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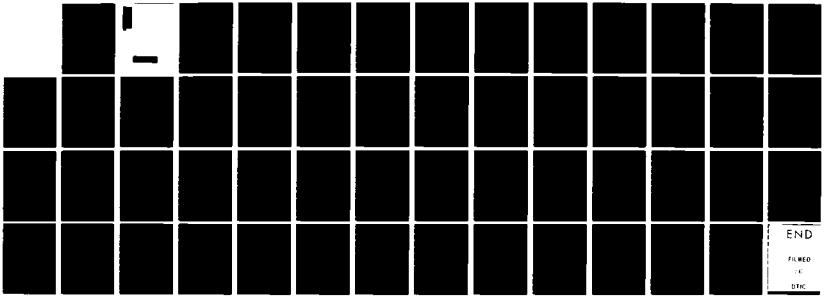

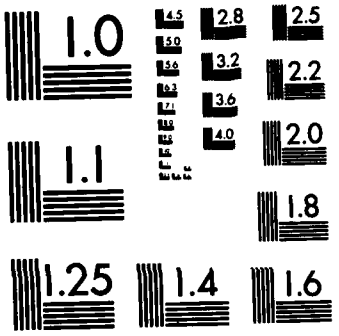

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FINAL REPORT DDI/PR 82-17-336.13

The Development of Priorities for the Navy's 1985-1989 Communications Program

by

Dennis M. Buede and Kenneth P. Kuskey

Prepared for

Department of the Navy
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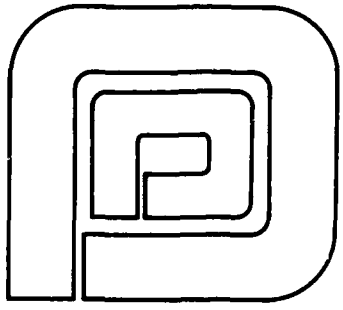

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This reports describes the process that Decisions and Designs, Inc. (DDI) implemented to support the Navy's Communications Division (OP-094)) in developing the priorities of its POM-85 programs above the Minimum Essential Program (MEP). This process was completed in two major stages. The initial stage consisted of prioritizing the programs within and across the

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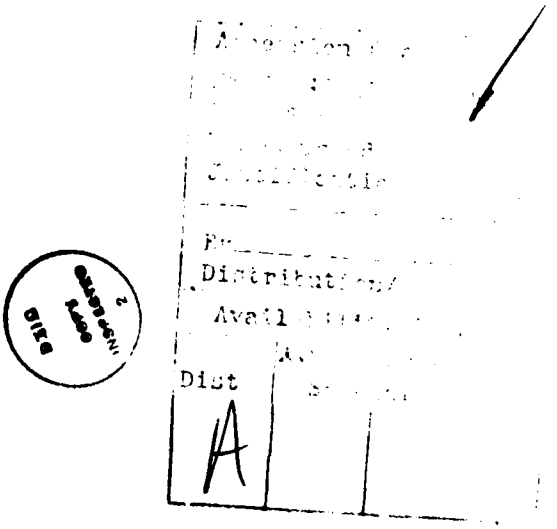
four branches of OP-0941. The final stage comprised the integration of the OP-0941 programs with the Naval Telecommunications Command (NAVTELCOM) programs into a single priority list.

The hierarchical prioritization process described in this report provided a structured comparison of small groups of programs in such a way that the group comparisons could be merged into an initial overall priority list based upon benefit to the Navy in meeting its national defense missions. Cost-effectiveness and other programmatic factors were then included in revising the priorities of the programs. Once the military worth of the programs had been defined in a quantitative manner as described in this report, a logical, analytical approach was used to establish the priorities based upon cost-effectiveness. This approach is described in detail in Decision-Analytic Support of the United States Marine Corps' Program Development: A Guide to the Methodology (AD A101135).



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1.0 PRIORITIZATION PROCESS

This report describes the process and results that Decisions and Designs, Incorporated (DDI) implemented to support OP-0941 (Communications Division) in developing the priorities of its POM-85 programs above the Minimum Essential Program (MEP). This process was completed in two major stages. The initial stage consisted of prioritizing the programs (or BBI's) within and across the four branches of OP-0941; 941D - strategic C^3, 941F - electromagnetic spectrum management, 941H - fleet tactical and automation communication, and 941J - communications security. The integration of the OP-0941 programs with the Naval Telecommunications Command (NAVTELCOM) programs into a single priority list was the final stage of the process.

The criterion for prioritizing these programs was initially based upon a desire to benefit the Navy and its contributions to the national defense -- military worth. After the programs of the OP-0941 branches were integrated with those of NAVTELCOM, other programmatic considerations were examined to identify those programs that would be funded, based upon direction outside of OP-0941 and NAVTELCOM. Finally, cost-effectiveness considerations were examined for information purposes. The following steps comprised the entire prioritization process:

1. Programs were first ranked and scaled within each of the OP-0941 branches in terms of their relative military worth. For example, a benefit or military worth figure of 50 for program B indicates that program B is half as beneficial as program A, which is assigned a benefit of 100.

2. Three programs from each of the four branches were chosen to integrate all of the programs from the four branches into one priority list. These twelve programs were then ranked and scaled in terms of their relative military worth. These relative benefits were then used to merge the four branch benefit scales onto one overall OP-0941 benefit scale. The sixty-four OP-0941 were then ranked from most beneficial to least beneficial.

3. The OP-0941 branch chiefs then inspected this priority list and made a small number of ad hoc revisions, primarily to cryptological programs that supported other programs in the list. The result was the OP-0941 priority list that would be merged with NAVTELCOM's priority list.

4. The NAVTELCOM priority list of fifty-eight programs was revised from the initial priority list that was developed on 15 and 22 October with DDI's support. Those revisions included both programmatic and dollar value factors of numerous programs which made the OP-0941/NAVTELCOM integration more difficult.

5. Four programs from each of the OP-0941 and NAVTELCOM priority lists were chosen for the purposes of integrating these two lists. These eight programs were then ranked and scaled in terms of their relative military worth. In this case, the relative benefits permitted the integration of the two lists, resulting in a ranking from 1 to 122.

6. This initial priority list was examined by OP-0941 and NAVTELCOM personnel, and it was agreed that those programs whose funding had previously been

agreed to would be identified and eliminated from further discussion. A total of sixteen programs were thus identified, and their relative benefits established their considered military worth as viewed by the OP-0941 and NAVTELCOM personnel.

7. Next, the OP-0941 and NAVTELCOM personnel reviewed the list and found that there were a disproportionate number of NAVTELCOM programs at the top of the list. As a result, some of NAVTELCOM's priority's were revised, and a large number of NAVTELCOM's programs had their relative benefits reduced to reflect the group's judgment about how the programs should be integrated. In addition, those programs requiring additional manpower were placed at the bottom of the list since no manpower offsets had been offered up.

8. Finally, the five year POM costs were input into DDI's computer program for all 122 programs so that dollar cumulatives for the five years could be generated. Three alternative priority lists were generated; a military worth priority list, a cost-effectiveness priority list, and a net benefit priority list. The military worth priority list is identical to what had been developed through step 7. The cost-effectiveness priority list used the military worth scale, from step 7, to calculate a benefit-to-cost ratio; and then ranked the programs based upon this ratio from highest to lowest. This priority list provides the Navy with the maximum military worth within the dollars available in the POM process. However, the programs often do not seem prioritized in the right order because very low cost/low benefit programs are near the top of the list. So, the net benefit list was developed to reprioritize those programs above

the funding level, based upon benefit minus cost (times a constant) calculations. These net benefit calculations are described in detail in Decision Analytic Support of the United States Marine Corps' Program Development: A Guide to the Methodology.[1]

Section 2.0 provides the results of stage one (the OP-0941 branch prioritization, steps 1-3) of this effort. The results of the integration of the OP-0941 and NAVTELCOM priority lists (steps 4-7) are presented in section 3.0. Finally, step 8 is presented in section 4.0. A brief statement of conclusions and recommendations is provided in section 5.0.

[1]Kenneth P. Kuskey et al., Decision Analytic Support of United States Marine Corps' Program Development: A Guide to the Methodology, Final Report PR 81-6-158 (McLean, VA: Decisions and Designs, Inc., May 1981).

2.0 OP-0941 PRIORITIZATION

This section presents the results of the initial OP-0941 branch priorities for their own POM-85 programs, and the subsequent integration of the four branch priority lists into an overall OP-0941 priority list.

Tables 2-1 through 2-4 present the initial priorities of the four branches for their own programs. The twelve programs that were selected to merge the branch priorities are shown in Table 2-5. The priorities and benefit scale assigned to these tewelve programs by the OP-0941 branch chiefs (or their representatives) are presented in Table 2-6.

Then, the overall OP-0941 priority list is shown in Table 2-7; and the corresponding branch priority lists are presented in Tables 2-8 through 2-11.

In addition to the priorities and benefit scales, prioritization criteria were developed with branches 941D and 941H. Figures 2-1 and 2-2 present these criteria in relation to the 941D and 941H programs, respectively. In these figures, "H" means high impact, "M" - medium, "L" - low, and "O" - none.

Table 2-1

INITIAL PRIORITIES FOR OP-0941D

RANK	PROGRAM	BENEFIT
1	VLF Power Amp.	7,000
2	CVLF Verdin Replacement	2,500
3	Verdin Replacement TACAMO	1,200
4	TACAMO Comm Control	1,200
5	TACAMO EHF MILSTAR	700
6	CEP for ABNCP	350
7	Fixed VLF (LF Replacement)	300
8	Verdin Improvement	40
9	SEC-AFSAT/FLTST	12
10	SEC-FFB	12
11	Project Management	10
12	Fixed VLF-LANT/MED	1
13	SEC Rocket Launch	1

Table 2-2

INITIAL PRIORITIES FOR OP-0941F

RANK	PROGRAM	BENEFIT
1	EMI R&D Continuation	100
2	EMI New Procurement	70
3	EMP Assessment	30
4	CINCPAC Hardening	20

Table 2-3

INITIAL PRIORITIES FOR OP-0941H

RANK	PROGRAM	BENEFIT
1	COMBO RADIO	5,350
2	NSW/EOD COMMS	1,800
3	SHIP MPD	1,725
4	AMCC	900
5	QMS	500
6	SSMR TRNG	325
7	AUTO REPLACEMENT	300
8	MPDS HARDWARE	151
9	EXTENDED CORE YUK-20	150
10	TEST BEDS	46
11	SINCGARS	45
12	B&C PL (Boats and Craft Public Law)	13.5
13	B&C TACTICAL	13
14	I-S/A AMPE	4.3
15	ULCS	3.2
16	TRI-TAC TDF	2
17	PRC-68	1.2
18	PRC-113	1
19	NAMRADS	.01
20	B/G LASER (AIR)	0

Table 2-4

INITIAL PRIORITIES FOR OP-0941J

RANK	PROGRAM	BENEFIT
1	Bancroft/USMC	500
2	Walburn/Trunk Encrypt	350
3	KG-84 (Rplc KG30)	135
4	KYV-5 (USN) KYV-5 (USMC) ANDVT (Voice Processor) ANDVT Support	100
5	SVIP Crypto Min	70
6	SVIS (X1419)	40
7	Space Crypto (KG-44)	35
8	Space Crypto (KGR-96)	34
9	Comsec RDT&E	30
10	KYV-2 (USMC)	20
11	KYV-2 (USN)	20
12	JTIDS Crypto	16
13	PLRS USMC	14
14	TTC-42 Crypto	12
15	SB-3865 Crypto USMC	10
16	TRC-170 Crypto	8
17	SB-3865 Crypto Navy	6
18	GYC-7 Crypto	4
19	KY-90 USMC	2
20	KY-90 USN	2
21	Vinson ALCEP	1
22	SVIP Crypto Complete	1
23	COMSEC Under	.3
24	Crypto Spt	.2
25	SVIS-ARWX	.1
26	TRITAC Crypto	.1
27	Vinson-boats	.01
28	Parkhill boats	.01
29	Blacker	.01

Table 2-5

PROGRAMS SELECTED FOR OP-0941 MERGE

941H	941D	941J	941F
Combo Radio	VLF Power Amp	Bancroft	Cont. EMI R&D
Ship MPD	CVLF Verdin Replcmnt	KG 84	EMI New Proc.
QMS	TACAMO EHF MILSTAR	ANDVT	EMP Full Assessment

Table 2-6

OP-0941 MERGE PRIORITIES

RANK	PROGRAM	BENEFIT
1	Combo Radio	250
2	VLF Power Amp.	175
3	Cont. EMI R&D	130
4	BANCROFT	79
5	Ship MPD	45
6	CVLF Verdin Rplmnt	45
7	EMI New Proc.	33
8	ANDVT	30
9	TACAMO EHF MILSTAR	20
10	KG84	2.5
11	EMP Full Assessment	2
12	QMS	1

Table 2-7. OP-0941 OVERALL PRIORITY LIST

	ITEM	OV. BNF.
3	1)COMBO RADIO	100.000
1	2)VLF PWR AMP	70.000
4	1)CONT. EMI R&D	70.000
2	1)BANCROFT-USMC	31.600
2	2)WALBURN/TRNK MC	24.250
3	2)NSW/EOD COMMS	19.697
1	3)CVLF VERDIN RPL	18.000
3	3)SHIP MPD	18.000
4	2)EMI NEW PROCUR	13.200
2	4)KYV-5 USN	12.000
2	5)KYV-5 USMC	12.000
2	6)ANDVT VOICE	12.000
2	7)ANDVT SPT O&MN	12.000
1	4)VERDIN RPL TCMO	10.778
1	5)TACAMO COMM CTL	10.778
2	8)SVIP CRYPTO MIN	8.400
1	6)TACAMO EHF MSTR	8.000
3	4)AMCC	6.147
2	9)SVIS (X1419)	4.800
2	10)SPACE CRYP KG44	4.200
2	11)SPCE CRYP KGR96	4.080
1	1)CEP FOR ABNCP	4.000
2	12)COMSEC RDT&E	3.600
1	7)FIXD VLF(LF RP)	3.429
2	13)KYV-2 USMC	2.400
3	7)AUTO REPLACEMNT	2.200
2	15)JTIDS CRYPTO	2.160
2	16)PLRS USMC	2.040
2	17)TTC-42 CRYP MC	1.920
2	18)SB3865 CRYP MC	1.800
2	19)TRC170 CRYP MC	1.680
2	21)GYC7 CRYP USMC	1.440
2	22)KY-90 USMC	1.320
2	24)VINSON-ALCEP	1.200
2	25)SVIP CRYP COMPL	1.200
2	3)KG-84 RPLC KG30	.999
4	3)EMP FULL ASSESS	.800
4	4)CINCPAC EMP	.533
1	8)VERDIN IMPROV	.457
3	5)QMS	.400
2	26)COMSEC UNDER	.360
2	27)CRYPTO SUPPORT	.240
1	9)SEC-AFSAT/FLTST	.137
1	10)SEC-FFB	.137
3	8)MPDS HARDWARE	.121
2	28)SVIS X1419 ARWX	.120
2	29)TRITAC CRYPTO	.120
2	32)BLACKER	.120
3	9)EXT CORE YUK-20	.120
1	11)PROJ MGMT	.114

Table 2-7 (Con't)

	ITEM	OV. INF.
3	10)TEST BEDS	.037
3	11)SINCGARS	.036
1	12)FIXD VLF-LANT/M	.011
1	14)SEC ROCKET LNCH	.011
3	12)B&C PUBLIC LAW	.011
3	13)B&C TACTICAL	.010
2	30)VINSON B&C	.010
2	31)PARKHILL B&C	.010
3	14)I-S/A AMPE	.00[illegible]
2	20)SB3865 CRYP USN	.00[illegible]
2	23)KY-90 USN	.00[illegible]
3	15)ULCS	.005
3	16)TRI-TAC TDF	.00[illegible]
2	14)KYV-2 USN	.001
3	17)PRC-68	.001
3	18)PRC-113	.001
3	19)NAMRADS	.000
3	20)B/G LASER (AIR)	.000

Table 2-8. FINAL 941D PRIORITY LIST

MISSION AREA: 941D WT: 24.91

	ITEM	MISSION BNF.	OV. BNF.
1	2)VLF PWR AMP	7000.000	70.000
1	3)CVLF VERDIN RPL	1800.000	18.000
1	4)VERDIN RPL TCMO	1077.778	10.778
1	5)TACAMO COMM CTL	1077.778	10.778
1	6)TACAMO EHF MSTR	800.000	8.000
1	1)CEP FOR ABNCP	400.000	4.000
1	7)FIXD VLF(LF RP)	342.857	3.429
1	8)VERDIN IMPROV	45.714	.457
1	9)SEC-AFSAT/FLTST	13.714	.137
1	10)SEC-FFB	13.714	.137
1	11)PROJ MGMT	11.429	.114
1	12)FIXD VLF-LANT/M	1.143	.011
1	14)SEC ROCKET LNCH	1.143	.011

Table 2-9. FINAL 941F PRIORITY LIST

SSION AREA:	WT:
941F	16.73

	ITEM	MISSION BNF.	OV BNF
4	1)CONT. EMI R&D	100.000	70.0(
4	2)EMI NEW PROCUR	18.857	13.2(
4	3)EMP FULL ASSESS	1.143	.8(
	4)CINCPAC EMP	.762	.5

Table 2-10. FINAL 941H PRIORITY LIST

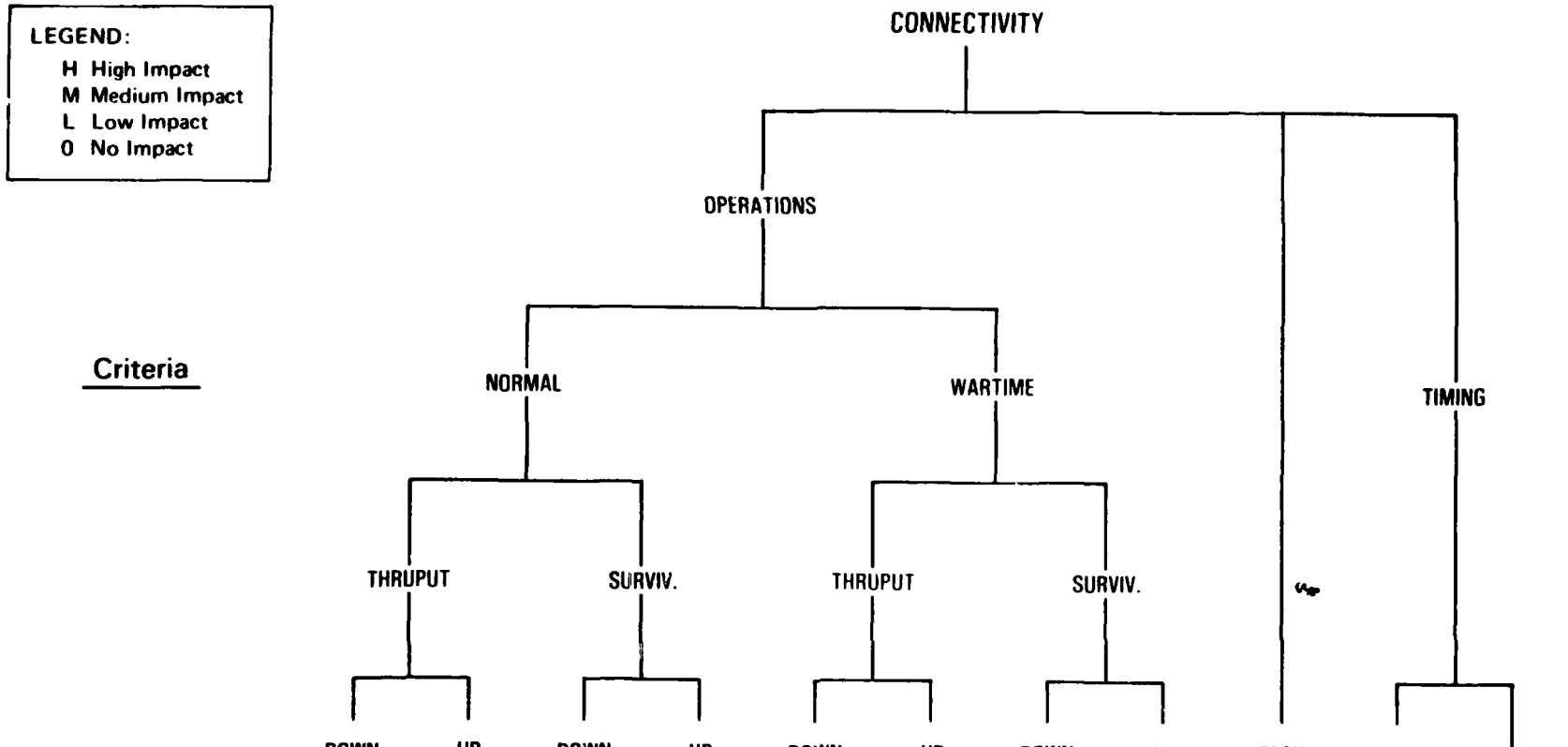
MISSION AREA: 941H — WT: 29.05

	ITEM	MISSION BNF.	OV. BNF.
3	1)COMBO RADIO	5350.000	100.000
3	2)NSW/EOD COMMS	1053.766	19.697
3	3)SHIP MPD	963.000	18.000
3	4)AMCC	328.861	6.147
3	7)AUTO REPLACEMNT	117.700	2.200
3	5)QMS	21.400	.400
3	8)MPDS HARDWARE	6.463	.121
3	9)EXT CORE YUK-20	6.420	.120
3	10)TEST BEDS	1.969	.037
3	11)SINCGARS	1.926	.036
3	12)B&C PUBLIC LAW	.578	.011
3	13)B&C TACTICAL	.556	.010
3	14)I-S/A AMPE	.184	.003
3	15)ULCS	.137	.003
3	16)TRI-TAC TDF	.086	.002
3	17)PRC-68	.051	.001
3	18)PRC-113	.043	.001
3	19)NAMRADS	.000	.000
3	20)B/G LASER (AIR)	.000	.000

Table 2-11. FINAL 941J PRIORITY LIST

MISSION AREA: 941J WT: 29.31

	ITEM	MISSION BNF.	OV. BNF.
2	1)BANCROFT-USMC	500.000	31.600
2	2)WALBURN/TRNK MC	383.703	24.250
2	4)KYV-5 USN	189.873	12.000
2	5)KYV-5 USMC	189.873	12.000
2	6)ANDVT VOICE	189.873	12.000
2	7)ANDVT SPT O&MN	189.873	12.000
2	8)SVIP CRYPTO MIN	132.911	8.400
2	9)SVIS (X1419)	75.949	4.800
2	10)SPACE CRYP KG44	66.456	4.200
2	11)SPCE CRYP KGR96	64.557	4.080
2	12)COMSEC RDT&E	56.962	3.600
2	13)KYV-2 USMC	37.975	2.400
2	15)JTIDS CRYPTO	34.177	2.160
2	16)PLRS USMC	32.278	2.040
2	17)TTC-42 CRYP MC	30.380	1.920
2	18)SB3865 CRYP MC	28.481	1.800
2	19)TRC170 CRYP MC	26.582	1.680
2	21)GYC7 CRYP USMC	22.785	1.440
2	22)KY-90 USMC	20.886	1.320
2	24)VINSON-ALCEP	18.987	1.200
2	25)SVIP CRYP COMPL	18.987	1.200
2	3)KG-84 RPLC KG30	15.800	.999
2	26)COMSEC UNDER	5.696	.360
2	27)CRYPTO SUPPORT	3.797	.240
2	28)SVIS X1419 ARWX	1.899	.120
2	29)TRITAC CRYPTO	1.899	.120
2	32)BLACKER	1.899	.120
2	30)VINSON B&C	.158	.010
2	31)PARKHILL B&C	.158	.010
2	20)SB3865 CRYP USN	.047	.003
2	23)KY-90 USN	.047	.003
2	14)KYV-2 USN	.016	.001



Criteria

Programs	DOWN LINK	UP LINK	DOWN LINK	UP LINK	DOWN LINK	UP LINK	DOWN LINK	UP LINK	TECH RISK	NEAR TERM	ACCEL
CEP FOR ABNCP	L	L	L	L	M	M	H	H	0	H	0
VLF POWER AMP.	H	0	M	0	H	0	M	0	0	H	0
CVLF VERDIN RPLCMNT	H	M	H	M	H	M	H	H	0	H	0
VERDIN RPLCMENT TACAMO	H	0	H	0	H	0	H	0	0	H	0
TACAMO COMM CONTROL	M	M	0	0	M	M	0	0	L	M	0
TACAMO EHF MILSTAR	0	H	0	H	0	H	0	H	0	L	0
FIXED VLF	M	M	0	0	M	M	0	0	0	L	0
VERDIN IMPROVEMENT	L	L	L	L	H	H	H	H	H	L	0
SEC AFSAT/FLTST	0	0	L	0	0	0	M	0	0	M	H
SEC FFB	0	0	0	0	0	0	H	H	L	M	H
PROJECT MANAGEMENT	NOT APPLICABLE										
FIXED VLF LANT/MED	L	L	L	L	L	L	L	L	0	H	0
SEC ROCKET LAUNCH	0	0	0	0	0	0	M	M	H	L	0

Figure 2-1

941D PRIORITIZATION CRITERIA

LEGEND:
- H High Impact
- M Medium Impact
- L Low Impact
- 0 No Impact

Programs / Criteria	RISK	TIMING (Near/Far)	WIDE/NARROW APPLICATION	PEACETIME: TEST/ MAINTENANCE	PEACETIME: VOICE CAPACITY	PEACETIME: RECORD TRAFFIC: HANDLING	PEACETIME: RECORD TRAFFIC: CAPACITY	WAR FIGHTING: FLEXIBILITY	WAR FIGHTING: ANTI-JAM
COMBO RADIO		H	H	0	0	0	0	M	H
NSW/EOD COMMS		H	L	0	0	0	0	H	L
SHIP MPD		H	H	0	0	H	L	0	0
AMCC		H	L	0	L	L	M	M	0
QMS		H	H	H	0	0	0	0	0
AUTO RPLCMT		L	M	L	0	H	H	M	0
MPDS HARDWARE		H	L	0	0	M	0	0	0
EXTENDED CARE YUK-20	H	H	H	0	0	H	L	0	0
TEST BEDS		H	L	M	0	0	0	0	0
SINCGARS		M	H	0	0	0	0	0	M
B&C PUBLIC LAW		H	L	0	L	0	0	0	0
B&C TACTICAL		H	L	0	M	0	0	0	0
I-S/A AMPE		L	L	0	0	M	0	0	0
ULCS		M	M	0	M	L	M	0	0
TRI-TAC TDF		M	L	0	0	0	L	0	0
PRC-68		H	M	0	L	0	0	0	0
PRC-113		H	M	0	L	0	0	0	0
NAMRADS		L	L	0	0	M	0	0	0
B/G LASER		0	L	0	0	0	0	0	L

Figure 2-2

941H PRIORITIZATION CRITERIA

3.0 MERGE OF OP-0941 AND NAVTELCOM

The nine programs selected from the OP-0941 and NAVTELCOM priority lists are presented in Table 3-1. (Originally, there were only eight, but the last two NAVTELCOM programs were significantly below the last OP-0941 program, so a lower OP-0941 program was selected.) The priorities and benefit scale for these nine programs are presented in Table 3-2.

The final prioritized list, including the ad hoc adjustments that were made, is shown in Table 3-3. Table 3-4 lists those programs that were declared "directed", and were removed from further discussion. The accumulated costs by fiscal year for these directed programs are also shown in the table.

Table 3-1. PROGRAMS FOR OP-0941 AND NAVTELCOM

OP-0941	NAVTELCOM
Combo Radio	Diego Garcia HF Upgrade
VLF Power Amplifier	HAWS
CVFL Verdin Replacement	Amortization of Existing Leases
ANDVT - Navy	DEB Reconstitution
KG84 (KG 30 Replacement)	

Table 3-2. OP-0941/NAVTELCOM MERGE PRIORITIES

RANK	PROGRAM	BENEFIT
1	Combo Radio	29.5
2	Diego Garcia HF Upgrade	22.5
3	VLF Power Amplifier	10
4	HAWS	7
5	CVLF Verdin Replacement	5.5
6	ANDVT - Navy	4
7	Amortization of Existing Leases	2
8	DEB Reconstitution	1.1
9	KG84 (KG 30 Replacement)	1

Table 3-3. OVERALL OP-0941/NAVTELCOM PRIORITIES

	ITEM	OV. BNF.
1	1)COMBO RADIO	100.000
3	1)OP01 FUNDD MCON	76.271
3	4)D. GARCIA HF UP	76.271
3	7)URG FLT TAC CON	50.034
3	9)NCS GREECE 107	39.508
3	10)NCS GREECE 108	34.246
1	2)VLF PWR AMP	33.898
1	3)CONT. EMI R&D	33.898
3	12)PRKHL/WB ASV IF	28.983
3	13)BMAR I	28.983
3	16)ADP RISK ASSESS	24.786
3	19)ETS SIGONELLA	22.805
1	4)BANCROFT USML	18.876
1	10)KYV-5 USN	16.199
1	11)KYV-5 USMC	16.199
1	12)ANDVT VOICE	16.199
1	13)ANDVT SPT O&MN	16.199
1	5)WALBURN/TRNK MC	16.008
1	6)NSW/EOD COMMS	14.223
1	7)CVLF VERDIN RPL	13.559
1	8)SHIP MPD	13.559
1	9)EMI NEW PROCUR	10.903
1	14)VERDIN RPL TCMO	9.562
1	15)TACAMO COMM CTL	9.562
1	16)SVIP CRYPTO MIN	8.246
1	17)TACAMO EHF MSTR	8.025
3	2)OP FAC MCON I	8.000
3	3)JACKSONVL CONSL	8.000
1	18)AMCC	7.000
3	5)SIGONELLA HF UP	6.321
3	6)SIG/VERGN TROPO	6.321
1	19)SVIS (X1419)	6.254
1	20)SPACE CRYP KG44	5.922
1	21)SPCE CRYP KGR96	5.856
1	22)CEP FOR ABNCP	5.811
1	23)COMSEC RDT&E	5.590
1	24)FIXD VLF(LF PP)	5.495
3	8)MANUAL RELAY MD	5.449
1	25)KYV-2 USMC	4.926
1	26)AUTO REPLACEMNT	4.615

Table 3-3 (Con't)

	ITEM	OV. BNF.
1	27)JTIDS CRYPTO	4.79
1	28)PLRS USMC	4.727
1	29)TTC-42 CRYP MC	4.660
1	30)SB3865 CRYP MC	4.594
2	1)TRC170 CRYP MC	4.288
2	2)GYC7 CRYP USMC	4.084
2	30)I-S/A AMPE	4.000
3	14)KEY TAC COMM RQ	3.968
3	15)REMOTE CONTROL	3.881
2	3)KY-90 USMC	3.813
3	17)HAWS	3.707
3	18)LSTDM	3.667
2	4)VINSON-ALCEP	3.655
2	5)SVIP CRYP COMPL	3.655
3	20)DCS/NATO TERRES	3.589
3	21)TCIP TIMNG&SYNC	3.54
2	6)KG-84 RPLC KG30	3.390
3	22)SVIP	2.920
3	23)TAC CONNECTVITY	2.900
3	24)COMEDS	2.851
3	25)DEF DATA NETWRK	2.802
3	26)HQMC SV SWBD	2.753
2	7)EMP FULL ASSESS	2.716
3	28)SURTASS HF BACK	2.654
2	8)CINCPAC EMP	1.810
2	9)VERDIN IMPROV	1.552
2	10)QMS	1.358
4	1)TCIP MAN UPGRAD	1.329
4	3)AMORTZ LEASES	1.300
4	4)EAST AFRICA COM	1.241
2	11)COMSEC UNDER	1.222
4	5)ETS LONDON PBX	1.154
4	6)ASCENSION HF UP	1.095
4	7)PACFLT AMCC VAN	1.037
4	8)SOSUS PHASE II	1.007
4	10)MICROCMP 2M STN	.978
4	11)ASVCOM LCC EXTN	.964
4	12)TCSIP HF REGNET	.949
4	15)WWTIP	.920
4	16)TCIP JOINT	.92

Table 3-3 (Con't)

	ITEM	OV. BNF.
2	13)CRYPTO SUPPORT	.815
4	17)DEB RECON ASSET	.715
4	18)HF MODEMS USMC	.643
4	19)DCS HF SOUNDERS	.572
2	20)EXT CORE YUK-20	.510
2	38)NAMRADS	.500
2	14)SEC-AFSAT/FLTST	.466
2	15)SEC-FFB	.466
4	20)FINEGAYAN/ATT	.429
4	21)ROTA/HUMOSA TRP	.429
4	22)WAWS PHASE 5	.429
2	16)MPDS HARDWARE	.410
2	17)SVIS X1419 ARWX	.407
2	18)TRITAC CRYPTO	.407
2	19)BLACKER	.407
4	13)UOPH/UEPH MESS	.401
4	14)MORALE/REC MCON	.401
4	24)OP FAC MCON II	.401
2	21)PROJ MGMT	.388
4	9)HEMP HARDENING	.327
4	25)DATA CRKT LEASE	.200
4	26)ETS NAPLES	.186
4	27)ETS ROTA	.172
4	28)MSG DETAIL ROTA	.172
4	29)AUTOVON/ASV LES	.143
2	22)TEST BEDS	.125
2	23)SINCGARS	.122
4	30)ETS UK	.114
4	31)ETS SPAIN	.114
4	32)STCKTN MARISAT	.071
4	33)IMPR CONUS AVON	.071
4	35)PRKHL RED CALL	.071
2	24)FIXD VLF-LANT/M	.039
2	25)SEC ROCKET LNCH	.039
2	26)B&C PUBLIC LAW	.037
2	27)B&C TACTICAL	.035
2	28)VINSON B&C	.034
2	29)PARKHILL B&C	.034
4	36)NW FLD FINEGAYN	.029
4	37)CAWS	.029

Table 3-3 (Con't)

	ITEM	OV. BNF.
4	38)FTS EXPANSION	.02*
4	39)OVSEAS AVON SSU	.014
4	40)HARBOR COMM MOD	.014
2	31)SB3865 CRYP USN	.010
2	32)KY-90 USN	.010
2	33)ULCS	.009
2	34)TRI-TAC TDF	.005
2	35)KYV-2 USN	.003
2	36)PRC-68	.003
2	37)PRC-113	.003
2	39)B/G LASER (AIR)	.000
3	11)HQ SPT CIVILIAN	.000
3	27)SURTASS HF MPR	.000
3	29)SURTASS MPR II	.000
3	30)SHORSTMPS SAFTY	.000
4	2)HAB COMMS SPT	.000
4	23)SHORSTAMPS OPS	.000
4	34)SHORSTAMPS SPT	.000

Table 3-4. DIRECTED PROGRAMS

	ITEM	OV. BNF.	CUMULATIVE COST FY85	FY86	FY87	FY88	FY89
1 1)	COMBO RADIO	100.000	9400	7400	4200	200	0
3 1)	OP01 FUNDD MCON	76.271	10100	14438	4200	200	0
1 3)	CONT. EMI R&D	33.898	14290	18022	7419	3764	3127
1 6)	NSW/EOD COMMS	14.223	18201	21998	11391	6382	3127
1 16)	SVIP CRYPTO MIN	8.246	18201	35338	30498	21762	21967
3 6)	SIG/VERGN TROPO	6.321	21521	38219	30498	21762	21967
3 17)	HAWS	3.707	24207	39217	31536	22838	23084
3 18)	LSTDM	3.667	31915	46723	35791	22999	23252
3 20)	DCS/NATO TERRES	3.589	32174	46784	35854	23063	23318
3 21)	TCIP TIMNG&SYNC	3.549	35043	48430	36048	23265	23529
3 22)	SVIP	2.920	35733	53414	64640	43633	37272
3 25)	DEF DATA NETWRK	2.802	61391	80389	93975	77487	71188
4 1)	TCIP MAN UPGRAD	1.329	64730	85237	97063	78004	71188
4 12)	TCSIP HF REGNET	.949	70953	102631	102486	80779	74198
4 16)	TCIP JOINT	.920	73597	106457	104358	81231	74669
4 17)	DEB RECON ASSET	.715	75745	109947	104645	81532	74983

4.0 CUMULATIVE COSTS FOR THE PRIORITY LISTS

This section of the report presents the benefit, cost-benefit, and net benefit priority lists with the associated cost totals. Table 4-1 presents the cost data by program that was used for those reports. This cost data was current as of 22 November 1982 and includes escalation factors.

The cumulative costs for the overall benefit priority list that was presented in the previous section are shown in Table 4-2. Based upon the amount of FY85 dollars that we expected at this time, the programs through NAMRAADS (2 38), on the second page of Table 4-2, would be funded some $7,000,000 left for smaller programs. This includes funding for all directed programs.

Tables 4-3 and 4-4 provide similar information for the cost-benefit and net benefit priority lists, respectively. Item (4 39), OVERSEAS AUTOVON SSU, was the last program funded on the cost-benefit priority list, and was used as the pivot point for calculating net benefits for Table 4-4. This OP-0941 net benefit priority list is shown in Table 4-5; NAVTELCOM's net benefit priority list in Table 4-6.

Table 4-1. FISCAL COSTS FOR PROGRAMS

	ITEM	OV. BNF.	COST FY85	FY86	FY87	FY88	FY89
1	1) COMBO RADIO	100.000	9400	7400	4200	200	0
1	2) VLF PWR AMP	33.898	2000	6000	5000	2500	4000
1	3) CONT. EMI R&D	33.898	4190	3584	3219	3564	3127
1	4) BANCROFT USMC	18.878	25441	38252	42043	53397	48917
1	5) WALBURN/TRNK MC	16.004	1663	2702	3126	3681	4024
1	6) NSW/EOD COMMS	14.223	3911	3976	3972	2618	0
1	7) CVLF VERDIN RPL	13.559	2000	4200	3200	3000	12100
1	8) SHIP MPD	13.559	620	640	0	0	0
1	9) EMI NEW PROCUR	10.903	1462	1209	1238	1232	0
1	10) KYV-5 USN	16.199	159	4639	4820	1805	3037
1	11) KYV-5 USMC	16.199	640	641	673	1672	0
1	12) ANDVT VOICE	16.199	4081	22630	22387	27372	28085
1	13) ANDVT SPT O&MN	16.199	1500	1200	900	900	600
1	14) VERDIN RPL TCMO	9.562	5400	7000	4000	8000	21000
1	15) TACAMO COMM CTL	9.562	2000	4000	4500	9000	11000
1	16) SVIP CRYPTO MIN	8.246	0	13340	19107	15380	18846
1	17) TACAMO EHF MSTR	8.025	0	0	0	7100	7660
1	18) AMCC	7.000	8940	9360	9840	8600	9000
1	19) SVIS (X1419)	6.254	3500	2000	1800	1800	500
1	20) SPACE CRYP KG44	5.922	2153	1750	1751	1751	1886
1	21) SPCE CRYP KGR96	5.856	4367	7430	14445	14816	0
1	22) CEP FOR ABNCP	5.811	262	273	285	296	308
1	23) COMSEC RDT&E	5.590	6130	6160	3040	2200	2700
1	24) FIXD VLF(LF RP)	5.495	900	1000	3800	2520	2760
1	25) KYV-2 USMC	4.926	3467	3725	3758	0	0
1	26) AUTO REPLACEMNT	4.815	1950	3815	2565	3240	4013
1	27) JTIDS CRYPTO	4.793	0	1713	2436	6095	8942
1	28) PLRS USMC	4.727	6612	4702	5244	7204	0
1	29) TTC-42 CRYP MC	4.660	6673	7554	7477	0	0
1	30) SB3865 CRYP MC	4.594	8641	9086	8709	0	0
2	1) TRC170 CRYP MC	4.288	467	555	563	1103	0
2	2) GYC7 CRYP USMC	4.084	1739	5685	3088	0	0
2	3) KY-90 USMC	3.813	819	819	1109	901	0
2	4) VINSON-ALCEP	3.655	1107	0	0	0	0
2	5) SVIP CRYP COMPL	3.655	0	18600	16418	14676	12718
2	6) KG-84 RPLC KG30	3.390	0	3196	5729	6077	5707
2	7) EMP FULL ASSESS	2.716	2650	1592	1482	1169	1012
2	8) CINCPAC EMP	1.810	1712	1222	625	0	0
2	9) VERDIN IMPROV	1.552	610	660	840	790	778
2	10) QMS	1.358	2000	2500	2000	16300	15000

Table 4-1 (Con't)

				COST			
			FY85	FY86	FY87	FY88	FY[illegible]
2	11) COMSEC UNDEF	1.222	1405	1415	1426	432	44[illegible]
2	13) CRYPTO SUPPORT	.815	3300	3500	3700	3900	4[illegible]
2	14) SEC-AFSAT/FLTST	.466	8079	7140	12456	0	[illegible]
2	15) SEC-FFB	.466	3268	670	1534	748	0
2	16) MPDS HARDWARE	.410	2795	0	0	0	0
2	17) SVIS X1419 ARWX	.407	0	2100	1900	1600	2200
2	18) TRITAC CRYPTO	.407	5954	5696	5304	318	0
2	19) BLACKER	.407	0	0	0	4782	4812
2	20) EXT CORE YUK-20	.510	7765	8399	9402	7827	500
2	21) PROJ MGMT	.388	1408	1465	1528	1589	1653
2	22) TEST BEDS	.125	700	750	250	75	50
2	23) SINCGARS	.122	700	2610	2533	2651	2884
2	24) FIXD VLF-LANT/M	.039	3530	4050	0	0	0
2	25) SEC ROCKET LNCH	.039	2420	1117	5063	1042	0
2	26) B&C PUBLIC LAW	.037	1340	0	0	0	0
2	27) B&C TACTICAL	.035	0	1650	1725	1820	2300
2	28) VINSON R&C	.034	2952	3038	3292	3386	3494
2	29) PARKHILL B&C	.034	3596	3651	3725	0	0
2	30) I-S/A AMPE	4.000	292	1332	3018	12739	22278
2	31) SB3865 CRYP USN	.010	2015	1525	1729	0	0
2	32) KY-90 USN	.010	721	524	624	0	0
2	33) ULCS	.009	7542	5734	6729	0	0
2	34) TRI-TAC TDF	.005	2960	5270	5272	3825	4000
2	35) KYV-2 USN	.003	934	1003	1012	0	0
2	36) PRC-68	.003	2530	2600	2720	2850	0
2	37) PRC-113	.003	1065	1120	1175	1230	1300
2	38) NAMRADS	.500	3684	4274	4866	5458	6053
2	39) B/G LASER (AIR)	.000	4000	0	0	0	0
3	1) OP01 FUNDD MCON	76.271	700	7038	0	0	0
3	2) OP FAC MCON 1	8.000	7850	11150	40060	30940	43260
3	3) JACKSONVL CONSL	8.000	3385	3674	2527	501	509
3	4) D. GARCIA HF UP	76.271	2875	776	0	0	0
3	5) SIGONELLA HF UP	6.321	4126	2406	708	725	743
3	6) SIG/VERGN TROPO	6.321	3320	2881	0	0	0
3	7) URG FLT TAC CON	50.034	1201	1201	1201	1201	1201
3	8) MANUAL RELAY MD	5.449	2453	2347	2089	687	409
3	9) NCS GREECE 107	39.508	2453	2406	0	0	0
3	10) NCS GREECE 108	34.246	0	1339	1398	0	[illegible]
3	11) HQ SPT CIVILIAN	.000	208	416	416	416	[illegible]

Table 4-1 (Con't)

				COST				
				FY85	FY86	FY87	FY88	FY89
3	12)	PRKHL/WB ASV IF	28.983	943	999	0	0	0
3	13)	BMAR I	28.983	4711	4928	5164	5373	5595
3	14)	KEY TAC COMM RQ	3.968	536	536	536	536	536
3	15)	REMOTE CONTROL	3.881	0	0	2400	7900	8200
3	16)	ADP RISK ASSESS	24.788	1543	567	624	686	755
3	17)	HAWS	3.707	2686	998	1038	1076	1117
3	18)	LSTDM	3.667	7708	7506	4255	161	168
3	19)	ETS SIGONELLA	22.805	968	1353	1414	1417	1544
3	20)	DCS/NATO TERRES	3.589	259	61	63	64	66
3	21)	TCIP TIMNG&SYNC	3.549	2869	1646	194	202	211
3	22)	SVIP	2.920	690	4984	28592	20368	13743
3	23)	TAC CONNECTVITY	2.900	1573	1573	1612	1205	1205
3	24)	COMEDS	2.851	300	300	300	300	300
3	25)	DEF DATA NETWRK	2.802	25658	26975	29335	33854	33916
3	26)	HQMC SV SWBD	2.753	178	184	27	28	29
3	27)	SURTASS HF MPR	.000	306	612	612	612	612
3	28)	SURTASS HF BACK	2.654	249	1582	971	216	221
3	29)	SURTASS MPR II	.000	43	179	315	357	357
3	30)	SHORSTMPS SAFTY	.000	429	899	938	978	1020
4	1)	TCIP MAN UPGRAD	1.329	3339	4848	3088	517	0
4	2)	HAB COMMS SPT	.000	672	205	213	218	223
4	3)	AMORTZ LEASES	1.300	1192	1192	1192	1192	1192
4	4)	EAST AFRICA COM	1.241	2111	0	0	0	0
4	5)	ETS LONDON PBX	1.154	906	107	112	117	122
4	6)	ASCENSION HF UP	1.095	4021	4347	1402	1464	1528
4	7)	PACFLT AMCC VAN	1.037	262	0	0	0	0
4	8)	SOSUS PHASE II	1.007	706	1809	3530	2982	3132
4	9)	HEMP HARDENING	.327	179	280	578	79	0
4	10)	MICROCMP 2M STN	.978	620	642	130	136	142
4	11)	ASVCOM LCC EXTN	.964	6183	2695	0	0	0
4	12)	TCSIP HF REGNET	.949	6223	17394	5423	2775	3010
4	13)	UOPH/UEPH MESS	.401	0	10600	0	1650	0
4	14)	MORALE/REC MCON	.401	4100	12200	6940	2000	5100
4	15)	WWTIP	.920	10801	10927	6609	3754	3913
4	16)	TCIP JOINT	.920	2644	3826	1872	452	471
4	17)	DEB RECON ASSET	.715	2148	3490	287	301	314
4	18)	HF MODEMS USMC	.643	916	1222	331	331	331
4	19)	DCS HF SOUNDERS	.572	2213	31	34	36	39
4	20)	FINEGAYAN/ATT	.429	894	929	0	0	0
4	21)	ROTA/HUMOSA TRP	.429	0	0	0	6863	5899

Table 4-1 (Con't)

			FY85	FY86	FY87	FY88	FY89
4 22)	WAWS PHASE 5	.429	9477	11115	1287	1338	[illegible]
4 23)	SHORSTAMPS OPS	.000	3301	6633	6664	6694	[illegible]
4 24)	OP FAC MCON II	.401	950	2480	12730	32500	28000
4 25)	DATA CRKT LEASE	.200	636	636	636	636	636
4 26)	ETS NAPLES	.186	1002	51	53	55	57
4 27)	ETS ROTA	.172	1197	51	53	55	57
4 28)	MSG DETAIL ROTA	.172	97	0	0	0	0
4 29)	AUTOVON/ASV LES	.143	388	370	370	370	370
4 30)	ETS UK	.114	2289	535	559	584	610
4 31)	ETS SPAIN	.114	295	40	42	44	46
4 32)	STCKTN MARISAT	.071	48	100	124	129	134
4 33)	IMPR CONUS AVON	.071	6318	7380	9838	9838	9838
4 34)	SHORSTAMPS SPT	.000	1212	2377	2406	2459	2539
4 35)	PRKHL RED CALL	.071	1344	712	0	0	0
4 36)	NW FLD FINEGAYN	.029	311	214	24	26	27
4 37)	CAWS	.029	4337	4120	3455	3590	3743
4 38)	FTS EXPANSION	.029	3054	3054	3054	3054	3054
4 39)	OVSEAS AVON SSU	.014	400	174	0	0	0
4 40)	HARBOR COMM MOD	.014	1758	2071	2168	1963	428

Table 4-2. OVERALL BENEFIT PRIORITY LIST

	ITEM	OV. BNF.	CUMULATIVE COST FY85	FY86	FY87	FY88	FY89
3	4) D. GARCIA HF UP	76.271	2875	776	0	0	0
3	7) URG FLT TAC CON	50.034	4076	1977	1201	1201	1201
3	9) NCS GREECE 107	39.508	6529	4383	1201	1201	1201
3	10) NCS GREECE 108	34.246	6529	5722	2599	1201	1201
1	2) VLF PWR AMP	33.898	8529	11722	7599	3701	5201
3	12) PRKHL/WB ASV IF	28.983	9472	12721	7599	3701	5201
3	13) BMAR I	28.983	14183	17649	12763	9074	10796
3	16) ADP RISK ASSESS	24.788	15726	18216	13387	9760	11551
3	19) ETS SIGONELLA	22.805	16694	19569	14801	11177	13095
1	4) BANCROFT USMC	18.878	42135	57821	56804	60574	61912
1	10) KYV-5 USN	16.199	42294	62460	61664	66379	64949
1	11) KYV-5 USMC	16.199	42934	63101	62337	68051	64949
1	12) ANDVT VOICE	16.199	47015	85731	84724	95423	93034
1	13) ANDVT SPT O&MN	16.199	48515	86931	85624	96323	93634
1	5) WALBURN/TRNK MC	16.004	50178	89633	88750	100004	97658
1	7) CVLF VERDIN RPL	13.559	52178	93833	91950	103004	109758
1	8) SHIP MPD	13.559	52798	94473	91950	103004	109758
1	9) EMI NEW PROCUR	10.903	54260	95682	93188	104236	109758
1	14) VERDIN RPL TCMO	9.562	59660	102682	97188	112236	130758
1	15) TACAMO COMM CTL	9.562	61660	106682	101688	121236	141758
1	17) TACAMO EHF MSTR	8.025	61660	106682	101688	128336	149418
3	2) OP FAC MCON I	8.000	69510	117832	141748	159276	192678
3	3) JACKSONVL CONSL	8.000	72895	121506	144275	159777	193187
1	18) AMCC	7.000	81835	130866	154115	168377	202187
3	5) SIGONELLA HF UP	6.321	85961	133272	154823	169102	202930
1	19) SVIS (X1419)	6.254	89461	135272	156623	170902	203430
1	20) SPACE CRYP KG44	5.922	91614	137022	158374	172653	205316
1	21) SPCE CRYP KGR96	5.856	95981	144452	172819	187469	205316
1	22) CEP FOR ABNCP	5.811	96243	144725	173104	187765	205624
1	23) COMSEC RDT&E	5.590	102373	150885	176144	189965	208324
1	24) FIXD VLF(LF RP)	5.495	103273	151885	179944	192485	211084
3	8) MANUAL RELAY MD	5.449	105726	154232	182033	193172	211493
1	25) KYV-2 USMC	4.926	109193	157957	185791	193172	211493
1	26) AUTO REPLACEMNT	4.815	111143	161772	188356	197112	215506
1	27) JTIDS CRYPTO	4.793	111143	163485	190792	203207	224448
1	28) PLRS USMC	4.727	117755	168187	196036	210411	224448
1	29) TTC-42 CRYP MC	4.660	124428	175741	203513	210411	224448
1	30) SB3865 CRYP MC	4.594	133069	184027	212242	210411	224448
2	1) TRC170 CRYP MC	4.288	133536	185682	212785	211514	224448
2	2) GYC7 CRYP USMC	4.084	135275	191067	215877	211514	224448

Table 4-2 (Con't)

			CUMULATIVE COST				
			FY85	FY86	FY87	FY88	FY89
2 30) I-S/A AMPE	4.000	135567	192599	218891	224253	246826
3 14) KEY TAC COMM RQ	3.968	136103	192935	219427	224789	247362
3 15) REMOTE CONTROL	3.801	136103	192935	221827	232689	255562
2 3) KY-90 USMC	3.813	136922	193754	222936	233590	255562
2 4) VINSON-ALCEP	3.655	138029	193754	222936	233590	255562
2 5) SVIP CRYP COMPL	3.655	138029	212354	239354	248266	268280
2 6) KG-84 RPLC KG30	3.390	138029	215550	245083	254343	273987
3 23) TAC CONNECTVITY	2.900	139602	217123	246695	255548	275192
3 24) COMEDS	2.851	139902	217423	246995	255848	275492
3 26) HQMC SV SWBD	2.753	140080	217607	247022	255876	275521
2 7) EMP FULL ASSESS	2.716	142730	219199	248504	257045	276533
3 28) SURTASS HF BACK	2.654	142979	220781	249475	257261	276754
2 8) CINCPAC EMP	1.810	144691	222003	250100	257261	276754
2 9) VERDIN IMPROV	1.552	145301	222663	250940	258051	277529
2 10) QMS	1.358	147301	225163	252940	274351	292529
4 3) AMORTZ LEASES	1.300	148493	226355	254132	275543	293721
4 4) EAST AFRICA COM	1.241	150604	226355	254132	275543	293721
2 11) COMSEC UNDER	1.222	152009	227770	255558	275975	294164
4 5) ETS LONDON PBX	1.154	152915	227877	255670	276092	294286
4 6) ASCENSION HF UP	1.095	156936	232224	257072	277556	295814
4 7) PACFLT AMCC VAN	1.037	157193	232224	257072	277556	295814
4 8) SOSUS PHASE II	1.007	157904	234033	260602	280538	298946
4 10) MICROCMP 2M STN	.978	158524	234675	260732	280674	299088
4 11) ASVCOM LCC EXTN	.964	164707	237370	260732	280674	299088
4 15) WWTIP	.920	175508	248297	267341	284428	303001
2 13) CRYPTO SUPPORT	.815	178808	251797	271041	288328	307201
4 18) HF MODEMS USMC	.643	179724	253019	271372	288659	307532
4 19) DCS HF SOUNDERS	.572	181937	253050	271406	288695	307571
2 20) EXT CORE YUK-20	.510	189702	261449	280808	296522	308071
2 38) NAMRADS	.500	193386	265723	285674	301980	314124
2 14) SEC-AFSAT/FLTST	.466	201465	272863	298130	301980	314124
2 15) SEC-FFB	.466	204733	273533	299664	302728	314124
4 20) FINEGAYAN/ATT	.429	205627	274462	299664	302728	314124
4 21) ROTA/HUMOSA TRP	.429	205627	274462	299664	309591	320017
4 22) WAWS PHASE 5	.429	215104	285577	300951	310929	321367
2 16) MPDS HARDWARE	.410	217899	285577	300951	310929	321367
2 17) SVIS X1419 ARWX	.407	217899	287677	302851	312529	323567
2 18) TRITAC CRYPTO	.407	223853	293373	308155	312947	323567
2 19) BLACKER	.407	223853	293373	308155	317679	328379
4 13) UOPH/ULPH MESS	.401	223853	303973	308155	319279	328379

Table 4-2 (Con't)

			CUMULATIVE COST				
			FY85	FY86	FY87	FY88	FY89
4 14)	MORALE/REC MCON	.401	[illegible]	316173	315095	321279	333479
4 24)	OP FAC MCON II	.401	228903	318653	327825	353779	361479
2 21)	PROJ MGMT	.388	230311	320118	329353	355368	363132
4 9)	HEMP HARDENING	.327	230490	320398	329931	355447	363132
4 25)	DATA CRKT LEASE	.200	231126	321034	330567	356083	363768
4 26)	ETS NAPLES	.186	232128	321085	330620	356138	363825
4 27)	ETS ROTA	.172	233325	321136	330673	356193	363882
4 28)	MSG DETAIL ROTA	.172	233422	321136	330673	356193	363882
4 29)	AUTOVON/ASV LES	.143	233810	321506	331043	356563	364252
2 22)	TEST BEDS	.125	234510	322256	331293	356638	364302
2 23)	SINCGARS	.122	235210	324866	333826	359289	367186
4 30)	ETS UK	.114	237499	325401	334385	359873	367796
4 31)	ETS SPAIN	.114	237794	325441	334427	359917	367842
4 32)	STCKTN MARISAT	.071	237842	325501	334551	360046	367976
4 33)	IMPR CONUS AVON	.071	244160	332921	344389	369884	377814
4 35)	PRKHL RED CALL	.071	245504	333633	344389	369884	377814
2 24)	FIXD VLF-LANT/M	.039	249034	337683	344389	369884	377814
2 25)	SEC ROCKET LNCH	.039	251454	336566	349452	368842	377814
2 26)	B&C PUBLIC LAW	.037	252794	336566	349452	368842	377814
2 27)	B&C TACTICAL	.035	252794	338216	351177	370662	380114
2 28)	VINSON B&C	.034	255746	341254	354469	374048	383598
2 29)	PARKHILL B&C	.034	259342	344905	358194	374048	383598
4 36)	NW FLD FINEGAYN	.029	259653	345119	358218	374074	383625
4 37)	CAWS	.029	263990	349239	361673	377664	387368
4 38)	FTS EXPANSION	.029	267044	352293	364727	380718	390422
4 39)	OVSEAS AVON SSU	.014	267444	352467	364727	380718	390422
4 40)	HARBOR COMM MOD	.014	269202	354538	366895	382681	390850
2 31)	SB3865 CRYP USN	.010	271217	356063	368624	382681	390850
2 32)	KY-90 USN	.010	271938	356587	369248	382681	390850
2 33)	ULCS	.009	279480	362321	375977	382681	390850
2 34)	TRI-TAC TDF	.005	282440	367591	381249	386506	394850
2 35)	KYV-2 USN	.003	283379	368594	382261	386506	394850
2 36)	PRC-68	.003	285904	371194	384981	389356	394850
2 37)	PRC-113	.003	286969	372314	386156	390586	396150
2 39)	R/G LASER (AIR)	.000	290969	372314	386156	390586	396150
3 11)	HQ SPT CIVILIAN	.000	291177	372730	386572	391002	396566
3 27)	SURTASS HF MPR	.000	291483	373342	387184	391614	397178
3 29)	SURTASS MPR II	.000	291526	373521	387499	391971	397535
3 30)	SHORSTMPS SAFTY	.000	291955	374420	388437	392949	398555
4 2)	HAB COMMS SPT	.000	292627	374625	388650	393167	398778
4 23)	SHORSTAMPS OPS	.000	295920	381258	395514	[illegible]	405503
4 34)	SHORSTAMPS SPT	.000	297140	383635	397720	402520	408042

Table 4-3. COST-BENEFIT PRIORITY LIST

	ITEM	OV. BNF.	CUMULATIVE COST FY85	FY86	FY87	FY88	FY89
3	4) D. GARCIA HF UP	76.271	2875	776	0	0	0
3	12) PRKHL/WB ASV IF	28.983	3818	1775	0	0	0
3	10) NCS GREECE 108	34.246	3818	3114	1398	0	0
1	8) SHIP MPD	13.559	4438	3754	1398	0	0
3	7) URG FLT TAC CON	50.034	5639	4955	2599	1201	1201
3	9) NCS GREECE 107	39.508	8092	7361	2599	1201	1201
3	26) HQMC SV SWBD	2.753	8270	7045	2626	1229	1230
3	16) ADP RISK ASSESS	24.788	9813	8112	3250	1915	1985
1	11) KYV-5 USMC	16.199	10453	8753	3923	3587	1985
1	22) CEP FOR ABNCP	5.811	10715	9026	4208	3883	2293
4	7) PACFLT AMCC VAN	1.037	10977	9026	4208	3883	2293
3	19) ETS SIGONELLA	22.805	11945	10379	5622	5300	3837
2	4) VINSON-ALCEP	3.655	13052	10379	5622	5300	3837
1	13) ANDVT SPT O&MN	16.199	14552	11579	6522	6200	4437
1	9) EMI NEW PROCUR	10.903	16014	12788	7760	7432	4437
3	24) COMEDS	2.851	16314	13088	8060	7732	4737
4	28) MSG DETAIL ROTA	.172	16411	13088	8060	7732	4737
1	2) VLF PWR AMP	33.898	18411	19088	13060	10232	8737
2	1) TRC170 CRYP MC	4.288	18878	19643	13623	11335	8737
3	14) KEY TAC COMM RQ	3.968	19414	20179	14159	11871	9273
3	13) BMAR I	28.983	24125	25107	19323	17244	14868
1	10) KYV-5 USN	16.199	24284	29746	24103	19049	17905
1	5) WALBURN/TRNK MC	16.004	25947	32448	27269	22730	21929
2	3) KY-90 USMC	3.813	26766	33267	28378	23631	21929
4	5) ETS LONDON PBX	1.154	27672	33374	28490	23748	22051
3	28) SURTASS HF BACK	2.654	27921	34956	29461	23964	22272
3	3) JACKSONVL CONSL	8.000	31306	38630	31908	24465	22781
3	5) SIGONELLA HF UP	6.321	35432	41036	32696	25190	23524
3	8) MANUAL RELAY MD	5.449	37885	43383	34785	25877	23933
1	19) SVIS (X1419)	6.254	41385	45383	36585	27677	24433
1	20) SPACE CRYP KG44	5.922	43538	47133	38336	29428	26319
4	4) EAST AFRICA COM	1.241	45649	47133	38336	29428	26319
4	10) MICROCMP 2M STN	.978	46269	47775	38466	29564	26461
1	7) CVLF VERDIN RPL	13.559	48269	51975	41666	32564	38561
1	17) TACAMO EHF MSTR	8.025	48269	51975	41666	39664	46221
2	8) CINCPAC EMP	1.810	49981	53197	42291	39664	46221
1	24) FIXD VLF(LF RP)	5.495	50881	54197	46091	42184	48981
1	25) KYV-2 USMC	4.926	54348	57922	49819	42184	48981
2	9) VERDIN IMPROV	1.552	54958	58582	50689	42974	49756
3	23) TAC CONNECTVITY	2.900	56531	60155	52301	44179	50961

Table 4-3 (Con't)

				CUMULATIVE COST			
			FY85	FY86	FY87	FY88	FY89
2	2) GYC7 CRYP USMC	4.084	58270	65040	55389	44179	50961
2	7) EMP FULL ASSESS	2.716	60920	67432	56871	45348	51973
1	15) TACAMO COMM CTL	9.562	62920	71432	61371	54348	62973
1	26) AUTO REPLACEMNT	4.815	64870	75247	63936	58288	66986
4	9) HEMP HARDENING	.327	65049	75527	64514	58367	66986
1	23) COMSEC RDT&E	5.590	71179	81687	67550	60567	69686
1	27) JTIDS CRYPTO	4.793	71179	83400	69990	66662	78628
4	31) ETS SPAIN	.114	71474	83440	70032	66706	78674
4	19) DCS HF SOUNDERS	.572	73687	83471	70066	66742	78713
2	11) COMSEC UNDER	1.222	75092	84886	71492	67174	79156
4	20) FINEGAYAN/ATT	.429	75986	85815	71492	67174	79156
4	3) AMORTZ LEASES	1.300	77178	87007	72684	68366	80348
1	29) TTC-42 CRYP MC	4.660	83851	94561	80161	68366	80348
1	14) VERDIN RPL TCMO	9.562	89251	101561	80161	76366	101348
3	15) REMOTE CONTROL	3.881	89251	101561	86561	84266	109548
4	18) HF MODEMS USMC	.643	90167	102783	86892	84597	109879
1	28) PLRS USMC	4.727	96779	107485	92136	91801	109879
1	30) SB3865 CRYP MC	4.594	105420	116571	100845	91801	109879
2	6) KG-84 RPLC KG30	3.390	105420	119767	106574	97878	115586
1	12) ANDVT VOICE	16.199	109501	142397	128961	125250	143671
1	18) AMCC	7.000	118441	151757	138801	133850	152671
4	26) ETS NAPLES	.186	119443	151808	138854	133905	152728
2	16) MPDS HARDWARE	.410	122238	151808	138854	133905	152728
1	21) SPCE CRYP KGR96	5.856	126605	159238	153299	148721	152728
4	32) STCKTN MARISAT	.071	126653	159338	153423	148850	152862
4	27) ETS ROTA	.172	127850	159389	153476	148905	152919
4	11) ASVCOM LCC EXTN	.964	134033	162084	153476	148905	152919
2	30) I-S/A AMPE	4.000	134325	163416	156494	161644	175297
1	4) BANCROFT USMC	18.878	159766	201668	198537	215041	224114
4	6) ASCENSION HF UP	1.095	163787	206015	199939	216505	225642
4	8) SOSUS PHASE II	1.007	164493	207824	203469	219487	228774
4	29) AUTOVON/ASV LES	.143	164881	208194	203839	219857	229144
2	15) SEC-FFB	.466	168149	208864	205373	220605	229144
2	22) TEST BEDS	.125	168849	209614	205623	220680	229194
4	25) DATA CRKT LEASE	.200	169485	210250	206259	221316	229830
3	2) OP FAC MCON I	8.000	177335	221900	246319	252256	273090
2	5) SVIP CRYP COMPL	3.655	177335	240000	262737	266932	285808
2	17) SVIS X1419 ARWX	.407	177335	242100	264637	268532	288008
2	21) PROJ MGMT	.388	178743	243565	266165	270141	289661
4	36) NW FLD FINEGAYN	.029	179054	243777	266189	270147	289688

Table 4-3 (Con't)

			CUMULATIVE COST				
			FY85	FY86	FY87	FY88	FY89
2	13) CRYPTO SUPPORT	.815	182354	247279	269889	274047	293888
2	19) BLACKER	.407	182354	247279	269889	278829	298700
2	10) QMS	1.358	184354	249779	271889	295129	313700
4	35) PRKHL RED CALL	.071	185698	250491	271889	295129	313700
4	21) ROTA/HUMOSA TRP	.429	185698	250491	271889	301992	319593
4	13) UOPH/UEPH MESS	.401	185698	261091	271889	303642	319593
2	26) B&C PUBLIC LAW	.037	187038	261091	271889	303642	319593
4	15) UUTIP	.920	197839	272018	278498	307396	323506
4	30) ETS UK	.114	200128	272553	279057	307980	324116
4	39) OVSEAS AVON SSU	.014	200528	272727	279057	307980	324116
2	18) TRITAC CRYPTO	.407	206402	278423	284361	308298	324116
2	38) NAMRADS	.500	210166	282697	289227	313756	330169
4	22) WAWS PHASE 5	.429	219643	293812	290514	315094	331519
2	14) SEC-AFSAT/FLTST	.466	227722	300952	302970	315094	331519
2	20) EXT CORE YUK-20	.510	235487	309351	312372	322921	332019
4	14) MORALE/REC MCON	.401	239587	321551	319312	324921	337119
2	23) SINCGARS	.122	240287	324161	321845	327572	340003
2	25) SEC ROCKET LNCH	.039	242707	323044	326908	326530	340003
2	32) KY-90 USN	.010	243428	323568	327532	326530	340003
4	24) OP FAC MCON II	.401	244378	326048	340262	359030	368003
2	24) FIXD VLF-LANT/M	.039	247908	330098	340262	359030	368003
2	27) B&C TACTICAL	.035	247908	331748	341987	360850	370303
2	29) PARKHILL B&C	.034	251504	335399	345712	360850	370303
2	28) VINSON B&C	.034	254456	338437	349004	364236	373787
2	31) SB3865 CRYP USN	.010	256471	339962	350733	364236	373787
4	38) FTS EXPANSION	.029	259529	343016	353787	367290	376841
4	40) HARBOR COMM MOD	.014	261283	345087	355955	369253	377269
4	33) IMPR CONUS AVON	.071	267601	352467	365793	379091	387107
4	37) CAWS	.029	271938	356587	369248	382681	390850
2	35) KYV-2 USN	.003	272872	357590	370260	382681	390850
2	37) PRC-113	.003	273937	358710	371435	383911	392150
2	33) ULCS	.009	281479	364444	378164	383911	392150
2	36) PRC-68	.003	284009	367044	380884	386761	392150
2	34) TRI-TAC TDF	.005	286969	372314	386156	390586	396150
3	29) SURTASS MPR II	.000	287012	372493	386471	390943	396507
4	2) HAB COMMS SPT	.000	287684	372698	386684	391161	396730
3	11) HQ SPT CIVILIAN	.000	287892	373114	387100	391577	397146
3	27) SURTASS HF MPR	.000	288198	373726	387712	392189	397758
2	39) B/G LASER (AIR)	.000	292198	373726	387712	392189	397758
3	30) SHORSTMPS SAFTY	.000	292627	374625	388650	393167	398778
4	34) SHORSTAMPS SPT	.000	293839	377002	391056	395626	401317
4	23) SHORSTAMPS OPS	.000	297140	383635	397720	402320	408042

Table 4-4. NET BENEFIT PRIORITY LIST

	ITEM	OV. BNF.	CUMULATIVE COST FY85	FY86	FY87	FY88	FY89
3 4)	D. GARCIA HF UP	76.271	2875	776	0	0	0
3 7)	URG FLT TAC CON	50.034	4076	1977	1201	1201	1201
3 9)	NCS GREECE 107	39.508	6529	4383	1201	1201	1201
3 10)	NCS GREECE 108	34.246	6529	5722	2599	1201	1201
1 2)	VLF PWR AMP	33.898	8529	11722	7599	3701	5201
3 12)	PRKHL/WB ASV IF	28.983	9472	12721	7599	3701	5201
3 13)	BMAR I	28.983	14183	17649	12763	9074	10796
3 16)	ADP RISK ASSESS	24.788	15726	18216	13387	9760	11551
3 19)	ETS SIGONELLA	22.805	16694	19569	14801	11177	13095
1 11)	KYV-5 USMC	16.199	17334	20210	15474	12849	13095
1 13)	ANDVT SPT O&MN	16.199	18834	21410	16374	13749	13695
1 10)	KYV-5 USN	16.199	18993	26049	21194	15554	16732
1 5)	WALBURN/TRNK MC	16.004	20656	28751	24320	19235	20756
1 4)	BANCROFT USMC	18.878	46097	67003	66363	72632	69573
1 12)	ANDVT VOICE	16.199	50178	89633	88750	100004	97658
1 8)	SHIP MPD	13.559	50798	90273	88750	100004	97658
1 7)	CVLF VERDIN RPL	13.559	52798	94473	91950	103004	109758
1 9)	EMI NEW PROCUR	10.903	54260	95682	93108	104236	109758
1 15)	TACAMO COMM CTL	9.562	56260	99682	97688	113236	120758
1 14)	VERDIN RPL TCMO	9.562	61660	106682	101688	121236	141758
3 3)	JACKSONVL CONSL	8.000	65045	110356	104215	121737	142267
1 17)	TACAMO EHF MSTR	8.025	65045	110356	104215	128837	149927
3 5)	SIGONELLA HF UP	6.321	69171	112762	104923	129562	150670
1 19)	SVIS (X1419)	6.254	72671	114762	106723	131362	151170
1 18)	AMCC	7.000	81611	124122	116563	139962	160170
1 22)	CEP FOR ABNCP	5.811	81873	124395	116848	140258	160478
1 20)	SPACE CRYP KG44	5.922	84026	126145	118599	142009	162364
3 8)	MANUAL RELAY MD	5.449	86479	128492	120688	142696	162773
1 24)	FIXD VLF(LF RP)	5.495	87379	129492	124488	145216	165533
1 23)	COMSEC RDT&E	5.590	93509	135652	127528	147416	168233
1 21)	SPCE CRYP KGR96	5.856	97876	143082	141973	162232	168233
3 2)	OP FAC MCON I	8.000	105726	154232	182033	193172	211493
1 25)	KYV-2 USMC	4.926	109193	157957	185791	193172	211493
1 26)	AUTO REPLACEMNT	4.815	111143	161772	188356	197112	215506
1 27)	JTIDS CRYPTO	4.793	111143	163485	190792	203207	224448
2 1)	TRC170 CRYP MC	4.288	111610	164040	191355	204310	224448
1 28)	PLRS USMC	4.727	118222	168742	196599	211514	224448
1 29)	TTC-42 CRYP MC	4.660	120895	176296	204076	211514	224448
1 30)	SB3865 CRYP MC	4.594	133536	185387	212760	211514	224448
3 14)	KEY TAC COMM RQ	3.968	134072	187918	213321	212050	224984

Table 4-4 (Con't)

				CUMULATIVE COST			
			FY85	FY86	FY87	FY88	FY89
2	2) GYC7 CRYP USMC	4.084	135811	191603	216409	212050	224984
2	3) KY-90 USMC	3.813	136630	192422	217518	212951	224984
2	4) VINSON-ALCEP	3.655	137737	192422	217518	212951	224984
3	15) REMOTE CONTROL	3.881	137737	192422	219918	220851	233184
2	30) I-S/A AMPE	4.000	138029	193754	222936	233590	255562
2	6) KG-84 RPLC KG30	3.390	138029	196950	228665	239667	261269
3	24) COMEDS	2.851	138329	197250	228965	239967	261569
3	26) HQMC SV SWBD	2.763	138507	197434	228992	239995	261598
3	23) TAC CONNECTVITY	2.900	140080	199007	230604	241200	262803
3	28) SURTASS HF BACK	2.654	140329	200589	231575	241416	263024
2	7) EMP FULL ASSESS	2.716	142979	202181	233057	242585	264036
2	5) SVIP CRYP COMPL	3.655	142979	220781	249475	257261	276754
2	8) CINCPAC EMP	1.810	144691	222003	250100	257261	276754
2	9) VERDIN IMPROV	1.552	145301	222663	250940	258051	277529
4	4) EAST AFRICA COM	1.241	147412	222663	250940	258051	277529
4	3) AMORTZ LEASES	1.300	148604	223855	252132	259243	278721
4	5) ETS LONDON PBX	1.154	149510	223962	252244	259360	278843
2	11) COMSEC UNDER	1.222	150915	225377	253670	259792	279286
4	7) PACFLT AMCC VAN	1.037	151177	225377	253670	259792	279286
4	10) MICROCMP 2M STN	.978	151797	226019	253800	259928	279428
4	6) ASCENSION HF UP	1.095	155818	230366	255202	261392	280956
4	11) ASVCOM LCC EXTN	.964	162001	233061	255202	261392	280956
4	8) SOSUS PHASE II	1.007	162707	234870	258732	264374	284088
4	18) HF MODEMS USMC	.643	163623	236092	259063	264705	284419
4	19) DCS HF SOUNDERS	.572	165836	236123	259097	264741	284458
2	10) QMS	1.358	167836	238623	261097	281041	299458
4	20) FINEGAYAN/ATT	.429	168730	239552	261097	281041	299458
2	13) CRYPTO SUPPORT	.815	172030	243052	264797	284941	303658
2	16) MPDS HARDWARE	.410	174825	243052	264797	284941	303658
2	15) SEC-FFB	.466	178093	243722	266331	285689	303658
4	9) HEMP HARDENING	.327	178272	244002	266909	285768	303658
2	17) SVIS X1419 ARWX	.407	178272	246102	268809	287368	305858
2	21) PROJ MGMT	.388	179600	247567	270337	288957	307511
4	28) MSG DETAIL ROTA	.172	179777	247567	270337	288957	307511
2	19) BLACKER	.407	179777	247567	270337	293739	312323
4	26) ETS NAPLES	.186	180779	247618	270390	293794	312380
4	27) ETS ROTA	.172	181976	247669	270443	293849	312437
4	25) DATA CRKT LEASE	.200	182612	248305	271079	294485	313073
4	21) ROTA/HUMOSA TRP	.429	182612	248305	271079	301348	318966
4	31) ETS SPAIN	.114	182907	248305	271121	301392	319012

Table 4-4 (Con't)

			CUMULATIVE COST				
			FY85	FY86	FY87	FY88	FY89
4 29)	AUTOVON/ASV LES	.146	183295	248715	271491	301762	319382
4 13)	UOPH/UEPH MESS	.401	183295	259315	271491	303412	319382
2 22)	TEST BEDS	.125	183995	260065	271741	303487	319432
4 32)	STCKTN MARISAT	.071	184043	260165	271865	303616	319566
4 15)	WWTIP	.920	194844	271092	278474	307370	323479
4 35)	PRKHL RED CALL	.071	196188	271804	278474	307370	323479
4 36)	NW FLD FINEGAYN	.029	196499	272018	278498	307396	323506
2 26)	B&C PUBLIC LAW	.037	197839	272018	278498	307396	323506
4 30)	ETS UK	.114	200128	272553	279057	307980	324116
4 39)	OVSEAS AVON SSU	.014	200528	272727	279057	307980	324116
2 18)	TRITAC CRYPTO	.407	206482	278423	284361	308298	324116
3 29)	SURTASS MPR II	.000	206525	278602	284676	308655	324473
2 32)	KY-90 USN	.010	207246	279126	285300	308655	324473
4 2)	HAB COMMS SPT	.000	207918	279331	285513	308873	324696
3 11)	HQ SPT CIVILIAN	.000	208126	279747	285929	309289	325112
3 27)	SURTASS HF MPR	.000	208432	280359	286541	309901	325724
2 35)	KYV-2 USN	.003	209366	281362	287553	309901	325724
2 25)	SEC ROCKET LNCH	.039	211786	280245	292616	308859	325724
2 39)	B/G LASER (AIR)	.000	215786	280245	292616	308859	325724
2 38)	NAMRADS	.500	219470	284519	297482	314317	331777
3 30)	SHORSTMPS SAFTY	.000	219899	285418	298420	315295	332797
2 31)	SB3865 CRYP USN	.010	221914	286943	300149	315295	332797
2 37)	PRC-113	.003	222979	288063	301324	316525	334097
2 24)	FIXD VLF-LANT/M	.039	226509	292113	301324	316525	334097
2 27)	B&C TACTICAL	.035	226509	293763	303049	318345	336397
2 23)	SINCGARS	.122	227209	296373	305582	320996	339281
4 22)	WAWS PHASE 5	.429	236686	307488	306869	322334	340631
4 40)	HARBOR COMM MOD	.014	238444	309559	309037	324297	341059
2 14)	SEC-AFSAT/FLTST	.466	246523	316699	321493	324297	341059
2 29)	PARKHILL B&C	.034	250119	320350	325218	324297	341059
2 36)	PRC-68	.003	252649	322950	327938	327147	341059
4 34)	SHORSTAMPS SPT	.000	253861	325327	330344	329606	343598
2 20)	EXT CORE YUK-20	.510	261626	333726	339746	337433	344098
4 38)	FTS EXPANSION	.029	264680	336780	342800	340487	347152
4 14)	MORALE/REC MCON	.401	268780	348980	349740	342487	352252
2 28)	VINSON B&C	.034	271732	352018	353032	345873	355736
4 37)	CAWS	.029	276069	356138	356487	349463	359479
2 33)	ULCS	.009	283611	361872	364216	349463	359479
2 34)	TRI-TAC TDF	.005	286571	367142	368488	353288	363479
4 23)	SHORSTAMPS OPS	.000	289872	372775	375152	358982	370204
4 33)	IMPR CONUS AVON	.071	296190	381155	384990	367820	380042
4 24)	OP FAC MCON II	.401	297140	383135	387720	402320	408042

Table 4-5. NAVTELCOM NET BENEFIT PRIORITY LIST

		ITEM	OV. BNF.	CUMULATIVE COST FY85	FY86	FY87	FY88	FY89
1	2)	VLF PWR AMP	33.898	2000	6000	5000	2500	4000
1	11)	KYV-5 USMC	16.199	2640	6641	5673	4172	4000
1	13)	ANDVT SPT O&MN	16.199	4140	7841	6573	5072	4600
1	10)	KYV-5 USN	16.199	4299	12480	11393	6877	7637
1	5)	WALBURN/TRNK MC	16.004	5962	15182	14519	10558	11661
1	4)	BANCROFT USMC	18.878	31403	53434	56562	63955	60478
1	12)	ANDVT VOICE	16.199	35484	76064	78949	91327	88563
1	8)	SHIP MPD	13.559	36104	76704	78949	91327	88563
1	7)	CVLF VERDIN RPL	13.559	38104	80904	82149	94327	100663
1	9)	EMI NEW PROCUR	10.903	39566	82113	83387	95559	100663
1	15)	TACAMO COMM CTL	9.562	41566	86113	87887	104559	111663
1	14)	VERDIN RPL TCMO	9.562	46966	93113	91887	112559	132663
1	17)	TACAMO EHF MSTR	8.025	46966	93113	91887	119659	140323
1	19)	SVIS (X1419)	6.254	50466	95113	93687	121459	140823
1	18)	AMCC	7.000	59406	104473	103527	130059	149823
1	22)	CEP FOR ABNCP	5.811	59668	104746	103812	130355	150131
1	20)	SPACE CRYP KG44	5.922	61821	106496	105563	132106	152017
1	24)	FIXD VLF(LF RP)	5.495	62721	107496	109363	134626	154777
1	23)	COMSEC RDT&E	5.590	68851	113656	112403	136826	157477
1	21)	SPCE CRYP KGR96	5.856	73218	121086	120848	151642	157477
1	25)	KYV-2 USMC	4.926	76685	124811	130606	151642	157477
1	26)	AUTO REPLACEMNT	4.815	78635	128626	133171	155582	161490
1	27)	JTIDS CRYPTO	4.793	78635	130339	135607	161677	170432
2	1)	TRC170 CRYP MC	4.288	79102	130894	136170	162780	170432
1	28)	PLRS USMC	4.727	85714	135596	141414	169984	170432
1	29)	TTC-42 CRYP MC	4.660	92387	143150	148891	169984	170432
1	30)	SB3865 CRYP MC	4.594	101028	152236	157600	169984	170432
2	2)	GYC7 CRYP USMC	4.084	102767	157921	160688	169984	170432
2	3)	KY-90 USMC	3.813	103586	158740	161797	170885	170432
2	4)	VINSON-ALCEP	3.655	104693	158740	161797	170885	170432
2	30)	I-S/A AMPE	4.000	104985	160072	164815	183624	192810
2	6)	KG-84 RPLC KG30	3.390	104985	163268	170544	189701	198517
2	7)	EMP FULL ASSESS	2.716	107635	164860	172026	190870	199529
2	5)	SVIP CRYP COMPL	3.655	107635	183460	188444	205546	212247
2	8)	CINCPAC EMP	1.810	109347	184682	189069	205546	212247
2	9)	VERDIN IMPROV	1.552	109957	185342	189909	206336	213022
2	11)	COMSEC UNDER	1.222	111362	186757	191335	206768	213465
2	10)	QMS	1.358	113362	189257	193335	223068	228465
2	13)	CRYPTO SUPPORT	.815	116662	192557	197035	226968	232665
2	16)	MPDS HARDWARE	.410	119457	192557	197035	226968	232665

Table 4-5 (Con't)

			CUMULATIVE COST				
			FY85	FY86	FY87	FY88	FY89
2 15)	SEC-FFB	.466	122725	193427	198569	227716	232665
2 17)	SVIS X1419 ARWX	.407	122725	195527	200469	229316	234865
2 21)	PROJ MGMT	.388	124133	196992	201997	230905	236518
2 19)	BLACKER	.407	124133	196992	201997	235687	241330
2 22)	TEST BEDS	.125	124833	197742	202247	235762	241380
2 26)	B&C PUBLIC LAW	.037	126173	197742	202247	235762	241380
2 18)	TRITAC CRYPTO	.407	132127	203438	207551	236080	241380
2 32)	KY-90 USN	.010	132848	203962	208175	236080	241380
2 35)	KYV-2 USN	.003	133782	204965	209187	236080	241380
2 25)	SEC ROCKET LNCH	.039	136202	203848	214250	235038	241380
2 39)	B/G LASER (AIR)	.000	140202	203848	214250	235038	241380
2 38)	NAMRADS	.500	143896	208122	219116	240496	247433
2 31)	SB3865 CRYP USN	.010	145901	209647	220845	240496	247433
2 37)	PRC-113	.003	146966	210767	222020	241726	248733
2 24)	FIXD VLF-LANT/M	.039	150496	214817	222020	241726	248733
2 27)	B&C TACTICAL	.035	150496	216467	223745	243546	251033
2 23)	SINCGARS	.122	151196	219077	226278	246197	253917
2 14)	SEC-AFSAT/FLTST	.466	159275	226217	238734	246197	253917
2 29)	PARKHILL B&C	.034	162871	229868	242459	246197	253917
2 36)	PRC-68	.003	165401	232468	245179	249047	253917
2 20)	EXT CORE YUK-20	.510	173166	240867	254581	256874	254417
2 28)	VINSON B&C	.034	176118	243905	257873	260260	257901
2 33)	ULCS	.009	183660	249639	264602	260260	257901
2 34)	TRI-TAC TDF	.005	186620	254909	269874	264085	261901

Table 4-6. NAVTELCOM NET BENEFIT PRIORITY LIST

	ITEM	OV. BNF.	CUMULATIVE COST FY85	FY86	FY87	FY88	FY89
3 4)	D. GARCIA HF UP	76.271	2875	776	0	0	0
3 7)	URG FLT TAC CON	50.034	4076	1977	1201	1201	1201
3 9)	NCS GREECE 107	39.508	6529	4383	1201	1201	1201
3 10)	NCS GREECE 108	34.246	6529	5722	2599	1201	1201
3 12)	PRKHL/WB ASV IF	28.983	7472	6721	2599	1201	1201
3 13)	BMAR I	28.983	12183	11649	7763	6574	6796
3 16)	ADP RISK ASSESS	24.788	13726	12216	8387	7260	7551
3 19)	ETS SIGONELLA	22.805	14694	13569	9801	8677	9095
3 3)	JACKSONVL CONSL	8.000	18079	17243	12328	9178	9604
3 5)	SIGONELLA HF UP	6.321	22205	19649	13036	9903	10347
3 8)	MANUAL RELAY MD	5.449	24658	21996	15125	10590	10756
3 2)	OP FAC MCON I	8.000	32508	33146	55185	41530	54016
3 14)	KEY TAC COMM RQ	3.968	33044	33682	55721	42066	54552
3 15)	REMOTE CONTROL	3.881	33044	33682	58121	49966	62752
3 24)	COMEDS	2.851	33344	33982	58421	50266	63052
3 26)	HQMC SV SWBD	2.753	33522	34166	58448	50294	63081
3 23)	TAC CONNECTVITY	2.900	35095	35739	60060	51499	64286
3 28)	SURTASS HF BACK	2.654	35344	37321	61031	51715	64507
4 4)	EAST AFRICA COM	1.241	37455	37321	61031	51715	64507
4 3)	AMORTZ LEASES	1.300	38647	38513	62223	52907	65699
4 5)	ETS LONDON PBX	1.154	39553	38620	62335	53024	65821
4 7)	PACFLT AMCC VAN	1.037	39815	38620	62335	53024	65821
4 10)	MICROCMP 2M STN	.978	40435	39262	62465	53160	65963
4 6)	ASCENSION HF UP	1.095	44456	43609	63867	54624	67491
4 11)	ASVCOM LCC EXTN	.964	50639	46304	63867	54624	67491
4 8)	SOSUS PHASE II	1.007	51345	48113	67397	57606	70623
4 18)	HF MODEMS USMC	.643	52261	49335	67728	57937	70954
4 19)	DCS HF SOUNDERS	.572	54474	49366	67762	57973	70993
4 20)	FINEGAYAN/ATT	.429	55368	50295	67762	57973	70993
4 9)	HEMP HARDENING	.327	55547	50575	68340	58052	70993
4 28)	MSG DETAIL ROTA	.172	55644	50575	68340	58052	70993
4 26)	ETS NAPLES	.186	56646	50626	68393	58107	71050
4 27)	ETS ROTA	.172	57843	50677	68446	58162	71107
4 25)	DATA CRKT LEASE	.200	58479	51313	69082	58798	71743
4 21)	ROTA/HUMOSA TRP	.429	58479	51313	69082	65661	77636
4 31)	ETS SPAIN	.114	58774	51353	69124	65705	77682
4 29)	AUTOVON/ASV LES	.143	59162	51723	69494	66075	78052
4 13)	UOPH/UEPH MESS	.401	59162	62323	69494	67725	78052
4 32)	STCKTN MARISAT	.071	59210	62423	69618	67854	78186
4 15)	WWTIP	.920	70011	73350	76227	71608	82099

Table 4-6 (Con't)

			CUMULATIVE COST				
			FY85	FY86	FY87	FY88	FY89
4 35)	PRKHL RED CALL	.071	71355	74062	76227	71608	82099
4 36)	NW FLD FINEGAYN	.029	71666	74276	76251	71634	82126
4 30)	ETS UK	.114	73955	74811	76810	72218	82736
4 39)	OVSEAS AVON SSU	.014	74355	74985	76810	72218	82736
3 29)	SURTASS MPR II	.000	74398	75164	77125	72575	83093
4 2)	HAB COMMS SPT	.000	75070	75369	77338	72793	83316
3 11)	HQ SPT CIVILIAN	.000	75278	75785	77754	73209	83732
3 27)	SURTASS HF MPR	.000	75584	76397	78366	73821	84344
3 30)	SHORSTMPS SAFTY	.000	76013	77296	79304	74799	85364
4 22)	WAWS PHASE 5	.429	85490	88411	80591	76137	86714
4 40)	HARBOR COMM MOD	.014	87248	90482	82759	78100	87142
4 34)	SHORSTAMPS SPT	.000	88460	92859	85165	80559	89681
4 38)	FTS EXPANSION	.029	91514	95913	88219	83613	92735
4 14)	MORALE/REC MCON	.401	95614	108113	95159	85613	97835
4 37)	CAWS	.029	99951	112233	98614	89203	101578
4 23)	SHORSTAMPS OPS	.000	103252	118866	105278	95897	108303
4 33)	IMPR CONUS AVON	.071	109570	126246	115116	105735	118141
4 24)	OP FAC MCON II	.401	110520	128726	127846	138235	146141

5.0 CONCLUSIONS AND RECOMMENDATIONS

A hierarchical process for delivering program priorities is described herein. The process was used by both NAVTELCOM and OP-0941 for developing and integrating their priorities. This hierarchical prioritization process provided a structured comparison of small groups of programs in such a way that the group comparisons could be merged into an overall priority list based upon benefit to the Navy in meeting its national defense missions. This structured process reduced the influence of parochialism upon the program priorities by basing the evaluation of programs upon military worth within the Navy's missions.

Cost-effectiveness and other programmatic factors should also be included in the prioritizing of programs. However, once the military worth of the programs has been defined in a quantitative manner as described in this report, there is a logical, analytical approach to establishing the priorities based upon cost effectiveness.

This analytical approach to cost-effectiveness is based upon cost-benefit ratios of the individual programs. The benefit index is the quantitative scale for military worth, and the cost must be carefully defined to reflect the fiscal constraints faced in the POM and budget cycles. This approach is described in detail in Decision-Analytic Support of the United States Marine Corps' Program Development: A Guide to the Methodology.[2]

[2] Ibid.