DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

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CUTTER PLAN
CG-380-4

4 APR 1975

• LETTER OF PROMULGATION

1. Purpose. The 1974 Cutter Plan is the latest annual update of cutter requirements and acquisition plans and is approved for use as an official planning document.

2. Discussion. Primarily long range in its perspective, the Plan describes requirements for cutters and converts these requirements into a recommended cutter acquisition schedule covering the period 1977-1986. Program Descriptions (CG-380-1) is intended for use with both the Cutter and the Aviation Plan (CG-380-2). It should be noted that much of the information in the Cutter Plan ages rapidly as new concepts, new requirements, priorities, and budget adjustments develop.

3. Action. Review comments are vital to the compilation of next year's update and as such are requested by 1 June 1975. District commanders should submit their comments to Commandant (G-O) and forward copies to their respective area commanders. Area commanders should review all district commander comments and forward their own comment to Commandant (G-O) by 15 June 1975. All other recipients of the Plan should submit their review comments directly to Commandant (G-O) by 1 June 1975. The Office of Operations, Plans and Programs Staff is available to assist in the review and use of the Plan.

R. H. SCARBOROUGH
Chief, Office of Operations

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I. INTRODUCTION

Changing program requirements, cutter physical obsolescence, and technological advances which significantly decrease the effectiveness of existing resources all give rise to the need for the periodic review of the sufficiency of current cutter fleet.

The analysis summarized here reflects the aggregation of the cutter requirements of all programs and the development of a mix of cutters suitable and capable of meeting as a whole the full range of the Coast Guard's cutter needs. The analysis also reflects recent budgetary decisions and changes in program requirements.

This Plan presents the premises and methodology of the cutter requirements analysis, and a brief discussion of presently forecast program requirements. The final portion of the Plan is a cutter acquisition schedule that proposes the acquisition and rennovation of cutters at times and in quantities sufficient to meet projected program requirements in the interval from FY-77 through FY-86.

Supplemental to the Plan is a limited distribution volume entitled Cutter Requirements Analysis which details the analytical processes of the Plan.

The objectives of the Cutter Plan are:

- To determine the proper interacting mix of cutters required to meet all forecast program and support requirements over a ten year planning period;

- To propose a course of action which will, by the timely institution of cutter redistribution, rennovation and acquisitions, (1) overcome existing cutter shortages at the most rapid feasible rate, and (2) avoid future shortages;

- To provide a framework for assessing the impact of decisions effecting the present and future composition of our cutter fleet.

II. PREMISES

Premises used in the development of cutter requirements are listed below:

(1) Program cutter-day requirements are sufficient to satisfy established program standards.

(2) In stating individual program requirements, program managers have considered alternative resources (i.e., aircraft, boats, and cutters) and selected the most appropriate resource for the mission.

(3) Replacement/augmentation cutters will have the same general capabilities as those in the current inventory.

(4) All Coast Guard cutters are available and utilized as multiprogram resources.

*(5) With few exceptions (WAGB, WPB, WLR) all Coast Guard cutters will operate under single crew concept.

*(6) Except for the few augmented crew vessels noted above, no cutter may be away from homeport more than 180 days/year.

* These policies are under review.

III. METHODOLOGY

The cutter workload of each program is developed by program managers and projected through 1986. Beginning with statutory requirements and the derivative program objectives and sub-objectives, which are set forth in the various program plans, the requirements to perform different tasks requiring cutters are derived: surveillance, rescue, boarding, logistics, inspection and similar types of activities. Given these requirements, the Cutter Plan methodology considers further trade-offs to determine which of those cutters capable of satisfying the operational requirement are optimal in terms of cost. Requirements are developed for the various general classes of vessels for years 1977, 1979, 1981 and 1986.

As a next step, the various constraints limiting the time available for each cutter to satisfy program cutter requirements are identified. Considered as constraints are maintenance days and required in-port time for crew rest. Also, training requirements which are associated with the hull and are largely independent of its program workloads are identified.

The number of cutters required to meet program requirements was determined through use of a series of models. These models allow the analysis and integration of such information as:

a. Geographic area;

b. Simultaneous mission performance;

c. Cutter type trade-offs;

d. Multimission capability;

e. Seasonal workload variations;

f. Cutter standby requirements;

g. Severity of environmental conditions.

Once the modeling process is entered into, the identification of the requirements of any particular program with particular cutters is lost. As cutters are multiprogram resources, they are not provided as facilities dedicated to specific programs. Rather, cutter requirements are developed so as to provide a total mix of resources suitable and capable of meeting, as a whole, the full range of the Coast Guard's cutter needs.

Significant efficiencies achieved through this modeling process include:

a. Full utilization of all existing cutters before addition of new cutters;

b. Optimal coordination of effort between adjacent geographic areas;

c. Satisfaction of most standby requirements by cutters actually employed on operational missions.

IV. PROGRAM REQUIREMENTS FORECASTS

In this section, each program's requirements for cutter time is discussed in summary and tabulated in cutter days by cutter class.

Cadet Training

This program provides at-sea training for cadets and officer candidates. The cutter EAGLE and WHEC resources are required during the summer. At present cadets of the 1st and 3rd classes are trained on cutters and 2nd class cadets are trained aboard the EAGLE. Future requirements, while projected to grow with an anticipated increase in the size of the Academy Cadet Corps, do anticipate a change in which some cadet training will be conducted on ships engaged in routine missions of the service.

	1977	1979	1981	1986
WHEC	280	280	280	308
Special*	320	320	320	320

*Represents full time employment of cutter EAGLE. In addition to underway days this vessel is used as a training platform during its inport time.

Enforcement of Laws and Treaties

The objective of this program is to protect and preserve the natural resources and national interests within the territorial waters, contiguous fisheries zone, and special interest areas on the high seas. The program is projected to grow with increased interest in the extraction of resources from the oceans and environmental preservation. 1986 requirements envision enforcement of treaties which relate to exploitation of resources, conduct of operations, navigation structure safety and aqua culture. Patrols to prevent the illegal entry of narcotics and aliens are also expected to increase. The anticipated requirement to enforce a 200 mile economic management zone has been incorporated.

	1977	1979	1981	1986
WHEC	1347	1357	1393	1437
WMEC	1674	1814	1848	1928
WPB	330	420	420	420
DI-III	120	140	170	170
WAGB	20	20	20	20

Ferries

These special vessels are engaged in transportation of personnel, vehicles and supplies from the mainload to Governors Island. No increase in ferry service requirements is anticipated.

	1977	1979	1981	1986
Days	678	678	678	678
Ferries	3	3	3	3

Icebreaking Operations

The purpose of this program is to facilitate U.S. maritime transportation, scientific research and other activities in the national interest by providing icebreaking services on icebound domestic waters of the United States and in polar regions of U.S. interest; and to assist other agencies in the prevention of flooding caused by ice accumulation.

Domestic Operations

These operations provide icebreaking services to increase the availability of the nation's waterways to maritime transportation by extending the navigation season in icebound regions of the U.S. Icebreakers of Types I, II and III designed to break 3.5, 2 and 1 foot of blue ice respectively in continuous running are required. Requirements for new construction have been expressed solely in terms of a continued effort at the present level. There are, however, two U.S. Army Corps of Engineers studies in progress which may bring about an increase in this program. They deal with extended navigation seasons in the Great Lakes and on the Mississippi River. Growth of commercial activity in Alaska may create a further demand for icebreakers within the 1977-1986 period. Upon completion of an Icebreaker Requirements Analysis currently underway, these requirements will be reexamined.

	1977	1979	1981	1986
Type I	335	335	335	335
Type II	1272	1272	1272	1272
Type III	156	156	156	156

Polar Operations

These operations are worldwide with routine deployments to the Antarctic, the Eastern and Western Arctic. (The polar icebreakers currently are used also in domestic operations on a time available basis where their characteristics are acceptable for the job at hand.) National requirements for icebreakers presently exceed the amount of support available. The advancing age of the Windclass icebreakers has reduced their operational capability to the point where by 1975 each ship will be able to provide only 150 operational days per year instead of the 180 days which has been standard. A constructive program has commenced to replace these ships with a lesser number of more capable ships which, with augmented crews, will be capable of operating 240 days per year.* Two ships have been funded and a third is planned for 1981. The Department of Defense, National Science Foundation and Coast Guard requirements are as follows:

	1977	1979	1981	1986
Requirements	1054	1054	954	954

* This augmentation is an exception to the premise which considers single crewing only.

Marine Environmental Protection

The objective of this program is to prevent damage to the marine environment from intentional and unintentional acts and to enhance environmental quality. Cutter requirements are based on the following activities.

a. Harbor patrols;

b. Ocean and coastal enforcement and surveillance;

c. Monitoring of coastal and ocean dumping.

Cutter needs for these activities can be scheduled and are reflected in the following table. Response to pollution incidents will be by cutters of opportunity.

	1977	1979	1981	1986
WHEC	15	28	38	60
WMEC	30	83	92	66
WPB	255	301	260	220
WLB	26	10	15	20
WLI	14	0	0	0
WLR	22	26	33	33

Military Preparedness

The objective of this program is to maintain the Coast Guard as an effective, ready, armed force prepared for andimmediately responsive to assigned tasks in time of peace, war or national emergency. The Coast Guard does not build and operate ships solely for the purpose of contributing to national defense; however, all cutter designs recognize the importance of defense considerations. If a moderate design modification can significantly enhance the military potential of a given cutter class, then the design is modified accordingly. Included in this program are the cutter days required for general operational readiness training which is essentially independent of readiness to perform wartime military duties.

	1977	1979	1981	1986
WHEC	1167	1167	1167	1217
WMEC	600	672	696	720
WPB	375	385	400	425
WLB	713	713	690	690
WLI	18	12	12	12
WLM	28	28	28	28

Marine Science Activities

The objective of this program is to conduct oceanographic and meteorological activities in furtherance of other Coast Guard programs and in the national interest. In addition to projects which permeate other programs, specific activities include the International Ice Patrol, Ocean Weather Station HOTEL, and the establishment, relief and servicing of data buoys, in accordance with the CG-NOAA agreement. Much of the oceanographic activity will be conducted in conjunction with cutter operations required for other programs.

	1977	1979	1981	1986
WHEC	559	645	796	796
WMEC	629	922	926	926
WLB/DB	610	801	800	800
WAGO	90	154	154	154

Port Safety and Security

The objective of this program is to safeguard the nation's ports and waterways, port facilities, persons in the proximity thereof and vessels therein against accidental or intentional destruction, and by so doing to increase the utilization of ports and waters by marine transportation or other connecting modes. Cutters of minimum range and endurance will satisfy this program since Coast Guard authority within this program does not extend beyond the three mile limit and is usually restricted to the port area. Most cutter support of this program has been accomplished by 15 harbor tugs. The capability required for this mission is that of a WPB and this is reflected

in the acquisition schedule. Further requirements for cutter time stem from increased harbor activity and requirements to patrol traffic separation lanes. As plans for construction and distribution of the new small boat for Port Safety and Security develop, much of this requirement should fall to them.

	1977	1979	1981	1986
WPB	2508	2717	2915	3667

Recreational Boating Safety

The objective of the Recreational Boating Safety Program is to minimize the incidents leading to fatalities, injuries and property damage associated with the operation of recreational boats. The requirements for cutter time for this program are almost exclusively for regatta safety patrols.

	1977	1979	1981	1986
WMEC	47	47	47	64
WPB	470	484	519	603
WLR	36	41	44	44

Research and Development

The objective of the R&D support program is to provide assistance to the operational program managers. The availability of all types of cutters is essential to the conduct of an expanded R&D effort to protect the marine environment, safeguard the national marine transportation system, and enhance public safety at sea. While most of the R&D workload can be accomplished simultaneously with other missions, a portion of the R&D cutter requirement can be accommodated only by dedicated cutter time, as follows:

	1977	1979	1981	1986
WHEC	60	60	20	20
WMEC	12	12	20	20
WPB	55	55	58	58
WLB	75	75	51	75

Reserve Training

The objective of this program is to recruit, train and retain an adequate force of officers and men to meet the early post mobilization day and general mobilization requirements. Reserve training was once accomplished with independent resources. Reduced requirements and reorientation of the program has now made it possible for training to be accomplished by augmenting the regular crews of certain cutters and conducting training simultaneously with the regular operations of those cutters in support of other programs.

	1977	1979	1981	1986
WMEC	258	258	258	258

Search and Rescue

The objective of this program is to render aid to persons and property in distress on, under, or over the high seas and waters subject to the jurisdiction of the United States. SAR resource capability requirements vary from direct location/quick recovery to extended searches. The philosophy of basing SAR response on "worst case," i.e., ability to handle the heaviest workload situation previously encountered or envisioned, could result in gross inefficiencies in cutter and personnel use. A philosophy of basing SAR response on maximum allowable risk permits planning for resources within a framework of acceptable tolerances. The currently accepted value is a risk not to exceed 3% failure to respond to serious cases. Cutter requirements for SAR predominantly involve the WHEC, WMEC, and WPB classes.

	1977	1979	1981	1986
WHEC	436	436	436	436
WMEC	419	419	420	420
WPB	3156	3434	3826	4577
DI-II	60	61	62	62

Aids to Navigation

The objective of this program is to facilitate safe and expeditious passage of marine traffic in coastal areas, inland waterways, and harbors through a system of audiovisual and electronic navigational

aids. Cutter requirements are based primarily on two factors: the environment in which the mission must be performed, and the lifting and load carrying capacity required. The policies governing corrective response to discrepancies are most critical for certain aids which, if operating improperly, must be repaired within 24 hours. This factor is translated into a requirement for response units to be located at a distance from which each assigned aid can be reached within this period of time. There are two trade-off possibilities for AtoN cutters: Aircraft and boats. Future requirements for cutters reflect a reduction from present fleet levels made possible by planned introduction of over 40 light weight high speed boats by 1979. Aircraft are used for access to difficult sites, rapid discrepancy response, and for aerial survey. None, however, are dedicated to the program. Future requirements reflect both program growth and anticipated improved performance of hardware.

	1977	1979	1981	1986
WLB	2517	2449	2362	2188
WLI	524	375	364	294
WLM	1050	1007	941	833
WLR	3130	3220	3334	3602
WLIC	2516	2733	2788	2838

PROGRAM WORKLOAD FORECASTS

The following table displays the program workload forecasts as developed by the program manager for the Cutter Plan. The workloads are shown in mission performance days and mission standby days by cutter class and program.

TABLE A

TRENDS IN PROGRAM WORKLOAD
By Cutter Class

Mission Performance Days/Mission Standby Days

CUTTER CLASS / PROGRAM	YEAR	WHEC	WMEC	WPB	WLB/WDB	WLI.	WLM.	WLIC.	WLR	DI-1 WAGB	DI-2 WYTM	DI-3 WYTL	POLAR WAGB	WACO	WLV	FERRY	SPECIAL PURPOSE	TOTAL
Enforcement of Laws and Treaties	1977	1347	1674	330														3351
	1979	1357	1814	420														3591
	1981	1393	1848	420														3661
	1986	1437	1928	420														3785
Icebreaking Operations	1977				230					335 163	1272 1170	156 479	1054					3047 1812
	1979				230					335 163	1272 1170	156 479	1054					3047 1812
	1981				230					335 163	1272 1170	156 479	954					2947 1812
	1986				230					335 163	1272 1170	156 479	954					2947 1812
Marine Environmental Protection	1977	15	30	255	26	14												340
	1979	28	83	301	10	0												422
	1981	38	92	260	15	0												405
	1986	60	66	220	20	0												366
Marine Science Activities	1977	559 61	629		610									90 121				1588 182
	1979	645 61	922		801									154 121				2522 182
	1981	796 61	926		800									154 121				2676 182
	1986	796 61	926		800									154 121				2676 182
Military Preparedness	1977	1167	600	375	713	18	28											2901
	1979	1167	672	385	713	12	28											2977
	1981	1167	696	400	690	12	28											2993
	1986	1217	720	425	690	12	28											3092

TABLE A
TRENDS IN PROGRAM WORKLOAD

By Cutter Class

PROGRAM \ CUTTER CLASS	YEAR	WHEC	WMEC	WPB	WLB/DB	WLI	WLM	WLIC	WLR	DI-1 WAGB	DI-2 WYTM	DI-3 WYTL	POLAR WAGB	WAGO	WLV	FERRY	SPECIAL PURPOSE	TOTAL
Recreational Boating Safety	1977		47	470					36									553
	1979		47	484					41									572
	1981		47	519					44									610
	1986		64	603					44									711
Reserve Training	1977		258														320*	578
	1979		258														320*	578
	1981		258														320*	578
	1986		258														320*	578
Search and Rescue	1977	436 715	419 4702	3156 14884														4011 20301
	1979	436 715	419 4702	3434 14330														4289 19747
	1981	436 715	420 4702	3826 14006														4682 19423
	1986	436 715	420 4702	4577 12486														5433 17903
Short Range Aids to Navigation	1977				2517	524	1050	2516	3130						371	678 36		10786 36
	1979				2449	375	1007	2733	3220						371	678 36		10833 36
	1981				2362	364	941	2788	3334						371	678 36		10838 36
	1986				2188	294	833	2838	3602						371	678 36		10804 36
Port Safety and Security	1977			2508														2508
	1979			2717														2717
	1981			2915														2915
	1986			3667														3667

*CUYAHOGA

TABLE A

TRENDS IN PROGRAM WORKLOAD

By Cutter Class

CUTTER CLASS / PROGRAM	YEAR	WHEC	WMEC	WPB	WLB/D B	WLI	WLM	WLIC	WLR	DI-1 WAGB	DI-2 WYTM	DI-3 WYTL	POLAR WAGB	WAGO	WLV	FERRY	SPECIAL PURPOSE	TOTAL
Cadet Training (Personnel Support)	1977	280															320*	600
	1979	280															320*	600
	1981	280															320*	600
	1986	308															320*	628
Research and Development (Support)	1977	60	12	55	75													202
	1979	60	12	55	75													202
	1981	20	20	58	51													149
	1986	20	20	58	75													173
TOTAL Program Workload	1977	3864 776	3669 4702	7149 14887	4171	556	1078	2516	3166	335 163	1272 1170	156 479	1054	90 121	371	678 36	640	30765 22331
	1979	3973 776	4227 4702	7796 14330	4278	387	1035	2733	3261	335 163	1272 1170	156 479	1054	154 121	371	678 36	640	32350 21777
	1981	4130 776	4307 4402	8398 14006	4148	376	969	2788	3378	335 163	1272 1170	156 479	954	154 121	371	678 36	640	33054 21453
	1986	4274 776	4402 4702	9970 12486	4003	306	861	2838	3646	335 163	1272 1170	156 479	954	154 121	371	678 36	640	34860 19933

*EAGLE

V. CUTTER REQUIREMENTS

Table B utilizes components of the data of Table A to display the program workload requirement by district and the distribution of cutters necessary to accomplish such workload from 1977-1986.

Explanation of abbreviations used in Table B:

CT	Cadet Training
DI	Domestic Icebreaking
ELT	Enforcement of Laws and Treaties
MEP	Maritime Environmental Protection
MSA1	Marine Science Activities (Ocean Weather Station Hotel)
2	" " " (Oceanography)
3	" " " (DOD Environmental Buoy)
4	" " " (International Ice Patrol)
5	" " " (National Data Buoy - NOAA)
MPOP	Military Preparedness & Operational Preparedness Training
PSS	Port Safety and Security
RBS	Recreational Boating Safety
RT	Reserve Training
RD	Research and Development
SAR	Search and Rescue
SRAN	Short Range Aids to Navigation

TABLE B

PROGRAM WORKLOAD (CUTTER DAYS/STANDBY DAYS) and
CUTTERS REQUIRED (WHEC) BY DISTRICT

		1977	HECs	1979	HECs	1981	HECs	1986	HECs
East Coast Zone A CGD 1,3,5	SAR	128/237		128/237		128/237		128/237	
	ELT	274		274		274		274	
	MEP	10		20		30		30	
	MSA1	284/61		284/61		284/61		284/61	
	MSA2	77		64		116		116	
	MSA4	90/121		154/121		154/121		154/121	
	CT	280		280		280		308	
	RD	20		60		20		20	
	MP-OP	600		600		600		600	
		1803/419	12	1864/419	12	1886/419	12	1914/419	12
East Coast Zone B CGD 7	SAR	24		24		24		24	
	ELT	80		90		126		170	
	MP-OP	50		50		50		100	
		154	1	164	1	200	1	294/321	2
West Coast Zone A CGD 11,12, 13	SAR	164/201		164/201		164/201		164/200	
	ELT	100		100		100		100	
	MEP	5		8		8		30	
	MSA2	66		98		132		132	
	MP-OP	94		94		94		94	
		429/201	2	464/201	2	498/201	2	520/200	2
West Coast Zone B CGD 17	SAR	32		32		32		32	
	ELT	793		793		793		793	
	MSA2	66		98		132		132	
	MP-OP	329		329		329		329	
		1220	7	1252	7	1286	7	1286	7
West Coast Zone C CGD 14	SAR	88/277		88/277		88/277		88/277	
	ELT	100		100		100		100	
	MSA2	66		101		132		132	
	MP-OP	94		94		94		94	
		348/277	2	383/277	2	414/277	2	414/277	2
TOTAL	SAR	436/715		436/715		436/715		436/715	
	ELT	1347		1357		1393		1434	
	MEP	15		28		38		60	
	MSA1	284/61		284/61		284/61		284/61	
	MSA2	275		361		512		512	
	MSA4	90/121		154/121		154/121		154/121	
	CT	280		280		280		308	
	RD	60		60		20		20	
	MP-OP	1167		1167		1167		1217	
		3954/897	24	4127/897	24	4284/897	24	4428/897	25

TABLE B
PROGRAM WORKLOAD (CUTTER DAYS/STANDBY DAYS) and
CUTTERS REQUIRED (WMEC) BY DISTRICT

		1977	MECs	1979	MECs	1981	MECs	1986	MECs
CGD 1	SAR	44/321		44/321		44/321		44/321	
	ELT	250		250		250		250	
	MSA5	25		50		50		50	
	RBS	30		30		30		30	
	RD	6		8		10		10	
	MP-OP	72		72		72		72	
		427/321	3	454/321	3	456/321	3	456/321	3
CGD 3	SAR	45/320		45/320		45/320		45/320	
	ELT	300		300		300		300	
	MEP	30		33		36		15	
	RBS	15		15		15		15	
	RD	6		4		10		10	
	MP-OP	72		72		72		72	
		468/320	3	469/320	3	478/320	3	457/320	3
CGD 5	SAR	28/337		28/337		28/337		28/337	
	ELT	27		27		27		27	
	RT	129		129		129		129	
	MP-OP	24		24		48		48	
		248/337	1	208/337	1	232/337	2	232/337	2
CGD 7	SAR	72/1023		72/1023		72/1023		72/1023	
	ELT	360		500		520		600	
	MSA5	60		180		180		180	
	MP-OP	96		144		144		168	
		588/1023	4	896/1023	6	916/1023	6	1020/1023	7
CGD 8	SAR	43/322		43/322		43/322		43/322	
	ELT	100		100		114		114	
	MEP	15		18		20		15	
	MSA5	40		40		40		40	
	MP-OP	48	2	48		48		48	
		246/322		249/322	2	265/322	2	260/322	2
CGD 11	SAR	18/347		18/347		18/347		18/347	
	ELT	180		180		180		180	
	MP-OP	48		48		48		17 - RBS	
		298/347	2	246/347	2	246/347	2	48	
								263/347	2

TABLE B

PROGRAM WORKLOAD (CUTTER DAYS/STANDBY DAYS) and CUTTERS REQUIRED (WMEC) BY DISTRICT

(continued)

		1977	MECs	1979	MECs	1981	MECs	1986	MECs
CGD 12	SAR	42/323		42/323		42/323		42/323	
	ELT	91		91		91		91	
	MSA5	104		104		104		104	
	RT	129		129		2		129	
	RBS	2		2		129		2	
	MP-OP	48		48		48		48	
		364/323	2	440/323	2	416/323	2	416/323	2
CGD 13	SAR	15/350		15/350		15/350		15/350	
	ELT	184		184		184		184	
	MSA5	48		102		106		106	
	MP-OP	48		48		48		48	
		295/350	2	349/350	2	353/350	2	353/350	2
CGD 14	SAR	12/352		12/352		13/352		13/352	
	MSA5	196		246		246		246	
	MP-OP	48		48		48		48	
		256/352	2	306/352	2	307/352	2	307/352	2
CGD 17	SAR	100/1007		100/1007		100/1007		100/1007	
	ELT	182		182		182		182	
	MSA5	156		200		200		200	
	MEP	30		32		36		36	
	MP-OP	96		120		120		120	
		564/1007	4	634/1007	5	638/1007	5	638/1007	5
TOTAL	SAR	419/4702		419/4702		420/4702		420/4702	
	ELT	1674		1814		1848		1928	
	MEP	75		83		92		66	
	MSA5	629		922		926		926	
	RT	258		258		258		258	
	RBS	47		47		47		64	
	RD	12		12		20		20	
	MP-OP	600		672		696		720	
		3714/4702	25	4227/4702	28	4307/4702	29	4402/4702	30

TABLE B

PROGRAM WORKLOAD (CUTTER DAYS/STANDBY DAYS) and
CUTTERS REQUIRED (WPB) BY DISTRICT

		1977	WPBs	1979	WPBs	1981	WPBs	1986	WPBs
CGD 1	SAR	322/773		340/755		360/735		404/691	
	PSS	58		62		68		86	
	ELT	60		90		90		90	
	MEP	21		24		21		18	
	RBS	88		78		78		88	
	RD	12		12		12		12	
	MP-OP	20		25		25		25	
		581/773	4	631/755	5	654/735	5	723/691	5
CGD 3	SAR	254/841		272/823		296/799		344/751	
	PSS	1200		1308		1446		1820	
	MEP	77		98		80		60	
	RBS	28		21		27		30	
	MP-OP	55		60		65		75	
		1614/841	11	1759/823	12	1914/799	13	2329/751	15
CGD 5	SAR	178/917		198/897		234/861		299/796	
	PSS	656		714		789		993	
	MEP	27		32		29		24	
	RBS	130		136		136		144	
	RD	12		12		15		15	
	MP-OP	40		40		45		55	
		1043/917	8	1132/897	8	1248/861	9	1530/796	11
CGD 7	SAR	587/4158		651/4094		721/4024		931/3814	
	ELT	60		90		90		90	
	MEP	13		20		12		18	
	RBS	50		69		77		120	
	MP-OP	65		65		65		65	
		775/4158	13	895/4094	13	965/4024	13	1224/3814	13
CGD 8	SAR	480/3477		514/3148		616/3094		657/2993	
	ELT	60		90		90		90	
	MEP	49		56		51		50	
	RBS	42		55		55		44	
	MP-OP	50		50		50		50	
		681/3477	10	765/3148	10	862/3094	10	891/2993	10
CGD 9	PSS	86		81					
	MP-OP	5		5					
		91	1	86	1	0	0	0	0

TABLE B

PROGRAM WORKLOAD (CUTTER DAYS/STANDBY DAYS) and
CUTTERS REQUIRED (WPB) BY DISTRICT

Continued

		1977	WPBs	1979	WPBs	1981	WPBs	1986	WPBs
CGD 11	SAR	604/519		656/485		722/439		887/362	
	ELT	90		90		90		90	
	MEP	9		9		7		7	
	RBS	31		36		36		70	
	RD	19		19		19		19	
	MP-OP	50		50		50		50	
		803/519	10	860/485	10	924/439	10	1123/362	10
CGD 12	SAR	415/1410		453/1372		506/1319		617/1208	
	PSS	248		272		300		376	
	ELT	20		20		20		20	
	MEP	15		15		11		11	
	RBS	6		6		6		6	
	RD	12		12		12		12	
	MP-OP	30		30		35		40	
		746/1410	6	808/1372	6	890/1319	7	1082/1208	8
CGD 13	SAR	18/347		20/345		22/343		27/338	
	ELT	30		30		30		30	
	PSS	104		112		124		156	
	MEP	37		39		42		32	
	RBS	40		25		46		43	
	MP-OP	15		15		15		15	
		244/347	3	241/345	3	279/343	3	303/338	3
CGD 14	SAR	125/700		138/687		147/678		164/661	
	MEP	7		8		7		7	
	ELT	10		10		10		10	
	RBS	50		50		50		36	
	MP-OP	15		15		15		15	
		207/700	3	221/687	3	229/678	3	232/661	3
CGD 17	SAR	173/1742		192/1724		202/1714		247/1668	
	PSS	156		168		188		236	
	RBS	5		8		8		22	
	MP-OP	30		30		35		35	
		364/1742	6	398/1724	6	433/1714	7	540/1668	7

TABLE B

PROGRAM WORKLOAD (CUTTER DAYS/STANDBY DAYS) and
CUTTERS REQUIRED (WPB) BY DISTRICT

Continued

		1977 WPBs	1979 WPBs	1981 WPBs	1986 WPBs
TOTAL	SAR	3156/14884	3434/14330	3826/14000	4577/12486
	PSS	2508	2717	2915	3667
	ELT	330	420	420	420
	MEP	255	301	260	227
	RBS	470	484	519	603
	RD	55	55	58	58
	MP-OP	375	385	400	425
		7149/14884 75	7796/14330 77	8398/14006 80	9977/12486 85

TABLE B

PROGRAM WORKLOAD (CUTTER DAYS/STANDBY DAYS) and
CUTTERS REQUIRED (WLB/DB) by DISTRICT

		1977	WLB/DBs	1979	WLB/DBs	1981	WLB/DBs	1986	WLB/DBs
CGD 1	SRAN	177		164		160		158	
	MP-OP	46		46		46		46	
		223	2	210	2	206	2	204	2
CGD 3	SRAN	143		140		138		138	
	RD	21		21		21		21	
	MP-OP	46		46		46		46	
		210	2	207	2	205	2	205	2
CGD 5	SRAN	128		120		114		106	
	MSA3	80		80		80		80	
	MSA5	20		40		40		40	
	RD	15		15		15		15	
	MP-OP	46		46		46		46	
		289	2	301	2	295	2	287	2
CGD 7	SRAN	180		174		174		168	
	MSA5	60		120		120		120	
	MP-OP	69		69		69		69	
		309	3	363	3	363	3	357	3
CGD 8	SRAN	174		158		146		124	
	MSA3	40		40		40		40	
	MSA5	20		40		40		40	
	RD	15		15		15		15	
	MP-OP	46		46		46		46	
		295	2	299	2	287	2	265	2
CGD 9	SRAN	306		288		278		218	
	DI	230		230		230		230	
	MP-OP	115		115		115		115	
		651	5	633	5	623	5	563	5
CGD 11	SRAN	40		38		36		34	
	MSA5	65		109		110		110	
	MP-OP	23		23		23		23	
		128	1	170	1	169	1	167	1

TABLE B

PROGRAM WORKLOAD (CUTTER DAYS/STANDBY DAYS) and
CUTTERS REQUIRED (WLB/DB) BY DISTRICT

Continued

		1977	WLB/ DBs	1979	WLB/ DBs	1981	WLB/ DBs	1986	WLB DBs
CGD 12	SRAN	55		50		48		48	
	MSA3	80		80		80		80	
	MP-OP	23		23		23		23	
		158	1	153	1	151	1	151	1
CGD 13	SRAN	110		110		110		110	
	MP-OP	23		23		23		23	
		133	1	133	1	133	1	133	1
CGD 14	SRAN	346		349		300		226	
	MSA5	151		180		180		180	
	MP-OP	92		92		69		69	
		589	4	621	4	549	3	475	3
CGD 17	SRAN	858		858		858		858	
	MEP	26		10		15		20	
	MSA5	94		112		110		110	
	RD	24		24		24		24	
	MP-OP	184		184		184		184	
		1186	8	1188	8	1191	8	1196	8
TOTALS	SRAN	2517		2449		2362		2188	
	RD	75		75		51		75	
	MSA3	200		200		200		200	
	MSA5	410		601		600		600	
	DI	230		230		230		230	
	MEP	26		10		15		20	
	MP-OP	713		713		690		690	
		4171	31	4278	31	4172	30	4003	30

TABLE B

PROGRAM WORKLOAD (CUTTER DAYS/STANDBY DAYS) and
CUTTERS REQUIRED (WLR) BY DISTRICT

		1977	WLRs	1979	WLRs	1981	WLRs	1986	WLRs
CGD 2	SRAN	3130		3220		3334		3602	
	RBS	36	26	41	26	44	26	44	26
TOTAL	SRAN	3130		3220		3334		3602	
	RBS	36	26	41	26	44	26	44	26
		3166		3261		3378		3646	

TABLE B

PROGRAM WORKLOAD (CUTTER DAYS/STANDBY DAYS) and
CUTTERS REQUIRED (WLI) BY DISTRICT

		1977	WLIs	1979	WLIs	1981	WLIs	1986	WLIs
CGD 5	SRAN	70							
	MP-OP	4							
		74	2						
CGD 8	SRAN	132		49		37		30	
	MP-OP	4		2		2		2	
		136	2	51	1	39	1	32	1
CGD 9	SRAN	86		86		84		83	
	MP-OP	4		4		4		4	
		90	2	90	2	88	2	87	2
CGD 13	SRAN	130		130		130		65	
	MP-OP	4		4		4		4	
		134	2	134	2	134	2	69	2
CGD 17	SRAN	106		110		113		116	
	MEP	14							
	MP-OP	2		2		2		2	
		122	1	112	1	115	1	118	1
TOTAL	SRAN	524		375		364		294	
	MEP	14							
	MP-OP	18		12		12		12	
		556	9	387	6	376	6	306	6

TABLE B

PROGRAM WORKLOAD (CUTTER DAYS/STANDBY DAYS) and
CUTTERS REQUIRED (WLIC) BY DISTRICT

		1977	WLICs	1979	WLICs	1981	WLICs	1986	WLICs
CGD 5	SRAN	596	3	689	4	700	4	700	4
CGD 7	SRAN	898	7	932	7	952	7	970	7
CGD 8	SRAN	1022	7	1112	8	1136	8	1168	8
TOTAL	SRAN	2516	17	2733	19	2788	19	2838	19

TABLE B

PROGRAM WORKLOAD (CUTTER DAYS/STANDBY DAYS) and
CUTTERS REQUIRED (WLM) BY DISTRICT

		1977	WLMs	1979	WLMs	1981	WLMs	1986	WLMs
CGD 1	SRAN	164		156		148		134	
	MP-OP	6		6		6		6	3
		170	3	162	3	154	3	140	
CGD 3	SRAN	226		208		192		178	
	MP-OP	6		6		6		6	
		232	3	214	3	198	3	184	3
CGD 5	SRAN	140		127		115		93	
	MP-OP	4		4		4		4	
		144	2	131	2	119	2	97	2
CGD 7	SRAN	252		226		200		148	
	MP-OP	4		4		4		4	
		256	2	230	2	204	2	152	2
CGD 8	SRAN	120		120		120		120	
	MP-OP	2		2		2		2	
		122	1	122	1	122	1	122	1
CGD 12	SRAN	44		40		36		30	
	MP-OP	2		2		2		2	
		46	1	42	1	38	1	32	1
CGD 13	SRAN	104		130		130		130	
	MP-OP	4		4		4		4	
		108	2	134	2	134	2	134	2
TOTAL	SRAN	1050		1007		941		833	
	MP-OP	28		28		28		28	
		1078	14	1035	14	969	14	861	14

Table C below outlines the status of cutters required versus cutters available for each cutter class, by year. Three columns headed Need, Have and Short are used to indicate status for each year. The "Need" column reflects the number of each class of cutter required to meet projected multiprogram cutter requirements. The"Have" column includes only those cutters in the present inventory which will not have exceeded their useful service life in the given year. The "Short" column is the difference between "Need" and "Have." The"Short" column in 1986 represents the number of cutters that must be built during the next ten years if the Coast Guard is to have the capability to execute program requirements as identified in the Cutter Plan.

CATEGORY / CLASS	EST. COST PER UNIT IN MILLIONS OF 1975 DOLLARS	1977			1979			1981			1986		
		NEED	HAVE	SHORT	NEED	HAVE	SHORT	NEED	HAVE	SHORT	NEED	HAVE	SHORT
WHEC	24.6	24	17	7	24	16	8	24	13	11	25	12	13
WMEC	11.7	25	17	8	28	17	11	29	17	12	30	16	14
WPB	3.1	75	59	16	77	54	23	80	52	28	85	34	51
WLB/DB	13.3	31	28	3	31	28	3	30	28	2	30	14	16
WLI	2.9	9	3	6	6	3	3	6	3	3	6	3	3
WLM	2.9	14	5	9	14	5	9	14	5	9	14	5	9
WLIC	2.9	17	12	5	19	12	7	19	14	5	19	14	5
WLR	2.0	26	15	11	26	15	11	26	15	11	26	15	11
WAGB POLAR / DOMESTIC	86.1 / 17.3	7	6	1	7	6	1	7	4	3	7	3	4
DI-II(WYTM)	6.2	10	1	9	10	2	8	10	1	6	10	1	9
DI-III		10	15	+5	10	15	+5	10	15	+5	10	15	+5
FERRY	7.4	3	2	1	3	2	1	3	2	1	3	2	1
WLV		4	6	+2	4	6	+2	4	6	+2	4	4	0
WAGO		2	2	0	3	3	0	3	3	0	1	1	0

VI. CUTTER ACQUISITION SCHEDULE

Table D proposes a year by year acquisition schedule. This schedule satsifies our most pressing needs first and all requirements eventually. The schedule outlines a construction schedule costing a total of $1,140,400,000 during the period 1977-1986. The yearly average is $114.0 million. All costs are stated in FY 1975 dollars.

Table D
CUTTER ACQUISITION SCHEDULE
1977-1986
In Millions of 1975 Dollars

1977

HEC/MEC	2	$ 36.2
WPB	10	31.0
DI-1	2	34.6
WYTM	3	13.8 *
WLB(renov)	3	7.5
WLM (conv)	2	.6
WLIC	2	5.8
		$129.5

* $4.8 advance funding

1978

HEC/MEC	4	$ 72.4
WPB	5	15.5
DI-1	1	17.3
WYTM	2	12.4
WLB(renov)	2	5.0
WLIC	1	2.9
		$125.5

1979

HEC/MEC	5	$ 90.5
WPB	5	15.5
WYTM	2	12.4
WLB/DB	1	13.3
		$131.7

1980

HEC/MEC	3	$ 54.3
WPB	5	15.5
WYTM	2	12.4
WLB/DB	2	26.6
WLI/WLIC	2	5.8
WLR	1	2.0
		$116.6

1981

HEC/MEC	1	$ 18.1
WPB	5	15.5
WAGB	1	86.1
		$119.7

1982

HEC/MEC	3	$ 54.3
WPB	5	15.5
WLB/DB	2	26.6
WLM	1	2.9
WLI/WLIC	3	8.7
WLR	3	6.0
		$114.0

1983

HEC/MEC	2	$ 36.2
WPB	5	15.5
WLB/DB	4	53.2
WLM	2	5.8
WLR	2	4.0
		$114.7

1984

HEC/MEC	3	$ 54.3
WPB	5	15.5
WLB/DB	2	26.6
WLM	2	5.8
WLR	3	6.0
FERRY	1	7.4
		$115.6

1985

HEC/MEC	2	$ 36.2
WPB	6	18.6
WLB/DB	3	39.9
WLM	2	5.8
WLR	2	4.0
		$104.5

1986

HEC/MEC	2	$ 36.2
WLB/DB	2	26.6
WLM	2	5.8
		$ 68.6

44631

TOTAL Acquisition = $1,140,400,000