotilla

** Reserve units are not included.

*** Includes about 160 nuclear-powered submarines. Approximately 50 percent of the Soviet submarines are assigned to the northern fleet, 10 percent to the Baltic Fleet, 8 percent to the Black Sea Fleet, and 32 percent to the Pacific Ocean Fleet.

SHIPS	North Sea	Baltic Sea	Black* Sea	Pacific Ocean	Total
Principal Surface Combatants (Con't)					
CHAPAEV Class CL	0	1	0	0	1
SVERDLOV Class CL	2	1	3	3	9
KANIN Class DDG	5	0	0	3	8
KASHIN/MOD KASHIN Class DDG	3	4	8	4	19
KILDIN Class DDG	0	0	0	1	1
KOTLIN Class DDG	2	1	3	2	8
KOTLIN/MOD KILDIN/ SKORY CLASS DD	5	5	5	10	25
SOVREMENNYY Class DDG	2	1	0	0	3
UDALOY Class DDG	2	1	0	0	3
KRIVAK Class FFG	8	7	7	10	32
KONI/RIGA Class FF	10	5	10	10	35
GRISHA/MIRKA/PETYA Class FFL	30	15	30	35	110
Total	77	43	76	88	289
Patrol Combatants					
SARANCHA Class PGGH, NANUCHKA TARANTUL Class PGG	-	-	-	-	30
PAUK/POTI Class PG	-	-	-	-	70
IVAN SUSANIN/ OKHTENSKY/PURGA/ SORUM/T-43-58.	-	-	-	-	50
Total	30	40	20	60	150
Amphibious Warfare Ships					
IVAN ROGOV Class LPD	0	2	0	0	2
ALLIGATOR Class LST	2	2	5	5	14
ROPUCHA Class LST	5	6	0	7	18
MP-4/POLNOCHNY Class LSM	5	10	20	10	45
Total	12	20	25	22	79
Mine Warfare Ships					
NATYA/T-43/YURKA Class MSF	30	35	40	20	125

* Includes Units assigned to the Caspian Sea Flotilla

SHIPS	North Sea	Baltic Sea	Black* Sea	Pacific Ocean	Total
Coastal Patrol-River/Roadstead Craft					
MATKA Class PTGK, OSA Class PTG	-	-	-	-	130
BABOCHKA Class PCSH, S.O.1 Class PCS, STENKA Class WPCS	-	-	-	-	125
TURYA Class PTH, SHERSHEN Class PT	-	-	-	-	40
PCF, WPBH, PM	-	-	-	-	115
Total	25	115	120	150	410
Mine Warfare Craft					
MSC, MHC, MSI, MSB, MSD	35	100	60	65	260
Underway Replenishment Ships					
AO	-	-	-	-	40
AOR	-	-	-	-	20
AF, AFS, AW	-	-	-	-	25
Total	25	115	120	150	410
Material Support Ships					
AEM, AGP, AR, AS	30	10	10	20	70
Fleet Support Ships					
ATA, ASR, ARS	45	25	35	40	145
Other Auxiliaries**	105	115	110	150	480
Total Ships	605	545	545	766	2461

* Includes units assigned to the Caspian Sea flotilla.

** Includes intelligence collection ships, hydrographic survey ships, cargo ships, and other miscellaneous auxiliaries.

	North Sea	Baltic Sea	Black Sea	Pacific Ocean	Total
Naval Aircraft					
Tactical Strike/Bombers (BACKFIRE, BADGER, BLINDER)	-	-	-	-	375
Fighter/Fighter-Bombers (FORGER, FITTER)	-	-	-	-	110
TOTAL	100	135	100	150	485
Tactical Support					
Tankers (BADGER)	-	-	-	-	75
Reconnaisance/ Electronic Warfare (BEAR D, BADGER, BLINDER)	-	-	-	-	170
Total	85	45	35	80	245
Antisubmarine Warfare (ASW)					
BEAR F, MAY, MAIL, HORMONE A, HAZE A, HELIX	145	50	100	145	440
Utility					
Transport/Training (Various)	95	45	170+	65	325
Total Naval Aircraft	425	275	408	440	1545
Personnel Strength					
Afloat	-	-	-	-	186,000
Naval Aviation	-	-	-	-	68,000
Coastal Defense	-	-	-	-	14,000
Naval Infantry	-	-	-	-	13,000
Training	-	-	-	-	57,000
Shore Support	-	-	-	-	123,000

+Includes training aircraft at the Soviet Naval Aviation School.

Total Personnel Strength		
	119,000	North Sea
	107,000	Baltic Sea
	101,000**	Black Sea
	134,000	Pacific Ocean
TOTAL	461,000	

** Includes personnel assigned to the Caspian Sea Flotilla

(Source: DDB - 1200-124A-84)

V - FLEET COMPARISONS: U. S. vs. U. S. S. R.

A--Naval Vessels/U. S. vs. U. S. S. R.

Ground forces, tactical air forces, naval forces and mobility forces (including airlift and sealift forces) make up general purpose or conventional forces. The Soviets have continued their steadily growing program of modernization and expansion for their general purpose forces. Included in General Purpose Naval Forces are major surface combatants (over 900 tons), attack submarines, ASW aircraft and ASW carriers, amphibious warfare ships and naval forces directly supporting the fleets (auxiliaries).

The U.S.S.R. has about 30 percent more surface combatants in its fleet than the U.S. However, overall displacement tonnage of the U.S., including aircraft carriers, is nearly 20 percent greater than that of the U.S.S.R.

The Soviet naval investment strategy differs substantially from that of the U.S. Half the estimated dollar value of the Soviet inventory is in attack submarines, whereas half the value of the U.S. inventory is distributed roughly equally between attack submarines and aircraft carriers.

Included in major surface combatants are attack and ASW carriers, battleships, cruisers, destroyers, frigates and corvettes (over 900 tons).

Soviet construction of general purpose naval ships increasingly emphasizes large, sophisticated ships capable of sustained deployments in distant areas. These ships--such as the KIROV class nuclear-powered guided missile cruisers and the OSCAR class nuclear-powered cruise missile submarines--pose an increasing threat to our naval surface forces, even though the Soviets have currently built only a small number of these new type ships. Current Soviet major surface combatant construction programs include KIROV class nuclear-powered cruisers, SLAVA class conventionally-powered cruisers, the SOVREMENNYY and UDALOY class destroyers, and GRISHA class corvettes. The second unit of the KIROV class-the largest cruiser type ships in the world--will be operational this year. The lead ship of the SLAVA class made its initial out of area deployment in late 1982. This ship displaces 12,500 tons and mounts a formidable battery of 16 large SS-N-12 antiship cruise missiles. Few additional units of the size of the KIROV or SLAVA are expected, priority being given to destroyer and frigate types. The U.S. now produces three classes of surface warships, one class each of attack and ballistic missile submarines and one type of aircraft carrier.

Until approximately 1977, dollar costs of Soviet Union and the United States nuclear attack submarines (SSNs) were estimated to be similar. Since then the dollar costs for Soviet

SSNs are estimated to be significantly higher than U.S. outlays. Construction continues on the VICTOR-III class nuclear-powered attack submarines, though this class may be approaching the end of its production run. Two of the huge new OSCAR class nuclear powered cruise missile submarines (SSGN) are afloat, the first launched in 1980 is now operational. These ships displace 12-14,000 tons submerged and carry 24 of the long-range SS-N-19 antiship cruise missiles. Two entirely new nuclear-powered attack submarines were launched in 1983. One, designated the MIKE class, is larger than the CHARLIE/VICTOR classes but smaller than the giant OSCAR class. The second unit, designated SIERRA class, is more nearly comparable to the CHARLIE/VICTOR classes in size, and may be intended for a large production run during the 1980s. During the 1980s, Soviet procurement of SSNs is expected to average about double that exhibited in the 1970s. Further, the Soviet dollar costs of diesel submarines are estimated to be an additional $0.7 billion/year. The new KILO class diesel-powered attack submarine, introduced in 1981, is now in series production.

As noted last year, the Soviets have begun construction of a mid-size, nuclear-powered aircraft carrier intended to operate conventional takeoff and landing (CTOL) tactical aircraft. The ship is projected to be completed by 1990. Precise information on the capabilities of this ship and its air group is not yet available, but we anticipate that it will roughly equate to our MIDWAY class in size, and will carry modern fighter aircraft incorporating the latest Soviet technology. One such ship, or even a few, will not checkmate our carrier aviation strength. It probably will take the Soviets years to develop satisfactory flight deck procedures and become capable of high-intensity flight operations. Nevertheless, such naval air forces would be a major advance in Soviet ability to project military power in distant areas and could be a significant factor in regional conflicts not involving the U.S.

Table A provides a numerical 1983 breakout of U.S. vs. U.S.S.R. ships.

(Source: Under Secretary of Defense (R&E), Wash., D.C. 20301
(c) 202-695-6462)

A - NAVAL VESSELS - U. S. vs U. S. S. R.

TABLE A

SHIPS	U. S.* (MAY 1983)	U.S.S.R.** (NOV 1983)
CV/CVN	13	0
CVHG	0	3
CHG (ASW Helo Cruisers)	0	2
Submarines (total)	130	371
Ballistic Missiles	33	80
Cruise Missile ***	-	66
Attack	97	208
Unknown	-	16
Cruisers, Destroyers, Frigates	189	281
Amphibious Warfare	63	177
Patrol, Subchaser, Torpedo and Guided Missile Boats	7	150
Mine Warfare	21	395
Support Auxiliary, Misc.	109	695
Underway Replenishment	61	85
TOTAL Fleet	723	2,529

* U. S. ships include the Naval Reserve Force and MSC
** U.S.S.R. ships exclude river/roadstead craft (410)
*** U. S. SSNs have the capability of employing the Harpoon missile

(Source: Naval Intelligence Support Center, Wash., D. C. 20390 (c) 202-763-2232)

V - FLEET COMPARISONS, U.S. vs U.S.S.R.

B -- MERCHANT VESSELS/U.S. vs U.S.S.R.

FISCAL YEAR 1984

	United States		U.S.S.R.	
	No.	DWT***	No.	DWT***
Combination	11	62	64	138
Freighters	247	4,412	1,240	9,697
Bulk Carriers	15	482	136	2,891
Tankers	264	15,797	309	7,971
TOTAL*	537	20,753	1,749	20,697

FISCAL YEAR 1980

	United States		U.S.S.R.	
	No.	DWT***	No.	DWT***
Combination	8	31	66	153
Freighters	284	4,763	1,251	9,301
Bulk Carriers	15	367	100	1,989
Tankers	272	15,036	310	7,243
TOTAL*	579	20,197	TOTAL** 1,727	18,686

FISCAL YEAR 1960

	United States		U.S.S.R.	
	No.	DWT***	No.	DWT***
Combination	309	2,070	73	278
Freighters	2,138	21,878	571	2,481
Bulk Carriers	57	805	95	472
Tankers	442	7,815	134	1,348
TOTAL*	2,946	32,568	TOTAL** 873	4,579

*** Dead Weight Tonnage (DWT) in Thousand of Tons.

FISCAL YEAR 1946

	United States			U.S.S.R.	
	No.	DWT***		No.	DWT***
Combination	103	710		58	244
Freighters	3,459	33,530		411	2,184
Bulk Carriers					
Tankers	855	12,503		38	291
TOTAL*	4,417	46,743	TOTAL**	507	2,719

Percentage of imports carried on own ships:
U.S. - 5%
USSR - 55-60%.

World Ranking (DWT):
1st - Liberia
2nd - Greece
3rd - Japan
4th - Panama
5th - Norway
6th - U.K.
7th - U.S.
8th - USSR
9th - France
10th - Italy

World Ranking (No. of ships):
1st - Panama
2nd - Greece
3rd - Liberia
4th - Japan
5th - USSR
6th - PRC (Peoples' Republic of China)
7th - U.K.
8th - Italy
9th - Spain
10th - Norway
11th - U.S.

* Active U. S. Merchant Marine flag vessels owned by private companies. Does not include Great Lakes, inland waterway, National Defense Reserve Fleet, or Military Sealift Command Ships.

** Excludes Caspian Sea Fleet, river-sea ships subordinate to the Ministry of River Fleet, and cargo shps and tankers subordinate to the Ministry of the Fishing Industry.

*** Dead Weight Tonnage (DWT) in Thousand of tons.

NOTE: Merchant Marine figures are subject to tremendous fluctuation.

(Source: Naval Intelligence Support Center, Wash., D. C. 20390
(c) 202-763-2232)

V - FLEET COMPARISONS: U.S. vs U.S.S.R.

C -- U.S. - U.S.S.R. Submarine Force Comparison

The Soviet Union has a modern attack submarine force, and nearly one-half of its deployable front line units are nuclear-powered.

* The Soviet Union has more submarines than the United States, and many of these submarines are equipped with modern sensors and weapons.

* To produce and maintain this force, the Soviet Union has developed the largest, and most capable submarine shipyards in the world. They have facilities capable of building up to 20 submarines annually.

* Some 8 to 12 submarines have been joining the Soviet fleet every year, and they are currently building several new classes with significant improvements in capability.

* U. S. attack submarine strengths lie mainly in quiet operation, superior sonar and torpedo performance and superb oprational and survivability characteristics in high threat areas.

* This amounts to, in short, an acoustic advantage.

(Source: DCNO Submarine Warfare, OP-02, Washington, D. C. 20350
(c) 202-697-8730)

VI - U. S. DEFENSE SPENDING

A -- DOD FINANCIAL SUMMARY
(MILLION $)

DOD Programs	FY 72	FY 83	FY 84	FY 85
Strategic Forces	1,344	5,115	5,880	6,189
General Purpose Forces	13,403	50,524	46,800	58,783
Intelligence & Communications	812	2,137	2,141	2,783
Airlift and Sealift	5		338	619
Guard and Reserve Forces	528	1,98	2,463	2,835
Research and Development	1,721	5,410	6,702	8,511
Central Supply and Maintenance	2,522	7,234	8,100	9,411
Training, Medical & other General Personnel Acct.	3,074	8,085	8,311	10,605
Administrative and Associated Acct.	448	1,013	1,238	1,520
Support of other Nations	130	22	27	37
Program Totals	23,987	81,534	82,000	101,299

(Source: Dept. of the Navy Budget & Forces Summary,
Washington, D. C. 20350
(c) 202-697-7819)

DOD Component				
Department of the Army	21,582	57.7	65.3	78.9*
Department of the Navy	25,602	81.9	86.8	102.3*
Dept. of the Air Force	23,245	75.2	92.8	109.4*
Defense Agencies/OSD/JCS	1,759	9.4	11.4	13.8*
Defense-Wide	4,818	16.0	17.5	.5*
TOTAL	77,006	240.2	273.8	305.0

*Estimate

(Source: Dept. of Defense, Washington, D. C. 20350
(c) 202-697-7819)

MAJOR FEDERAL BUDGET ITEMS
(Billion $)

	1981	1985
Defense (DOD)	158.2	305.0
Health & Human Services	223.0	318.1
Education	15.5	15.5
Interest (Nat'l Debt)	79.8	165.0
Commerce & Transportation	22.2	30.3
Veterans Benifits & Services	22.7	27.2
Agriculture	24.6	35.0
International Affairs	17.0	22.3
Federal Receipts	563.0	918.4

VI - U. S. DEFENSE SPENDING

B -- DEFENSE SPENDING AS A PERCENTAGE OF ---

	GNP	Federal Budget	Net Public Spending (Federal, State and Local)
FY '50 (pre Korea)	4.4%	27.4%	18.5%
FY '53 (Korean peak)	12.0%	57.0%	42.9%
FY '64	8.0%	41.7%	27.8%
FY '68 (Vietnam peak)	9.3%	43.4%	29.5%
FY '70	8.0%	39.4%	25.4%
FY '73	5.6%	29.8%	19.0%
FY '75	5.7%	26.2%	16.8%
FY '76	5.4%	24.1%	15.6%
FY '79	4.9%	23.4%	15.6%
FY '80	5.2%	23.0%	15.5%
FY '81	5.4%	23.8%	16.1%
FY '83	6.5%	25.1%	17.0%
FY '84	6.8%	28.1%	19.0%
FY '85 (plan)	6.8%	30.9%	-----

(Source: Dept. of Defense, Washington, D. C., 20350
(c) 202-696-5294)

VII - RESEARCH AND DEVELOPMENT

A -- U. S./U. S. S. R. COMPARISONS

For years we have acknowledged that the Soviet Union held a quantitative lead in military equipment, but believed that our qualitative lead would more than compensate for this. During the decade of the 1970's, the Soviet Union made major advances in the development and production of defense material and as a consequence entered the 1980's in a dramaticaly different defense posture than they had in the 70's.

Seemingly, their objective was to challenge the U. S. lead in defense technology while maintaining their numerical advantage. They have had a remarkable degree of success in achieving that objective by making an enormous investment and by maintaining unwavering emphasis on technology, much of which was obtained from the West. The Soviet Union started the 1970's with an annual defense investment (RDT&E), procurement, and military construction) approximately equal to that of the U.S. But, they have increased at a steady rate of four percent per year since then, while the U. S. investment decreased in real terms every year until 1975. As a result, in the last ten years, the Soviet Union invested about 450 Billion (in FY85 dollars) more than the U. S.

Generally speaking, they have used this investment capital to produce large quantities of equipment,thus maintaining their numerical advantage.

Over the ten-year period 1974-1983 the Soviets spent over twice as much as U. S. on procurement for strategic forces. During that period, the Soviets introduced many more new, modified strategic weapon systems than did the U. S. From 1974 to 1980 the USSR commissioned 34 SSB/SSBNs, while the U. S. produced three. The USSR produced a new class SSBN, the TYPHOON, which appeared simultaneously with the U.S. Trident submarine in November 1981. Also, in the last ten years, the Soviets have spent twice as much as the U. S. for strategic intercontinental attack procurement. The Soviets have a massive program in place to obtain western technology and are believed to be currently applying western designs and industrial technology to military aircraft.

Construction facilities represent a second component of Soviet investment. During the last five years of the 1970's, Soviet military production facilities were constructed at the highest sustained level of the last two decades, portending high production rates and increased productivity during the 1980's.

The third investment component, which can be used as an indicator of future plans, is the Soviet R&D program. While our estimates of Soviet investment in R&D have significant

uncertainties, the evidence indicates that their program is considerably larger than the U. S. program. We can identify some 200 major Soviet development programs expected to reach IOC in the mid-80's.

Overall, during the last ten years, the Soviets invested about 185 billion more than we did in Defense R & D.

Soviet military R&D management is characterized by continuity of funding and personnel, strong centralized authority, and the direct involvement of top leaders. The Soviet economic and R&D systems require that design teams and supporting workers be continuously employed turning out a steady stream of improved siystems. It is quite clear that their R&D program has had the highest priority access to funds to trained personnel and scarce materials. To be able to sustain their long-term rate of military expenditure increases in the face of growing economic difficulties, the Soviets will probably have to assign an increased share of their GNP to defense. However, we believe Soviet economic problems will not substantially threaten the military portion of national allocation.

In sum, we foresee the Soviets continuing their commitment to compete in quality with U. S. weapon systems. A major start has been generated in that direction with the acceptance of the much higher unit cost implied by this commitment. They are accepting this increased uit cost without decreasing their traditional emphasis on quantity, simply by increasing their total investment in weapons production. In addition, that they plan to continue this emphasis throughout the 1980's is clear by the major increases made in the 1970's in production plants and defense RDT&E.

The challenge described is formidable. We are behind quantitatively in deployed equipment and are falling further behind because of disparities in equipment production rates. While we are still ahead in defense technology, we are in danger of losing that advantage because of massive Soviet spending in defense R&D, nearly double that of the U. S. But we also have some distinct advantages: a superior technology base, a competitive industry with greater productivity, and allies with a substantial, industrial capability. To meet the formidable challenge we face, our investment strategy must fully exploit these substantial advantages.

Our overriding near term need is to modernize our forces. Our technology is of little use to our armed forces when it is not embodied in operational equipment.

COMPARISON OF BASIC MILITARY TECHNOLOGIES AND SYSTEMS

Table A compares the status of some important basic technologies. The United States's lead in most of the technologies has been narrowed in the past few years. As Soviet R&D investments and technological competence continue to increase, they will provide growing opportunities for future technological advancements. Of significant concern is the massive Soviet commitment to obtain western technology.

Table B compares the technology level reflected in deployed weapons systems. It should be noted that these assessments are technology level only, and do not measure overall force or weapon effectiveness which is highly dependent on other factors such as doctrine, tactics, training and numbers deployed. --- The table shows in aggregate, roughly the same level of deployed technology in strategic and land forces with the U. S. superior in our Naval and C I deployed technology level. However, the number of arrows tending toward Soviet equality or superiority is a matter of concern.

In the tables, the arrows ( ) denote that the relative technological level is changing significantly in the direction indicated.

The technologies selected have the potential for significantly changing the military balance in the next 10 to 20 years. The technologies are not static; they are improving or have the potential for significant improvement.

Tables: A - U.S./U.S.S.R. Standing in the Twenty Most Important Basic Technology Areas

B - Relative U.S./U.S.S.R. Technology Level in Deployed Military Systems

(Source: OUSD/Research and Engineering, Washington,D.C. 20301 (c)202-695-6462)

VIII-CURRENT ISSUES

A--TERRORISM

OBJECTIVE:

The Department of the Navy's effort to thwart terrorism is designed to protect Navy people and property.

Experience has shown that awareness, coupled with common sense and personal initiative in t ing security precautions, is the best deterrent to terrorist attacks against individuals and installations. Preparations such as ascertaining the degree and nature of the local threat; preventing terrorist access to target information; eliminating predictable patterns of movement with respect to routes, mode of travel and schedule; making it difficult to penetrate physical facilities; and being prepared to react increase of attack will reduce significantly the likelihood of successful terrorist attacks against Navy personnel.

Terrorism is not a single problem but a combination of political, criminal and security problems.

The Navy's anti-terrorism and counter-terrorism effort is a program designed to integrate.

* individual actions and precautions.
* installation and personnel threat assessments.
* counterintelligence.
* terrorist investigations.
* indication and warnings initiatives.
* VIP protection.
* crisis management planning.
* physical security.
* material and organizational measures.

CURRENT ASPECTS.

During 1983, dramatic changes ocurred in the character of international terrorism which significant_y escalated their level of threat such as:

- Various Islamic groups in the Middle East increased their use of terrorism against the United States through the vehicle delivery of extremely large bombs by suicidal terrorists:

- The targeting of U. S. policies by state sponsored terrorists.

While none of these changes represents an entirely new problem, these developments together pose severe challenges for

the nation as a whole and require a re-evaluation of measures being taken within the Navy to protect personnel and resources from terrorist attack.

Numerous factors work together to aid the terrorism. To effectively counter terrorism we must attempt to understand it and its unpredictable nature that contributes to its effectiveness as a political or criminal tactic.

The terrorist derives power from the great magnitude of fear that results from the apparently irrational and callous indifference to human life.

It can be said of terrorism that it is the calculated use of violence or the threat of violence to obtain goals, often political or ideological in nature, by creating fear and utilizing intimidation or coercion. It always involves a criminal act, frequently symbolic in nature, that is intended to influence an audience beyond the immediate victim.

There are three broad categories of terrorism:

a. National terrorists - those who operate and aspire to political power primarily within a single nation.

b. Transnational terrorists - those who operate across national borders, whose actions and political aspirations may effect individuals of more than one nation.

c. International terrorists - those controlled by, and whose actions represent, the national interest of a sovereign state.

HISTORICAL PERSPECTIVE.

Historically there are many individuals, groups and often national leaders who have utilized terror tactics for one reason or another. Intimidation is not a new phenomenon. Robespierre, idealistic leader of the French Revolution, used terror tactics when he eliminated 40,000 people with the guillotine. Terrorism has been successful in the 20th Century; for example: the Irgun Gang used terrorism in Palestine against the British, the FALN used terrorism against the French in Algeria. These successful terrorist groups were motivated by the desire to free themselves from colonial bonds.

Many of today's terrorist actions are follow-on activities from the swell of student unrest which occurred in the 1960's. That global trend of dissatisfaction produced many disaffected minorities. The use of violence to make a point became an accepted form for radical organizations to express dissatisfaction with the status quo.

INFLUENCING FACTORS. Terrorism has been influenced by a number of factors:

1. The media - one of the main objectives of the terrorist is to publicize their cause. An efficient media network is an extremely important factor for terrorists. Today's technology gives the terrorist the opportunity to gain immediate world attention on prime time TV and terrorist activities appear in national newspapers and magazines around the world in their next issue. One problem is that terrorist acts frequently become more violent when interest wanes in order to obtain increased publicity.

2. Transportation - gives the terrorists the capability of operating in any part of the world quickly and efficiently. Rapid international public transport has been important in the growth of transnational and international terrorism.

3. Technological advances - have greatly improved the capabilities of contemporary terrorists. The only limitation regarding "super violence" lies in the imagination of the terrorist and access to the hardware. Weapon systems; such as hand-held surface-to-air-missiles, chemical and nuclear weapons, in the wrong hands can prove to be devastating.

Terrorism is a tool used in a rational cohesive strategy. Some unbalanced individuals are present in the terrorist ranks, but we cannot allow the individual aberrations of a few to overshadow the rational nature of their sponsoring organization. Terrorists acts are seldom purposeless, irrational or random. They form patterns that can be identified and analyzed.

TACTICS.

The tactics terrorists use to obtain their goals include:

a. Bombing - is the tactical method most terrorist groups prefer. Sixty-seven percent of all terrorist attacks recorded in the last decade involve the use of bombs. The bomb is popular because it is cheap to produce, easy to make and the bomber need not be present at the scene when the device is detonated.

b. Arson - has been used frequently by terrorists to destroy public utilities or local political headquarters, etc.

c. Hijacking - of vehicles or aircraft has been a very effective method utilized by terrorists because of their potential to generate massive amounts of publicity.

d. Ambushes - are effective because they seldom fail. The terrorists have time on their side and utilize it to plan and rehearse the operation.

e. Kidnapping - is perhaps one of the most dramatic terrorist activities. Attention is centered around the kidnapped individual, such as U. S. Army General Dozier, by the Red Brigades.

f. Hostage taking - is a big media event because there is a live hostage involved. This increases the drama of the event. The difference between a hostage taking and a kidnapping is that a kidnapping confines a victim to a secret hideaway while the hostage taker confronts authorities openly.

g. Assassination - is the oldest terrorist tactic. In the last year, two Navy members, Captain Tsantes and LCDR Schuffleberger, were assassinated by terrorists.

The most important thing to know about terrorist tactics is that they are dynamic in effect and planned in detail to prevent failure. Terrrorists are success oriented and, contrary to popular belief, with few exceptions are not suicidal.

Terrorism today involves modern variations of old tactics.

The terrorist bombing of the Marines in Lebanon and the assassinations of Captain Tsantes in Greece and LCDR Schuffleberger in El Salvador has shown the world that U. S. foreign policy can be changed or greatly effected by a successful terrorist attack.

Because of the nature of terrorism it is difficult to determine if a terrorist action has been thwarted. Terrorist activity is only known when it succeeds which gives the perception that is always successful. Terrorism can be expected to continue and to increase in one of three directions:

1. Increased utilization of present tactics.
2. Increased acts designed to cause large scale death and destruction.
3. The possible use or credible threatened use of nuclear, biological, or chemical weapons.

Additionally, state-sponsored terrorism, often using proxies (mercenaries, guerilla forces, terrorist groups, friendly nations armed forces) can also be expected to increase. Some nations have found terrorism to be a useful and cheap method to wage war, to silence current or former leaders, or domestic foes living abroad, and to assassinate foreign opponents or foes.

The true test of the Navy anti-terrorism program is whether it can meet the test of time and action. The program is designed to protect people and property, first through

prevention and second by providing for the best coordinated response should an incident occur. The Navy and the United States will benefit from an anti-terrrorism program presenting a multidisciplinary approach to a complex problem. The result will be security for Navy assets and security from the fear of terrorism.

(Source: HQ Naval Investigative Service, Wash., D. C. 20388
(c) 202-763-3750)

VIII - CURRENT ISSUES

B -- SUBSTANCE ABUSE PROGRAM

The purpose of the Navy's Substance Abuse Program is to improve mission effectiveness and fleet readiness by reducing the negative impacts caused by abuse of alcohol and other drugs.

The Navy's attitude of Zero Tolerance recognizes that substance abuse is incompatible with maintaining high standards of performance, military discipline and readiness, and is destructive to Navy efforts to instill pride and professionalism. It is costly in terms of lost man-hours and has an adverse effect on the morale of the abuser and non-abuser alike.

The program's objectives are to prevent abuse and return eligible former abusers to full duty status. Essential elements of the program include detection, education, and rehabilitation, when appropriate.

Substance abuse education is a responsibility of each Navy command. Widely used are the Navy programs for Substance Abuse Prevention (NASAPP) and General Military Training. Coordinating command level awareness education is a function of the Substance Abuse Coordinator (SAC). All Navy commands are required to have at least one person assigned as SAC.

Due to legal differences, separate identification programs exist for alcohol and other drug abusers.

The primary device for identification and deterrence of illegal substance abusers is urinalysis. In Fiscal Year 1983, over 1.2 million samples were tested at five Navy Drug Screening Laboratories, located at San Diego and Oakland, California; Portsmouth, Virginia; Great Lakes, Illinois; and Jacksonville, Florida.

Urinalysis is given much of the credit for reducing the incidence of marijuana use among junior enlisted personnel from 47 percent in 1980 to 17 percent in 1982. Reports from fleet commanders indicate that the program has had a positive impact on morale, discipline and mission accomplishment.

Random sampling and unit sweeps are two methods employed when conducting a urinalysis inspection, and are designed to ensure that all personnel have an equal and constant chance of selection for testing and detection.

Handling procedures, from taking the sample to arrival and testing at the lab, are careful and precise. The sample is subjected to screening and all negative samples are eliminated.

Positive samples are confirmed using a separate testing procedure: gas chromatography/mass spectrometry (GC/MS) when testing for THC (ingredients in marjuana and hashish) and gas liquid chromatography (GLC) for other drugs.

To prevent recurrence of problems that caused the reversal of 6,000 urinalysis confirmations from the period January through October, 1982 at Oakland laboratory, a number of improvements to the lab system have been made. These include:

- Detailed testing procedures outlined in a Standard Operating Procedures Manual.

- Bi-monthly lab inspections conducted by the Naval Medical Command.

- Formal certification of lab personnel.

- Continuous quality control checks by the Armed Forces Institute of Pathology.

- A policy at all labs that if there is any question about a test result, a negative result is reported.

The Navy's alcohol abuse program differs from illegal substance abuse programs. Alcoholic beverages are legal, and the majority of Navy personnel who use them do so responsibly. The Navy's approach is one of balanced concern for the health and readiness of its personnel without resorting to prohibition and harassment. Participation in education and awareness programs, such as NASAPP, is being expanded. Breath analyzers are being evaluated in a pilot program to determine their usefulness in driving-while-intoxicated enforcement and identification of potential abusers.

The Navy recognizes that substance abuse is preventable and treatable and can be addressed effectively through education, identification, counseling and rehabilitation programs. These are cost-effective ways to retain personnel with potential for continued useful service but whose continued substance abuse would render them unfit. Three levels of treatment are available:

Level I programs at the local command level consist of prevention and intervention efforts such as discipline, detection, deterrence, awareness education, leadership role modeling, and NASAPP.

Level II programs are designed for personnel whose degree of abuse and/or denial requires the additional attention available at a Counseling and Assistance Center (CAAC). Programs include clinical screening, nonresidential counseling, and education. Level II programs are also used for personnel

awaiting entry into Level III.

Level III programs involve residential rehabilitation. They are designed for members formally evaluated and diagnosed as alcohol or other drug dependent who require rehabilitation on a full-time, live-in basis, and who have potential for further useful service. Level III care is provided at three Alcohol Rehabilitation Centers and 28 Alcohol Rehabilitation Services (located at Naval Hospitals), and at the Naval Drug Rehabilitation Center located in San Diego, Calif. During fiscal year 1983, 6,512 persons were admitted for residential treatment for alcohol dependence, and 841 received residential treatment for dependency on other drugs.

(Source: NMPC, OP-15, Washington, D. C. 20370
(c) 202-694-2815)

VIII -CURRENT ISSUES

C-IMPROVED MANAGEMENT INITIATIVES

Purpose. This is to highlight recent Navy initiatives and efforts to improve contracting and business management in a continuing program to reduce the potential for fraud, waste and abuse. Some of these initiatives are in concert with broader Department Of Defense or other Federal programs to improve economy and efficiency; others are exclusively Navy oriented.

Initiatives:

A. Enhanced awareness & training at all command levels aimed at elimination of waste and identification of areas of vulnerability to fraud and abuse, including:

* Special hotlines to report suspected fraud, waste or abuse.

* Increased staffing of Inspector General teams.

* Increased emphasis during Procurement Management Reviews and Command.

* Inspections in areas of vulnerability to fraud, waste or abuse.

* Special training for managers, inspectors and investigators.

* Increased suspension or debarment of contractors indicted or convicted of wrongdoing.

B. Increased use of competition:

* Secretary of Navy established the Office of Competition Advocate General (Flag Officer) and identification of competition advocates at more than 125 operational commands.

* Increased use of competitive forces to:

  - lower cost
  - foster innovation
  - increase economy & efficiency

* Enhanced training in how to maximize competition at all command levels.

* Private shipyards have achieved significant breakthroughs in production technology and facilities as a

result of competitive forces. Result is and will continue to be best possible prices and savings of millions of dollars to the taxpayer.

* Has resulted in breakthroughs in obtaining data rights from companies to facilitate breakout and competition.

* Data rights:

- Navy Competition Advocate has successfully contested contractor assertations of proprietary rights in spares.

- Successfully negotiated with companies to now allow direct Navy purchase of replacement parts from subcontractors or from licensees.

- Successfully negotiated with companies to allow Navy use of company data to buy major systems or components direct from their suppliers.

- Successfully negotiated with companies to provide Navy-wide data to allow Navy to establish its own repair facilities for equipments previously repaired only by the original manfacturer.

Some results:

* 40% increase in competition dollars in 1983 over 1982.

* 90% of all Fiscal Year 1985-89 ship programs to be awarded competitively

* Competition savings examples:

- C-12 Ground Support Services. Competing a $50M sole source contract will save estimated $6-10M.

- Competition for CT-39 Aircraft support expected to save $2.5M/yr.

C. Encouragement of breakthroughs in improved production and manufacturing techniques through programs like:

* Industrial Moderization Incentives Program (IMIP) which:

- motivates productivity enhancing investment to reduce cost.

- provides for shared savings with contractors and is aimed at strenghening the industrial base.

D. Spare Parts Procurement.

* Project Boss (Buy our Spares Smart)

- The Chief of Naval Material (with the Commander, Naval Supply Systems Command ,acting as the lead) has implemented Project BOSS (Buy Our Spares Smart) in an effort to monitor and coordinate actions which address specific problems and systemic weaknesses in the material acquisition process.

- The overriding objective of Project BOSS is to pay fair and reasonable prices for spare parts to maintain the highest possible state of fleet readiness using available funds. The goal is to reduce the life-cycle cost of spare parts support for our weapons systems. This requires that existing policies and procedures must be properly executed and areas requiring policy definition must receive prompt attention. It is important to adhere to the basic precepts of requirements determination and procurement -- i.e., buy only what is needed and use good business judgement in negotiating the price. Common sense is the key to acquiring spare parts at a reasonable cost for even the most complex of weapons systems.

- Project BOSS encompasses over 100 initiatives to improve the acquisition of spare parts used by the Navy. New initiatives are developed to focus on areas of weakness identified by recent audits.

- Some of the initiatives include:

1. Competition: Creative action to encourage competition is being promoted at all Navy Field Contracting System activities. Competition Advocates have been appointed at all major contracting activities and are also being designated at commands which generate significant open purchase requirements. On a trial basis Military Standards and Military Specifications are being listed in Commerce Business Daily procurement announcements to make it easier for commercial suppliers to bid on Navy contracts.

2. Price Fighter: A program designed to determine the intrinsic value of Navy-managed spare parts. Price fighter will determine the "should cost" value of spare parts. This should cost analysis is a detailed technical and pricing review, including physical inspection the part, to determine a target price representing the fair market value of the item. Once developed, these target prices will put the Navy in a better negotiating position with its suppliers since buyers will have an engineered should cost estimate before actually

procuring the material. The program will also analyze items reported by customers as having suspected excessive prices.

3. Contract Management: Pricing and competition receive close scrutiny during Contract Management Reviews conducted on all activities with procurement authority. Where audits or other pricing reviews reveal overcharges by vendors, refunds will be sought.

E. Use of Warranties:

* Although now mandated by law, Navy has historically obtained warranties on systems as complex as ships and aircraft.

F. Increased use of multiyear contracting to:

* reduce costs, and
* enhance the industrial base.

G. Reduction of administrative burden and paperwork:

* Contract document simplification will make it easier to do business with the Navy and thereby encourage expansion of the vendor base.

H. Increased use of industry and small business fairs and conferences throughout the country. Flag level involvement in encouraging businesses to sell to the Navy.

* Spares Procurement:

  - A spares pricing hotline call resulted in a $44,000 refund from a firm as a result of errors detected in pricing parts for C-130 aircraft.

  - A buyer's challenge of an overly restrictive specification for steel bookcases resulted in over $5,000 savings.

  - Breakout of engine test stands saved in excess of $52,000

  - Deletion of common use material from aircraft modification kits, material like rags, steel wool, sand paper, etc., will save thousands of dollars.

* Debarments and suspensions:

  - Increased number of cases:

		# Cases
1980	-	4
1981	-	6
1982	-	20
1983	-	49
Pending	-	45

  - Indictments and convictions provide a strong deterrent to future wrongdoing.

Summary:

Efforts aimed at improving our business and management practices and creating an environment to prevent fraud, waste and abuse are not new to the Navy. It is an ongoing process which is currently receiving increased attention. New inititives are producing results. Primary emphasis is being placed on the responsibility each individual shares for maximizing economy and efficiency in his or her daily activity.

(Source: NAVMAT PAO, Telephone (202) 692-8877)

VIII-CURRENT ISSUES

D--TECHNOLOGY TRANSFER

Since the Civil War, when armored steam-propelled warships first were combat-tested, the Navy always has integrated modern technology into the national force structure. For example, in 1955, with the words "underway on nuclear power," USS NAUTILUS proved to a watchful world that we were a leader in nuclear propulsion and could effectively use technology in our modern submarine force, constantly applying new concepts so as to stay qualitatively well ahead of Soviet counterparts.

This recurrent theme continues. Today's navy is heavily involved in using the latest American technology across the naval warfare spectrum.

No sea is a safe harbor or protected lake. A survivable Navy in the modern world must possess the latest surveillance techniques, information processing capabilities, and platforms that can effectively deliver weapons in the incredible environments realistically projected in this decade.

Therefore, it is fundamental to the nation's defensive capability that the technology gap between the U. S. and the Soviet Union remains as wide as possible.

OBJECTIVE

The U. S. chose not to compete with the Soviet Union in quantity of military weapons and forces for various reasons. Instead, the U. S. and its allies have sought to offset Soviet quantitative advantage through the exploitation of superior technology in weaponry.

Recognizing that it is not possible to protect a technological lead forever, U. S. policy makers have concluded that it is both possible and necessary to protect such lead times, the precious years it takes the Soviet to catch up to our level of capability.

The problem, as it affects our Technology Transfer Control Program, and ultimately our security, is how to slow legal and illegal Soviet acquisition of the Western technologies which enable the Soviets to narrow the technology gap.

BACKGROUND/CURRENT STATUS

The Navy has developed an organizational structure in the office of the Chief of Naval Operations (OP-62), under the overall authority of the CNO and the Secretary of the Navy

having relationships with appropriate technical and program offices and the Field Commanders-in-Chief to support the Department of Defense (DOD) Technology Transfer (T2) Control Program. The Technology Transfer Control Program is the management mechanism by which DOD discharges its responsibility for participation in the regulation of military-related exports of goods, services, munitions, and technology under the Export Administration Act of 1979 and the Arms Export Control Act.

When the current program was initiated in 1981, the Under Secretary of Defense for Policy was given responsibility to coordinate DOD policy on technology transfer. He is supported in this role by the Under Secretary of Defense for Research and Engineering, who is responsible for management of overall DOD technical efforts. Together, and with cooperation from other DOD components, these Under Secretaries have shaped a program which has coalesced policy, operational and technical personnel, throughout DOD into an effective team for providing to the Department of Commerce and the Department of State, DOD recommendations on the transfer of technology. In the process, major efforts have been directed toward improving interagency and international cooperation, engaging experts from industry and academia to assist in identifying militarily critical technologies and in recommending certain export control procedures, and appropriately informing U. S. industry and the public on the impact of technology transfer on the East-West military balance.

Extremely helpful in all of these undertakings have been the DOD International Technology Transfer (IT2) Panel and Subpanels. The IT2 Panel is the mechanism through which DOD and its Service members resolve internal differences of opinion over policy and technical recommendations on technology transfer.

In 1983, the DOD Technology Security Center was established. Efforts to improve automation and generally streamline case processing have also moved forward to help meet the goal of reducing export license processing time as much as possible.

Many other domestic and international activities also were productive during 1983 and 1984. Progress continues in improving cooperative international, multilateral controls on exports to the Eastern Bloc through the strengthening and modernizing of the Coordinating Committee for Multilateral Export Controls (COCOM).* Unfortunately, COCOM reforms have been slow in coming and allied nations still are holding back on committing sufficient resources for COCOM to do the job efficiently. In addition, we actively pursued bilateral control arrangements with non-COCOM nations.

*COCOM participants include Japan plus the NATO countries minus Iceland and Spain. COCOM controls exports from member countries to most communist controlled countries including Albania, Bulgaria, Czechoslovakia, East Germany, Estonia,

Hungary, Laos, Latvia, Lithuania, Poland, Rumania, and the Union of the Soviet Socialist Republic.

FUTURE OUTLOOK

We certainly are not endangered by the transfer of technological concepts. In fact, free exchange of scientific ideas also is one of our hallmarks of world leadership. Technological concepts can be transferred in the nation's best interests, forging new diplomatic ties, helping needy nations and peoples. On the other hand, our goal should be to protect applied militarily-critical technology. Our concern is that no sooner than when we develop, test and field new high technology sytems aboard our ships and aircraft, than the Soviets easily and cheaply acquire this technology for their own use. In fact, it appears shortly after initial employment in our fleet-demanding that we develop, test and field a new technology.

The Soviet Union and its surrogates are embarked upon the most impressive, systematic, calculated effort the world has ever known-- using both legal and illegal means--to raid the free world's technological base. This effort has provided them with big dividends, in some critical instances shrinking our once eight-to-ten-year technology lead to a mere two to three years. As a result, we're talking about the virtual elimination of the "comfort zone" once enjoyed between the time of our development and their use.

Technology transfer is too often thought of as a clandestine sale or transfer of specific goods or equipments, like a computer of a new missile system or, again in terms of stolen secret defense documents, like the famous U. S. photo-satellite handbook sold by an American traitor only a few years ago. But the large body of transfer is subtle, harder to detect and deter. In fact, technology transfer largely occurs in our open market literature published by well-meaning members of competitive companies who are too quick to publicize their highest technology achievements often derived from nuggets of military critical technology. An unrelenting, well-orchestrated and financed Soviet effort is quick to collect scraps of information from these unwitting salesemen until all essential elments of the latest U. S. military capability are in Soviet hands.

Before this inititive to control transfer of critical technology runs its course, it will entail new legislation and policy direction at the national level. But laws and regulations are inadequate in themselves. What is required is a grass-roots effort with combined support of American industry, academia and government. While there is no need for national paranoia, a clarion is urgently needed for our free society to protect what should be, at least for a time, held as our own.

There must be an educational program within industry itself to first understand and accept that a significant problem exists, and responsibily find a solution.

(Source: OP-62, Dept of the Navy, Washington, D. C. 20350
(c) 202-697-8339)

VIII-CURRENT ISSUES

E--NAVAL SPACE COMMAND

INTRODUCTION

The Naval Space Command was established in 1983 at Dahlgren, Virginia, to operate naval space systems. It consolidates disparate ongoing navy space efforts under a single operational command to strengthen operational control and provide a focal point. The command determines operational requirements and tracks technology on behalf of the Chief of Naval Operations (CNO).

ORGANIZATION

The Naval Space Command is organized into a headquarters staff and two field activites: the Navy Astronautics Group and the Naval Space Surveillance System.

The Headquarters Staff

Consists of five functional divisions: management control, intelligence, operations, logistics and facilities and plans. The staff advises the CNO on operational space matters and provides for better fleet support and more effective naval interface with sister services and other Government agencies.

The Navy Astronautics Group (NAG)

Is headquartered at Point Mugu, California, and provides control and operations for the Navy Navigation Satellite System (TRANSIT). Its four tracking and control search stations and computational facility support TRANSIT operations from lift-off at the Vandenburg Air Force Base launch pad to the satellite's ultimate demise. The Navy Astronautics Group provides navigation updates and satellite telemetry, tracking, and control to maintain TRANSIT navigation accuracies. TRANSIT, operational since 1964, has been so successful in its operations that besides providing navigation fixes to Navy ships, it is also used routinely by other Government agencies and foreign Governments. Normally, four satellites are in orbit to provide the necessary frequency of precise navigation updates.

The Naval Space Surveillance System

Is co-located at Dahlgren, Virgina, where it maintains a constant surveillance of space out to approximately 7,500 nautical miles. The system, operational since 1961, provides

detection and identification of newly-launched space objects and tracking of all other objects within the surveillance range. It also maintains a catalog of all earth-orbiting satellites, and reports events of interest to the North American Aerospace Defense Command's (NORAD) Space Detection and Tracking System as well as to fleet units. It provides a variety of reports to the fleet, which fulfill fleet needs by routinely providing various satellite ephemerides to sea-going units.

MISSION

To operationally support the Navy's worldwide fleet. The command provides direct space systems support to naval forces and helps prepare the naval service for a larger space systems involvement extending well into the 21st century. Within its charter, Naval Space Command determines fleet operational requirements for space systems directly coordinating with Fleet Commanders-in-Chiefs. These requirements are translated into specific program planning and budgeting actions by the CNO staff.

Space systems have become an integral part of naval structure and the Navy is the principal tactical user of satellites for space surveillance, environmental monitoring, communications and navigation. Navy and Marine Corps primary warfare areas depend upon space today for optimum mission effectiveness. The level of dependence upon space is growing, as is the number of space systems. Major advances in space capabilities are inevitable and will change the nature of naval warfare. In this respect, navy research and development has been a major contributed-to space science and technology, the use of satellites and research tools, and the introduction of major systems in navigation, surveillance, and communications. By establishing the Naval Space Command the Navy has better coordination in determining current use of space capabilities and resources. The Command also supports the coordinated mission and hardware development for future space activities.

Responsibilities.

The Naval Space Command manages the satellite communications system GAPFILLER, FLTSATCOM and LEASAT, and elements of the Navy TENCAP office, which is charged with the tactical exploitation of national capabilities. GAPFILLER, a leased, three-satellite communications system, provides UHF communications over major oceanic areas of the Atlantic, Indian, and Pacific oceans and Mediterranean . FLTSAT, a DOD-owned, four-satellite communicati stem, provides primary UHF communications to naval forces deployed worldwide and serves as host vehicle for

the strategic Air Force Satellite Communications System (AFSATCOM). LEASAT, a leased satellite system supplements FLTSATCOM and replaces GAPFILLER. It first deployed via the space shuttle in late August 84 and operational in October 84.

Future Operational Responsibilities

These will be responsibility for the Navy's Geodesy Satellite (GEOSAT); the Relocatable Over the Horizon Radar system (ROTHR); the Navy Remote Ocean Sensing System (N-ROSS); and the FLTSATCOM EHF Package (FEP).

- GEOSAT, to be launched in early 1985, will reduce a significant percentage of the Sea-Launched Ballistic Missile error budget. It will collect sufficient data to model the earth's geoid. On completion of GEOSAT's primary mission, the Space Command will assume responsibility to operate the satellite for its environmental support mission.

- ROTHR is a high-frequency radar under development to provide broad-area ocean surveillance for selected areas worldwide. It will be relocatable to prepared sites to support naval forces globally and has been assigned to the Naval Space Command because its performance and operational capability more closely resemble that of satellite surveillance systems.

- N-ROSS is a satellite under development to produce the essential oceanographic and environmental data in support of all naval mission warfare areas.

- FEP is an extremely high frequency (EHF) package that will be integrated into FLTSATCOM 7 and FLTSATCOM 8. FEP will be used to test EHF technology before the introduction of the MILSTAR system.

Other programs in which the Naval Space Command will be involved are Military Strategic, Tactical and Relay System (MILSTAR) and the NAVSTAR Global Positioning System. The MILSTAR satellite system is being developed to provide worldwide minimum essential communications in a wartime environment. The Air Force is the MILSTAR executive agent, Navy has terminal development lead, and the Naval Space Command will be responsible for Navy operational aspects of the program. The NAVSTAR Global Positioning System eventually will replace the TRANSIT navigation system for the fleet and will upgrade Navy's capability to navigate on, under, and above the ocean's surface. Navy has been involved in the program from its inception and is developing the stable time standards for the satellite as well as participating in platform terminal development. Another major effort for the future is the space-based radar/infrared (SBR/IR) proposal. The Navy has a continuing requirement for improved wide-area surveillance of ocean and littoral areas which have become more significant as the threats to its battle

groups at sea have become more sophisticated. The Navy and the Air Force determine technologies and system specifics which best needs.

Since the launching of Sputnik in 1957, both the threat to U. S. national interests and the potential benefits from space systems have increased significantly, and will continue to do so at an accelerated pace. The Navy is particularly affected because of the unique problems and requirements of operating in an open-ocean environment. Alternatives supporting naval missions are either nonexistent or, often, less capable than space systems. The very survivability and battle utility of naval forces are totally linked to the Navy's full and resourceful use of space. Because space critically affects the Navy's ability to carry out its maritime mission, it has actively assisted in formulating national and DOD space policies, and working closely with the Air Force and NASA in areas of mutual interest-particularly the services' ongoing effort to evaluate how to effectively integrate space systems into the operational control of the Commanders-in-Chief.

The Navy recognizes the use of space as an integral part of warfare and that space systems are integral to the present and future naval structure.

(Source: Naval Space Command, Dahlgren, Va. 22448
(c) 703-663-7873)

VIII - CURRENT ISSUES

F -- NAVAL OCEANOGRAPHY PROGRAM

The Director of the Naval Oceanography Division, (OP-952)/Oceanographer of the Navy, is the sponsor for the Naval Oceanography Program, within the Office of the Chief of Naval Operations. He works under the policy and funding guidance of Assistant Secretary of the Navy (ASN) for Research, Engineering and Systems (RE&S) and the Director of Naval Warfare (OP-095). Two Commands manage the day-to-day program activities: the National Observatory, in Washington, D. C.,and the Naval Oceanography Command, in Bay St. Louis, Mississippi.

Dissemination of operational oceanographic products and services is accomplished by an extensive communications network; out to worldwide centers and detachments for distribution directly to fleet elements.

The prime mission of the program is to gain better understanding of the Navy's operational environment and to apply that knowledge to the developoment of improved warfare systems and operations. As Fleet requirements are met with products and services of the Naval Oceanography Program, the total national program for making better use of the sea, including Federal and private industrial efforts, benefits from Navy-developed ocean science and technology which advances human capabilities in the sea.

The Naval Oceanography Program embraces five geophysical disciplines: Oceanography, Meteorology, Hydrography, Astrometry, and Chronometry. These five geophysical disciplines call on all of the physical sciences for investigating the nature and behavior of the oceans and atmosphere, to provide knowledge of their influence on naval operations.

- Oceanography investigates the nature and behavior of the water volume of the oceans. Underwater acoustics receives the greatest attention because of its relationship to the effectiveness of many sensors and weapons systems; however, there are also programs in biology, chemical oceanography and marine geology. Ocean surveys collect data concerning salinity, temperature, ocean currents, living organisms, chemistry and other water characteristics, to define their precise influence on naval operations. Oceanogaphic observations are collected by ships, buoys, submarines, and aircraft for analysis by Naval Oceanography Centers. The data are processed by computers and combined with historical records of air-sea conditions in operational areas to prepare forecasts of conditions in a specific time and place in support of submarine, anti-submarine, and undersea-surveillance operations;forecast information centers on sound velocity profiles, ocean layer depths, and ocean currents and surf conditions. In addition, sea-ice

observations and predictions are reported at regular intervals. Oceanographic surveys are conducted from six ships, two specially configured aircraft, submarines and various in-water arrays of sensors.

- Meteorology includes programs for the investigation of the atmosphere and its interface with the oceans for the development of weather predictions on a global scale. Data concerning pressure, humidity, cloud formation and movements, air currents, precipitation, temperature, and other atmospheric phenomena are collected from worldwide sources for processing as reports and forecasts of weather conditions to specifically support Navy operations. The Fleet Numerical Oceanography Center, in Monterey, California, serves as the major processing center for oceanic and atmospheric predictions. The numerical products of processing massive quantities of weather and ocean data, in combination with historical data, are sent out to worldwide oceanography centers where predictions are tailored to area requirements. Weather routing services guide Navy ships and aircraft across ocean transits with the least amount of interference from storms and other adverse weather conditions and save fuel. Tailored predictions are developed for specific areas in a specific time, for requesting Fleet elements.

- Hydrography includes programs in mapping, charting, and geodesy. Surveys measure water depth, establish precise geodetic position, measure variations in the Earth's magnetic field, determine gravity anomalies, and define the shape and texture of the seafloor. Charting of the oceans is imperative for safe and efficient navigation of ships and submarines transiting world oceans. Surveys employ four U.S. deep oceans survey ships collecting data in support of Fleet and Land-Based Ballistic Missile Programs and strategic deterrence; from two U. S. coastal hydrographic survey ships operating in cooperation with foreign Allies to update charting of their coasts and harbors; from a specially configured P-3 aircraft for collecting geomagnetic data; and from contractor survey ships, as required to meet specific data collection schedules. Only 20 percent of the Earth's immense ocean areas have been adequately chartered to support national defense. Research is conducted to develop methods of hydrographic surveying that can provide greater coverage in shorter periods of time.

- Astrometry is a continuing program for determining fundamental positions of the Sun, Moon, Planets, and selected stars since knowledge of these positions plays an essential role in establishing an accurate celestial coordinate system. The celestial coordinate system is fundamental for the determination of the position of fixed and movable objects on the surface of the Earth, and in space. Geodetic position is required for navigation of ships and aircraft in transit from one location to another, around the globe.

- Chronometry measures precise time and time interval. The Naval Observatory operates the Master Clock, a cesium beam atomic clock, to keep time for the Navy and for the Nation. Time is measured to accuracies of 1/100,000,000ths of a second to satisfy the requirements of worldwide communications, navigation, and the employment of various weapons systems.

The highly advanced weapons systems of the modern U. S. Navy are very sensitive to changing conditions in the air-sea environment of naval operations. Knowledge of how the physical environment will influence weapons systems' performance permits the Fleet Commanders and operators to anticipate those effects and select the optimum sensors, weapons, and mode of operation. Accurate oceanic and atmospheric prediction provides vital information for that selection process. Just as importantly, knowledge of the operational environment gained by efforts of the Oceanography Program, is fundamental to the development of new naval weapons systems. In combination, the products and services of the Naval Oceanography Program enhance the Navy's operational capabilities by providing the means to get the most out of weapons systems' performance.

(Source: OP 952, Dept of the Navy, Washington, D. C.,20350
(c) 202-653-1604)

VIII - CURRENT ISSUES

G -- PROJECT HANDCLASP

Project Handclasp is the U. S. Navy's program of humanitarian assistance designed to promote mutual understanding, respect, and goodwill between people of the United States and those of other nations through distribution of humanitarian materials.

Through the cooperation of numerous individuals, service and religious organizations, and industry, Project Handclasp has shipped approximately 2,000,000 pounds of humanitarian goods, conservatively valued at $3,000,000 throughout the western Pacific annually for the past several years. During the past three years, Project Handclasp has also provided support to Navy and joint-service civic action activities in Africa, Central and South America, and the Indian Ocean littoral, in coordination with military commanders including CINCLANTFLT, CINCSOUTH, USCOMSOLANT, CINCPACFLT, and COMIDEASTFOR, as well as various USMILGP, USDAO and State Department activities.

This material has been transported by Navy opportune lift to countries such as Korea, Hong Kong, Japan, Pakistan, the Phillipines, the Marshall Islands, the Marianas, Mauritius, Thailand, Indonesia, Somalia, Kenya, Djibouti, Lagos, Gambia, Guinea, Ghana, Senegal, Honduras, Costa Rica and Panama -- and, for all practical purposes, to nearly all underdeveloped countries throughout the world visted by deployed Navy ships.

During 1983, 60 ships carried and distributed Project Handclasp material to at least 50 countries/islands worldwide. Distribution of the material is carried out directly by U. S. military personnel stationed in overseas areas or embarked in fleet units visiting these areas. Project Handclasp has, over the years, been so successful that the Office of the Chief of Naval Operations called it "the highest impact, cost-effective, people-to-people program in the Navy."

Basically, Project Handclasp has a two-fold mission:

1. To ship materials to major overseas shore commands for distribution in the area served by the command.

2. To serve as the source of materials available to afloat Commanding Officers for ship-sponsored people-to-people programs at localities visited by Navy ships.

Donations arrive almost daily from across the United States. For example, a major corporation donated 140,000 pounds of brown rice. 45,000 pounds were transported to Norfolk, Va., at no cost to the government, and loaded aboard USS MERRIMACK (AO-179)

just prior to sailing. The rice was subsequently distributed in Brazil in conjunction with drought-relief civic action programs. The remainder of the rice has formed the core of foodstuff packages being distributed by ships during port visits throughout the Western Pacific, Central and South America, Africa and the Indian Ocean.

The city of Pasadena, California, donated a fire engine, eventually transferred to the Volunteer Fireman Corps of Solala, Guatemala, where it was direly needed. Children's Hospital in Washington, D. C. donated hospital equipment and su. ficient material to outfit a 40-bed hospital in Mauritius. Several major pharmaceutical houses donated sufficient quantities of vaccine and associated medical supplies to allow Project Handclasp to participate in a USCINCSOUTH civic action project involving vaccination of the entire child population of Honduras. A leading delivery service donated free air transportation of the materials to San Diego to meet scheduled onward transportation.

The Catholic Daughters of the Americas have provided Project Handclasp with over 200 new treadle sewing machines. Each machine forms the basis of a "Project Handclasp Sewing Machine Workshop," which also includes 100 yards of fabric, needles, thread, cotton, scissors, patterns, buttons and other sewing notions. These workshops not only represent lasting, visible gifts from the American people but also afford the recipient an opportunity for self-sufficiency.

Project Handclasp has, over the years, played a vital role in enhancing the Navy's image, both at home and abroad. It promotes a positive image of the United States and the U. S. Navy by eliminating the middleman when distributing humanitarian materials; the recipient receives aid and assistance directly from American service personnel. Such enhancements are an important part of the Navy's contribution to National Defense.

The value of having Project Handclasp materials distributed directly by military personnel is that , not only are the people most in need assured of receiving the materials, but the service personnel involved in the distribution gain a keen insight into, and have a greater appreciation of, the problems and lifestyles of the people of other nations. The service personnel involved in the distribution of handclasp materials are ambassadors of good will... representing all of the people of the United States.

(Source: Director Project Handclasp,
c/o Commander Naval Base, San Diego, Calif. 92132
(c) 619-235-3438)

VIII - CURRENT ISSUES

H -- STRATEGIC HOMEPORTING CONCEPT

OBJECTIVES

From inception, the Strategic Homeporting Concept has been based on the following five basic military principles:

* Dispersing forces to more ports is desirable to complicate conventional warfare targeting by a potential enemy, and to minimize the risk of inability to respond to a contingency requirement as a result of a relatively simple and properly placed attack. This is of greater concern given today's state-sponsored terrorism.

* Collocation of ships to form a balanced battle group provides a trained, ready team prepared to undertake the full spectrum of naval warfare missions immediately upon clearing the harbor.

* Geographic distribution of the fleet will broaden and exercise the ship repair industrial base to ensure the surge capability needed to support the Navy in event of mobilization.

*Geographic dispersal provides an opportunity to train and operate in a variety of climates, and reduces response time to likely areas of operation.

* Development of additional logistic support is required to support the expanded Navy. While maximizing the use of the existing infrastructure, it is desirable to provide dispersed facilities to permit implementation of the other principles upon which the Strategic Homporting Concept is based.

CURRENT STATUS

The Strategic Homeporting Concept is evolving from a study of the optimum locations for the Navy's ships to a practical plan. It reflects a compromise between the ideal military solution and the constraints of the investments already made or those possible in the future. While the Navy may not achieve an "ideal" strategic posture, there are a number of actions that are reasonable, desirable and affordable.

The approach to the implementation of the concept has been to study one geographic area at a time. Originally, it was determined that a Battleship Surface Action Group (BB SAG) should be located in the Northeast, a Carrier Battle Group (CVBG) in the Northwest and a CVBG on the Gulf Coast. As the concept is implemented, the mix of ships in the existing ports would be realigned to the extent feasible to achieve battle group integrity.

Once the general geographic areas and types of ships to be assigned were identified, the Navy entered a phase of study in which the interested communities of each region were asked to provide proposals for accommodating the ships. Dealing first with the Northeast, the cities of New York, Bayonne, Boston and Narragansett Bay region provided input. After consideration of all proposals, the Secretary of the Navy designated Staten Island (Stapleton/Fort Wadsworth) in New York City as the "preferred alternative."

We now are engaged in the preparation of an Environmental Impact Statement (EIS) for Staten Island. Once the EIS process is completed, the Secretary will make a final decision on the site for the BB SAG. Assuming environmental constraints do not cause the Secretary to select a site other than Staten Island, we anticipate requesting approximately $100 million for construction in the fiscal year (FY) 1986 and 1987 budgets. The Port Authority of New York and New Jersey is contributing $15 million toward establishment of the base. The first ships would arrive in 1988.

We next turned to the Northwest and began a detailed examination of the Puget Sound region.

Following the same procedures used in the Northeast, we solicited input from area communites. In April, 1984, Secretary Lehman announced that Everett, Washington, had been selected as the preferred alternative.

The EIS preparation for the homeporting initiative in Puget Sound is in progress, and a Record of Decision is expected in April 1985. Funding options are under study for land acquisition and construction. The total construction cost of the installation is approximated at $357 million. The first ships would arrive at the end of 1988.

We now are beginning to study the Gulf Coast. After careful study of the most desirable ship mix, we announced the intention to station a BB SAG there instead of the originally conceived CVBG. A homeporting study team has been formed to examine potential homeports. Proposals were requested from interested communities in August 1984, to be followed by a preferred alternative announcement by the Secretary of the Navy in April 1985. Assignment of ships would occur about 1990.

Finally, a study has begun to determine the optimum homeport in the Pacific area for a fourth BB SAG. Under consideration are Pearl Harbor, Long Beach and San Francisco. While these locations do not represent new Navy ports, stationing a battlegroup in one of them is consistent with the objectives of the Strategic Homeporting Concept.

OUTLOOK

Execution of the Strategic Homeporting Concept is dependent upon final decisions by the Secretary of the Navy subsequent to completion of Environmental Impact Statements at these locations, and ultimately upon funding by Congress. While ambitious, the program has the complete support of the Administration, and enjoys significant Congressional backing. As with any complex and expensive program, implementation will present challenges and schedules may change as information is developed or other priorities emerge. Nonetheless, the military precepts that are the foundation of the concept are sound and the prognosis for implementation is good.

BENEFITS

Dispersal of forces to maximize survivability and to compound a potential enemy's containment problem is a basic tenet of military planning. The Strategic Homeporting Concept supports this tenet.

The Navy traditionally has provided the first response to crisis spots throughout the world, and often is needed "on station" now. Location of battle groups in the Northwest, Northeast and the Gulf Coast could reduce by one to several days the time taken to reach possible crisis spots, ready to provide the presence or apply the force ordered by National Command Authority.

The Navy--and the entire maritime industry--depends on a healthy and well-developed shipbuilding and repair industry to provide new ships and maintain existing ones. This industry must be broadly-based and have the depth required to reach wartime production levels if necessary. Dispersing the ships of the fleet also spreads the opportunity to perform repairs, and therefore encourages the development of this vital industry.

The Strategic Homeporting Concept provides a core of new home ports which will support the expansion to the 600-ship Navy of the 1990s and beyond. While existing bases will continue to be fully used, this modest expansion of the shore establishment provides much needed relief for the congested and aging facilities in traditional ports. With the pressure on these major ports reduced, effort can be devoted to repair and replacement, ultimately resulting in a more modern, effective and efficient shore establishment.

(Source: OP-441, Dept of the Navy, Washington D. C. 20350
(c) 202-695-5144)

IX - PERSONNEL

A -- DOD PERSONNEL (thousands)

	FY-68	FY-80	FY-83	(*Proj) FY-84	(*Proj) FY-85
Military (Active Duty)					
Army	1,570	774	780	780	781
Navy	765	528	558	565	575
Marines	307	185	194	197	200
Air Force	905	558	592	594	610
TOTAL Military	3,547	2,045	2,124	2,136	2,166
Civilian Employees					
Army	462	359	332	342	342
Navy/Marines	419	308	328	329	329
Air Force	331	244	238	236	240
Defense Agencies	75	78	82	87	88
TOTAL Civilians	1,287	989	980	994	999
Total Military & Civilians	4,834	3,306	3,103	3,130	3,165
Reserve Force					
Army	244	200	266	278	298
Navy	124	87	109	122	129
Marines	47	34	43	44	46
Air Force	43	58	67	70	75
National Guard					
Army	389	359	417	433	447
Air Force	75	94	102	104	108
TOTAL	922	832	1,004	1,051	1,104

*Programmed

(Source: FY-85 Annual Report to Congress, Table 3, App B)

IX - PERSONNEL

B -- NAVY RECRUITING AND THE ALL VOLUNTEER FORCE

The enactment of the draft extension bill in 1971 provided two years of transition to an All Volunteer Force by not later than 30 June 1973. The last draft calls were made in December 1972.

The Navy Recruiting Command, COMNAVCRUITCOM, formerly PERS B6, was established 6 April 1971 as a field activity of the Chief of Naval Personnel to prepare for recruiting in the All Volunteer Force environment. COMNAVCRUITCOM headquarters is in Arlington, Virginia. Its field organizations include six Navy Recruiting Areas, 41 Navy Recruiting Districts, and about 1700 Navy Recruiting Stations. Navy Recruiting Command personnel are located in the 50 states, Puerto Rico, the Virgin Islands, the Republic of the Philippines, Guam, and Europe.

Recruiting in an all volunteer environment has resulted in:

1. Greatly improved marketing and management systems.

2. Careful screening and selection of proven top-performing officers and petty officers, men and women, for recruiting duty.

3. Top professional sales and management training for recruiting personnel.

4. Advertising directed at a high-quality youth market.

5. Assistance of active duty personnel, Naval Reserve personnel, navy and military oriented civilian organizations and the American Public.

6. Streamlined recruiting with a One-Navy concept. On 1 April 1973, COMNAVCRUITCOM assumed responsibilty for recruiting all regular and reserve navy active duty programs, except the Naval Academy and the veterans' program, in the Naval Reserve.

7. Visits to Naval facilities, stations and fleet units, sometimes including cruises and flights, provide a firsthand view of Navy life to students, potential recruits, and educators.

8. Creation of community awareness of the numerous opportunities in the navy for both professional and personal growth.

Increased requirements for top quality personnel to maintain and operate today's navy necessitates high Navy entrance standards. Today's officer candidates and enlisted recruits must be educated, mature, and possess an ability to partake in advanced technical training to be able to operate modern ships, aircraft, and weapons systems.

There are more than 85 Navy career fields Navy. The six-year obligor programs - nuclear field, advanced electronics field, and the advanced technical field - are among the most challenging and rewarding.

Opportunities are available to all who qualify. Women find the Navy attractive today because all but about a dozen of more than 85 skill areas are open to women.

The Navy has initiated programs to enhance minority recruiting efforts. Progress has been made, but we are lagging in the numbers the Navy hopes to recruit in certain officer programs.

The Navy must keep quality high, or fleet readiness will suffer. Competition for high-quality young people is increasing with industry and business recruiting in the same market. Additionally, experts predict the pool of recruitable-age youth will decrease. The Navy will not sacrifice quality simply to make monthly numerical goals. Most years, about 100,000 personnel must be recruited--a turnover rate of over 20 percent. One-Navy recruiting results below reflect the difficult challenge that has confronted Navy recruiting as well as the increased accomplishments in recent years:

FY 74	99.5%
FY 78	93.9%
FY 79	94.6%
FY 80	100.0%
FY 81	100.0%
FY 82	100.0%
FY 83	100.0%

Attractions of Navy Service.

1. Educational opportunities: Professional vocational training and to receive an advanced education.

2. Personal growth: Increased responsibilities and leadership/management positions at an early age, finding oneself.

3. Travel, military life.

4. Promotion opportunities - job satisfaction/security, accepting challenges and meeting them.

5. Strong personal relationships and friendships, being a team member.

TOLL FREE TELEPHONE

For Information on Navy Opportunities or Specific Programs:

Call toll free (800) 327-NAVY. (Phones are manned 24 hours a day.)

- In Florida call (800) 432-1884.
- In Alaska call collect (907) 272-9133.
- In Hawaii dial 546-7540
- In Puerto Rico call toll-free (800) 327-6289.

To answer questions local Navy recruiters are found under "U. S. Government, Navy" in the telephone directory.

For current recruiting statistics: call COMNAVCRUITCOM PAO, commercial (202) 696-4641/4200 or (AV) 226-4641/4200.

(Source: COMNAVCRUITCOM PAO, Washington, D. C., 20350
(c) 202-696-4641)

IX - PERSONNEL

C -- MINORITIES IN THE NAVY

About one of every five members of the Navy is a racial/ethnic minority. This includes more than 110,000 enlisted and more than 5,500 officer personnel. Given the rich demographic mosaic, the Navy devotes a priority effort to its Equal Opportunity Program to support continuance of an environment free of the artificial barriers of race, color, creed, gender or ethnic background. Equal Opportunity is an element of sound leadership that results in enhancing the total quality of Navy life as well as increasing the capability of the Navy to fulfill its mission. The Equal Opportunity Program is oriented around a number of specific areas, some of which are force composition, recruiting/accessions, training and education, promotion, discipline and separations.

Minorities constitute invaluable personnel resources. A concerted effort is made; therefore, toattract increased numbers of minority personnel to the Navy. Special emphasis is given to recruitment/accession of minorities in all enlisted and officer programs, including minority participation in the Naval Reserve Officer Training Corps (NROTC) and attendance at the United States Naval Academy.

The Navy actively pursues increased minority participation as an essential element of the personnel requirements inherent in the increased size of the Naval Force. As a service we are committed to making our differences in race, color, creed, national origin and gender sources of strength rather than grounds for inequity.

FY-84 MINORITY REPRESENTATION - NAVY

	OFFICER	ENLISTED
Black	2,228 (3.0%)	64,082 (12.8%)
Hispanic	764 (1.1%)	17,436 (3.5%)
Other Minority	2,498 (3.5%)	29,106 (5.8%)
Women	6,525 (9.3%)	41,430 (8.3%)

(Source: OP-01J, Dept of the Navy, Washington, D. C. 20350
(c) 202-694-2007)

IX - PERSONNEL

D -- DOD MINORITY REPRESENTATION (COMPARISON RELATIVE TO THE OTHER SERVICES)

*Black military officer personnel (percentage of total)

Service	CY-70	CY-76	CY-79	CY-81
Army	3.4	5.7	6.8	8.0
Navy	0.7	1.6	2.3	3.0
Marine Corps	1.3	3.6	3.9	4.0
Air Force	1.7	2.9	4.3	5.0
TOTAL DOD	1.8	3.5	4.3	5.0

*Black military enlisted personnel (percentage of total)

Service	CY-70	CY-76	CY-79	CY-81
Army	14	25	32	33
Navy	5	8	11	12
Marine Corps	11	17	22	22
Air Force	12	15	16	15
TOTAL DOD	11	17	21	21

As of 31 December 1981: the Navy stood at 2.78 percent Black and .82 percent Hispanic in officer recruiting - the FY-88 goal is 6 percent Black and 3 percent Hispanic; enlisted minority recruitment stood at 12.1 percent Black, 3.12 percent Hispanic - the FY-88 goal is 12 percent Black and 6.4 percent Hispanic.

*Active Duty

(Source: OP-01J, Dept. of the Navy, Washington, D. C. 20350
(c) 202-694-2007)

IX - PERSONNEL

E -- TOTAL FORCE CONCEPT/UNITED STATES NAVAL RESERVE

The State of the Force

The Naval Reserve, with its approximately 105,000 drilling Selected Reservists is the Navy's source of immediate mobilization manpower. A change in capability and mission assignment is taking place.

We have better people and are getting more. We are sailing the Navy's most modern ships and flying state-of-the-art aircraft. We are taking on new missions that only a few years ago would have been impossible. This is due to increased public and Congressional interest in today's Naval Reserve.

Historical Perspective

What is the history of today's Naval Reserve? What is the heritage?

Although there were Naval militias in several states and a "Volunteer Navy of the United States" during the 1800's, it wasn't until 1915 that Congress passed the legislation which first established a Federal Naval Reserve--to be composed of enlisted men who had seen service in the Regular Navy. The response was limited. In August 1916, with World War I already underway in Europe, Congress passed an act establishing a new Naval Reserve Force and federalizing the Naval Militia.

During the First World War, about 30,000 Reserve officers and 300,000 enlisted Reservists served on active duty. Among them were 12,000 women Reservists who worked as "yeomanettes" in Navy and Marine Corps offices. A group of flying enthusiasts from Yale University, who had bought their own planes, learned to fly at their own expense and volunteered their services to the Navy before the United States entered the war. This first Yale unit pioneered the modern Naval Air Reserve.

In World War II, almost 80 percent of the Navy's uniformed force were Reservists, but most of them had not participated in the Naval Reserve before going on active duty.

After World War II, the Naval Reserve had over 130,000 in the "Organized" Naval Reserve. There were hundreds of training centers located throughout the United States where classroom training was emphasized. However, some ships and aircraft were assigned to the Reserve. During the Korean War, over 130,000 Reservists served on active duty and about 75 percent of the combat sorties were flown by Naval Reserve aviators. During the Vietnam conflict, two Seabee battalions were mobilized and served in Vietnam.

The mid to late 1970's were a time of turmoil for the Naval Reserve. A Selected Reserve force, which had numbered near 129,000 in 1973, was proposed for gradually lower levels, culminating with the President's Budget submission for Fiscal Year 1980. That budget called for an average strength of only 48,700. Fortunately, Congressional action repeatedly authorized and funded higher levels than requested, but our Selected Reserve strength did drop to a post World War II low of just over 81,000 in 1978.

During this period, positive management actions were being instituted to improve the capabilities of the Naval Reserve. "Project Readiness" was implemented. This program structured the augmentation personnel of the Naval Reserve into units which were tied directly to their "gaining command" -- the active force unit to which they would mobilize. Training was focused on specific requirements of each mobilization billet, and emphasis was placed on having the Selected Reserve unit train with its gaining command during annual active duty training. Emphasis on the Weekend Away Training (WET) program has expanded this concept to include increasing amounts of inactive duty (weekend) training with the gaining command or at a centralized training site.

The Reserve Force Today

We have progressed from a Naval Reserve in which a large portion of our personnel, those who would augment the active force, were organized in "manpower pools" we called Naval Air Divisions (NARDIVs) or Surface Divisions (SURFDIVs) to a structure of reinforcing and sustaining units that are linked directly to their gaining commands. We now have precise mobilization billets with appropriate qualification requirements for all our augmentation personnel-the same as our commissioned units have always had.

Command Structure

The responsibility for the organization, administrative, training, and equipping of the Naval Reserve and for the mobilization planning to reinforce and augment the active forces rests with the Chief of Naval Operations (CNO). The Naval Reserve command structure which supports the CNO is headed by a Rear Admiral who holds the position of Director of Naval Reserve (DIRNAVRES) and Commander, Naval Reserve Force (COMNAVRESFOR). He also holds the title of Chief of Naval Reserve (CNAVRES), which identifies the single flag officer responsible for the Navy's Reserve programs. The incumbent resides in Washington, D. C. where in his position as DIRNAVRES, he is the principal advisor to the CNO on all Naval Reserve matters.

COMNAVRESFOR headquarters is in New Orleans, Louisiana. COMNAVRESFOR is responsible for administration of Naval Reserve Programs in accordance with policies prescribed by the CNO, for management of Naval Reserve activities, and operational control of assigned Naval Reserve units.

COMNAVRESFOR also reports to two Fleet Commanders and to Commander-in-Chief, U. S. Naval Forces, Europe, on an 'additional duty' basis.

Two subordinate comands -- Collocated with COMNAVRESFOR in New Orleans --- Commander, Naval Surface Reserve Force and Comander, Naval Air Reserve Force -- were also created with a flag officer commanding each. The senior of these flag officers has additional duty as Deputy Commander, Naval Reserve Force. A Special Assistant to the CNO for Total Force Integration also oversees the Active and Reserve policy issues. The importance of active/Reserve force mix issues has been further recognized by the creation of a new directorate within the office of the Deputy Chief of Naval Operations for Plans, Policy, and Operations (OP-06) - Director of Total Force and Fleet Operations Division (OP-64).

THE FORCE

Today there are almost 400,000 men and women serving in the Naval Reserve. Almost 250,000, are members of the Ready Reserve. The Selected Reserve is the core of the Ready Reserve with approximately 105,000 Selected Reservists. They drill one weekend a month and perform two weeks of annual active duty in a paid status. These are the "active" Reservists who are not on active duty.

The Ready Reserve also includes some 74,000 who are on full-time active duty. Almost 14,000 of these are career active duty Reservists responsible for the Training and Administration of Reservists -- called TARs. The balance of the Ready Reservists on active duty are Active Mariners (enlisted Naval Reservists on three years active duty, followed by participation in the Selected Reserve for two years) and Officer Candidate School students and gradutes.

Another 62,000 are Individual Ready Reservists, almost 55,000 of whom do not drill at all and over 7,000 of whom drill without pay and are assigned to Voluntary Training Units (VTUs). About 9,000 NROTC cadets are also members of the Ready Reserve. The Retired Reserve accounts for another 133,000 personnel and there are some 13,000 members in the Standby Reserve.

The various Selected Reserve units have differing structures and differing mobilization missions. There are three types of units:

* Commissioned units -- those that are complete operational entities such as ships, squadrons and construction battalions.

* Reinforcing units -- ready to augment active Navy ships and squadrons and afloat staffs.

* Sustaining units -- ready to augment active Navy bases, stations and other support organizations.

FORCE STRUCTURE

Naval Reservists man and operate all of the Navy's U.S. based Logistic Airlift Squadrons. All of the Navy's Light Attack Helicopter Squadrons and Combat Search and Rescue (CSAR) capability are in the Naval Reserve. In addition, the Naval Reserve contains all of the Navy's Mobile Inshore Undersea Warfare Units.

Other examples of the portion of the Navy's force structure in the Naval Reserve are:

* 99 percent of Naval Control of Shipping Organization
* 86 percent of Navy Cargo Handling Battalions
* 86 percent of Naval Ocean Minesweepers
* 85 percent of Military Sealift Command military personnel
* 68 percent of Mobile Construction Battalions
* 66 percent of Special Boat Forces
* 34 percent of Naval Intelligence personnel
* 30 percent of Navy Medical Support personnel (the number of Naval Reserve medical personnel is soon to double)
* 14 percent of Navy Tactical Carrier Air Wings

HORIZONTAL INTEGRATION

Historically, the Naval Reserve was issued equipment, much of it outdated, no longer needed by the regular Navy. This problem was first addressed in 1982 when Secretary of the Navy, John Lehman announced a drive to update Naval Reserve equipment. He termed it "horizontal integration", that is, the assignment of the same types of equipment to the active and Reserve forces.

In 1982, four Knox class (FF-1052) frigates were part of the Naval Reserve Force (NRF), since then, two additional Knox class and three Oliver Hazard Perry class (FFG-7) frigates have been added. By June 1988, the NRF will include 24 of these modern ships.

These ships are located in ports offering the largest number of Reserve surface sailors. Naval Reserve Force frigates are

homeported in Newport, RI; Long Beach, CA; Charleston, SC; and Philadelphia, PA. Additional homports will be identified as the NRF - frigate force grows.

Although under the operational control of the regular Navy, these frigates are manned by Selected Reservists and TARs, as well as regular Navymen.

Four Naval Reserve Shore Intermediate Maintenance Activities (SIMAs) have been established. They are located in Newport, Long Beach, Philadelphia, and San Francisco, manned by a mix of regular Navy, TAR and Selected Reserve personnel. SIMAs often also support regular Navy ships.

In addition to the SIMAs, there are four Naval Reserve Maintenance Training Facilities (NRMTFs), designed to train Selected Reservists for duty with a SIMA. In addition to a role in ship maintenance, they perform such real-time functions as valve repair and manufacturing boiler inspection plates for ships of the fleet. NRMTFs are located in Orange, Texas; Great Lakes, IL; Long Island, NY; and Puget Sound, WA. Another will soon be located in Denver, CO.

Early 1984, attack squadron VA-303 moved from Alameda to Lemoore, CA, and became VFA-303, the Naval Air Reserve's first F/A-18 strike fighter squadron. Squadron members are flying with VFA-125, a Lemore regular Navy F/A-18 squadron, until they receive their own aircraft.

The F-14 will be introduced into Reserve Fighter Squadron 301 at NAS Miramar in the fall of 1984. This transition will represent a quantum increase in fleet air defence capability while permitting rapid and sustained Reserve integration aboard all large deck carriers.

Helicopter Antisubmarine Squadron 84 (HS-84) became HSL-84 in early 1984 when the squadron acquired SH-2F Sea Sprite helicopters. This update in equipment now enables the Naval Reserve to unite its frigates and helicopters for the anti-submarine warfare mission. Another Reserve HSL squadron will be formed on the East Coast in 1985.

Carrier Early Warning Squadron (VAW) 78 in Norfolk has now completely transitioned to the E-2C Hawkeye. It was this squadron that sent crews to the Mediterranean to augment regular Navy crews.

Attack Squadron (VA) 203 at Cecil Field has been upgraded from the A-7B to the A-7E; and another Reserve squadron, VA-205 in Atlanta, GA, is beginning the same transition.

Naval Reserve P-3A and P-3B Orions are being equipped with TACNAVMOD systems that will bring them close to par with the

regular Navy's P-3C's. This update should be completed by the end of 1986.

TRAINING

Mobilization is the number one concern of the Naval Reserve, and mobilization training is the number one priority.

Training Reservists in land-locked areas of the country has been a particular problem, especially among surface sailors. Actions are being taken to improve this situation. One such action is the development and installation of the Shipboard Simulator, or SBS, that brings the ship to the sailor. Plans call for 40 SBSs and another 73 Damage Control Trainers located throughout the country. More than half are in place now.

Though similar to it for training purposes, an SBS is not a ship. If a sailor in Kansas has a mobilization assignment to a ship several times a year, he travels to that ship. This is called Weekend Away Training, or WET.

In Naval Air Reserve training, new programs allow for training our pilots and aircrew members in the same type aircraft they will operate to augment active force squadrons upon mobilization. Formerly, the Naval Reserve lacked the capability to provide such training except in those few cases where we had the same aircraft in our squadrons as operated in the Fleet. In most cases we have started training our personnel with Fleet Readiness Squadrons (FRS). However, we have also established the first of three Master Augment Units (MAU) at Brunswick, ME, to train P-3C augment crews using aircraft temporarily assigned to the Naval Reserve from fleet assets

SELECTED RESERVE GROWTH

As the Naval Reserve's missions increase, so will its manpower requirements. The Navy determines how many people we need in the Selected Reserve by way of Navy's Manpower Mobilization System (NAMMOS). While projecting its total manpower requirements for mobilization, the Navy also determines the number of Selected Reservists needed. The NAMMOS requirement projected to Fiscal Year 1989 is for more than 132,000 Selected Reservists, or about 30,00 more than we have in 1984.

With growing requirements, it was necessary to initiate a new program to increase accessions into the Naval Reserve. Since most vacant Reserve billets consisted of pay grades E-2 through E-4, the Navy decided to implement a new program to recruit non-prior service men and women. This new initiative, the Sea and Air Mariner (SAM) program, was implemented in October 1983 based on the need for quality as well as quantity

to fill specific junior enlisted vacancies in designated units, particularly ships, aircraft squadrons, Seabee battalions, and medical units.

The Naval Reserve's goal is to recruit 10,000 SAMs a year for the first five years. Men and women can join if they are ages 17 to 33. If a high school junior signs up for the SAM program, he or she can attend recruit training during the junior-senior summer and return home for the final high school year. After high school, SAMs may attend a Navy "A" school or receive apprenticeship training and, then, return to their hometown Reserve unit for additional on-the-job training. Many will also be selected for follow-on "C" schools.

About one out of five of these new SAM recruits is scheduled to become a member of the Naval Reserve's medical force -- the fastest growing program in the Naval Reserve.

From fewer than 8,000 officers and sailors in 1983, the authorized medical force strength will grow to almost 18,000 by the end of 1984 and to more than 20,000 by Fiscal Year 1987. One major effort in this Reserve medical force is the creation of augment units to staff the new fleet hospital program. These hospitals will be established over the next four to five years and will provide required medical care in the event of a national emergency.

MOVING AHEAD

This, in brief summary, is how the Naval Reserve stands today. We have come a long way, and we are on the move. We have the strongest possible support of the Secretary of the Navy and the Chief of Naval Operations.

THE FUTURE

The Naval Reserve stands unique among the services in the employment of its forces during peacetime. Certainly, the Navy recognizes the talent and capabilities within its Reserve ranks. But the Navy, with its forward deployed mobile mission -- its ships at sea, faces a greater challenge in using its Reserve force.

In the years ahead, the Navy will undoubtedly assign even more responsibility to its Reserve Force. Our major challenge is to ensure that we recruit, train, and retain the numbers and types of Selected Reservists necessary to meet the requirements of the expanding Naval Reserve already planned. We must meet this challenge before we can accept more missions. Possible new missions for the Naval Reserve were included in the "Report to Congress on the Navy's Total Force" released in early 1984. This list includes:

* Creating unique roles for Naval Reserve responsibility in Maritime Coastal Defense and Caribbean Sea Lines of Communications (SLOC) protection.

* Increasing the Naval Reserve role in the sea-going and airborne mine countermeasures mission.

* Transferring to the Naval Reserve additional amphibious capability, including Landing Craft Air Cushion (LCAC) augment units.

* Modernizing and assigning Naval Air Reserve Carrier Airwings to the 15th and 16th carriers.

* Consolidating P-3C Squadron Augment Units (SAU) into Master Augment Units (MAU) and making P-3C aircraft and weapon systems trainers available for Reserve use.

* Executing Reserve augment plans for the Navy's new Hospital (TAH) ships.

* Transferring Navy Repair (AR) Ships to the Naval Reserve Force to support its ships.

Naval Reservists really are "twice a citizen." They are true professionals as they strive to meet the challenges of today and prepare for new horizons.

We think One Navy. We act One Navy. We are One Navy.

Source: (a) OP-09RD, Dept. of the Navy, Wash., D. C. 20350
telephone: (202)-695-5588
(b) NOP-64, Washington, D.C. 20370
telephone: (202)-694-2815)

Editors Note: 'Naval Reserve Information Pamphlet,' APR 84, provides graphic illustrations of Organization, Reserve Strength Summary, Maps and Lists pertinent to Section F, obtainable from OP-09RD.

IX - PERSONNEL

F -- EDUCATIONAL OPPORTUNITIES

Program: Defense Activity for Non-Traditional Educational Support (DANTES)

* Eligibility: All active duty military or reservists ordered to active duty for at least 120 consecutive days.

* Assistance: Free.

* Education & Location: Variety of examinations (e.g., CLEP. [illegible] ACT, SAT,) and independent study programs at educ t: enters.

* Military Obligation: None.

Further Info: Director at any education center, Education Services Officer, DANTES, Saufley Field, Pensacola, Florida 32509.

Program: Tuition Assistance Program

* Eligibility: All active duty military.

* Assistance: Pays up to 75% of tuition fees for off-duty study at accredited schools. Navy will pay 100% of fees for courses leading to a high school diploma or equivalent. Coast Guard pays up to $200 per semester.

* Education & Training: Studies at the secondary and college levels.

* Military Obligation: Two years for comissioned officers; none for enlisted. Coast Guard, one year.

Further Info: Education office at any military base, Navy NCFA Education Specialist.

Program: Navy Program for Afloat College Education (PACE)

* Eligibility: All active duty shipboard personnel serving as crews.

* Assistance: Provides full costs of instruction for personnel at sea through contracted agreements with colleges.

* Education & Location: Studies at the post-secondary level in academic and vocational/technical subjects.

* Military Obligation: None.

Further Info: Navy Campus Education Specialist; PACE administering command at ports of Fleet concentration.

Program: Broadened Opportunity for Officer Selection and Training

* Eligibility: All enlisted personnel and selected civilians.

* Assistance: Full pay and allowances.

* Education & Location: Nine months of instruction at BOOST School, San Diego, California, in preparation to compete for entry to the Naval Academy or NROTC officer programs.

* Military Obligation: Four years (includes 2 months of recruit training).

Further Info: See your Navy Recruiter.

Program: Navy Campus

* Eligibility: All active duty personnel.

* Assistance: Integrates education & training experience; helps plan progress toward goals through various programs. Assists in securing financial aid when needed.

* Education & Location: Through accredited institution, military schools and military experience.

* Military Obligation: None.

Further Info: Navy Campus Education Specialist; Career Counselor; Educational Services Officer.

Program: Serviceman's Opportunity College (SOC)

This program is similar to the Navy Campus program. SOC has agreements with selected civilian schools. The same sources of information would apply.

Program: Veterans Educational Assistance Program (VEAP)

* Eligibility: Active duty officer and enlisted personnel.

* Assistance: Government contributes $2 for every $1 an individual sets aside for education.

* Education & Location: Accumulated funds may be used exclusively to pay for education up to 10 years after leaving military service.

* Military Obligation: None.

Further Info: Education Services Officer.

Program: Selective Training and Reenlistment Program (STAR)

* Eligibility: Enlisted personnel (E2 - E4).

* Assistance: N/A

* Education and Location: Affords service personnel the opportunity to obtain guaranteed basic and advanced technical training in their field. It may include possible promotion to E5.

* Military Obligation: Varies.

Further Info: Navy Career Counselor.

Program: Selective Conversion & Re-enlistment Program (SCORE)

* Eligibility: Enlisted personnel with 21 months to 15 years active service.

* Assistance: N/A

* Education & Location: Permits a change in occupational specialty with training in new specialty - at basic and advanced schools. The changes must be to high priority areas where openings exist. RESCORE is available for former members who come back into the Navy.

* Military Obligation: Varies.

Further Info: Navy Career Counselor.

Program: National Apprenticeship Program

* Eligibility: Qualified enlisted personnel.

* Assistance: N/A

* Education & Location: Under an agreement between the Navy and the Department of Labor, some Navy skills can lead to certification completion of apprenticeship in comparable civilian fields.

* Military Obligation: N/A

Further Info: Navy Campus Education Specialist.

Program: Enlisted Education Advan ement Program (EEAP)

* Eligibility: Qualified enlisted personnel.

* Assistance: Full pay and allowances

* Education & Location: Attendance at community or junior colleges (full time) leading to an Associate in Arts or Science degree.

* Military Obligation: 6 years at time of college enrollment.

Further Info: Navy Campus Education Specialist.

Program: Enlisted Commissioning Program (ECP)

* Eligibility: Qualified enlisted personnel with 2-years college credits toward a degree already completed.

* Assistance: Full pay and allowances.

* Education & Location: Personnel attend an NROTC college or university for 24 months, earn degrees. They obtain Navy commissions at OCS after graduation from college.

* Military Obligation: 6 years at time of enrollment.

Further Info: Navy Campus Education Specialist.