

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2000

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

<i>COST (In Million) s</i>	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	49208	96293	96153	93735	78134	45811	35799	Continuing	Continuing
C2270 Command Post Systems	7328	22981	22707	16501	12868	10334	9907	Continuing	Continuing
C2271 Maneuver C2 Systems	1654	981	1953	744	629	0	0	0	5961
C2272 Intelligence C2 Systems	3951	13763	8634	9861	10124	7174	7338	Continuing	Continuing
C2273 Air Operations C2 Systems	5985	16324	24780	17889	8519	6690	4045	Continuing	Continuing
C2274 C2 Warfare Systems	3191	10329	2663	4290	4930	3119	3319	Continuing	Continuing
C2275 Radio Systems	2173	0	0	0	0	0	0	0	2173
C2276 Communications Switching and Control Systems	1538	1831	227	0	0	0	0	0	3596
C2277 Systems Engineering and Integration	9446	7156	6514	6832	6554	6554	6390	Continuing	Continuing
C2278 Air Defense Weapons Systems	1855	9705	21730	27408	21754	6641	4057	Continuing	Continuing
C2315 Training Devices/Simulators	8213	12088	5871	9529	12221	5042	486	Continuing	Continuing
C2510 MAGTF CSSE S&E	0	1135	1074	681	535	257	257	Continuing	Continuing
C2664 Joint Task Force Enhanced Communications	3874	0	0	0	0	0	0	0	3874
Quantity of RDT&E Articles									

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 1 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2000

BUDGET ACTIVITY

7 - Operational System Development

PE NUMBER AND TITLE

**0206313M Marine Corps Communications
Systems**

(U) **Mission Description and Budget Item Justification:** This program element provides funding to develop the command and control (C2) support and information infrastructures for the Fleet Marine Force and supporting establishment. Doctrinally, the C2 support system and the information infrastructure form two parts of a triad of capabilities which permits command and control systems to be transformed into a complete operating system. The third element of the triad is command and control organization and is not covered in this program element. USMC command and control is divided into six functional areas and one supporting functional area as follows: maneuver C2, intelligence C2, fire support C2, air operations C2, combat service support C2, warfare C2, and C2 support (information processing and communications). Within this program element, subprojects have been grouped by C2 functional area for more efficient planning. Air defense weapons systems have been added to facilitate planning and a separate project is used for systems assigned to the supporting establishment. Subprojects which support the commander's decision processes have been collected into the Command Post Systems project since these systems must work in close cooperation to ensure effective C2 of Marine Air Ground Task Forces. The Coastal Battlefield Reconnaissance and Analysis (COBRA) system is a passive multispectral sensor system capable of operating in a PIONEER unmanned aerial vehicle (UAV). Imagery recorded on the UAV or disseminated via data link is analyzed by the COBRA ground station. Ground station algorithm processing provides near real-time automatic minefield detection with Differential Global Positioning System (DGPS) location accuracy.

(U) **Justification for Budget Activity:** This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 2 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2000
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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2270
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COST (In Million) s	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
C2270 Command Post Systems	7328	22981	22707	16501	12868	10334	9907	Continuing	Continuing
Quantity of RDT&E Articles									

A. (U) Mission Description and Budget Item Justification:

(U) Systems assigned to this project are to be used by commanders and their staffs to process, fuse, and tailor information to assist decision-making and enhance situational awareness. They will integrate and share information from sources both internal and external to the Marine Air-Ground Task Force (MAGTF) to provide a shared understanding of the battlespace.

1. Decision support integrates information from the seven Command and Control (C2) functional areas and the support function. The information is tailored to support the users' specific needs. As a result of the MAGTF C4I Baseline subproject, an integrated migration strategy is being incorporated into the MAGTF software baseline, which will be common across and used by all MAGTF C4I programs.
2. The Tactical Command Operations (TCO) will provide systems to the command post which support Maneuver C2. Maneuver C2 is the executive layer of decision support that pulls and fuses information from other functional areas.
3. The Intelligence Analysis Systems (IAS) supports the employment of reconnaissance, surveillance, and target acquisition resources and the timely planning and processing of all-source intelligence; it ensures that tactical intelligence is tailored to meet specific mission requirements. A Marine Expeditionary Force (MEF) IAS variant will also process signal intelligence.
4. Advanced Field Artillery Tactical Data Systems (AFATDS) will consist of fire support command and control software fielded on Marine Corps common hardware. AFATDS will provide the MAGTF with an automated ability to rapidly integrate, all supporting arm assets into maneuver plans.
5. The Advanced Tactical Air Command Center (ATACC) functions as the operational command post of the MAGTF ACE. It provides automated assistance for planning and executing tactical air operations, and provides voice and data interface with joint and combined Air C2 agencies. The Phase I ATACC was fielded 1st Qtr FY96. The Improved Direct Air Support Center (IDASC) links information and systems needed to conduct Air Operations C2 with Maneuver C2 of the ground combat element of the MAGTF.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2000

BUDGET ACTIVITY

7 - Operational System Development

PE NUMBER AND TITLE

**0206313M Marine Corps Communications
Systems**

PROJECT

C2270

6. The Expeditionary Integrated Combat Operations Center (EICOC)/Unit Operations Center (UOC) project develops and transitions two Command and Control Imperative ATDs (the Expeditionary Integrated Combat Operations Center (EICOC) and the Joint Tactical Communications ((JT COMMs) ATDs) into various Marine Corps and Joint Engineering and Manufacturing Development (E&MD) efforts. EICOC development efforts focus on: Cognitive Task Analysis (CTA); enhanced ergonomic physical design; evaluation of advanced multimedia hardware; integration and networking with advanced development communication systems; and advanced software development to support systems integration and advanced battlefield visualization concepts. EICOC developments are tailored to support transition of software and hardware developments as PIPs to the established MAGTF C4I baseline. EICOC is the interim name for the Unit Ops Center (UOC). The UOC name will replace the EICOC name starting with FY00. Unit Operations Center (UOC) will provide a facility and components for the integration of current and planned battlefield automation systems. It will be, in essence a "system of systems" designed to optimize the positioning, interaction, and flow of information among the various staff agencies (G-2, G-3, Operations Directorate, etc.) and their automated information systems and between the unit and higher, adjacent or subordinate units or headquarters. The Marine corps deploys Component/Joint Task Force (JTF/Marine Air Ground Task Force (MAGTF)) command elements throughout the world to fulfill operational requirements, often in joint/combined forces arenas. The UOC is designed in garrison and tactical versions. The tactical version is called the Combat Operations Center (COC) which is an outgrowth of the integrated COC (ICOC), COC-Interim (COC(I)), and the Enhanced COC (ECOC) developments over the last two years. The garrison version is called the Command Center (CC).
7. TCAC PIP is a Product Improvement Plan (PIP) based on the MEF IAS program. TCAC PIP is a semi-automated signals intelligence (SIGINT) processing, analysis and reporting system integrated in to one HMMWV mounted standard tactical shelter housing essential computer and communication resources. Internal and external workstations, when connected via a local area network, will extend functional capabilities to multiple users. The system is modular in design allowing stand-alone operations support during high mobility or contingency operations. Essential voice and data communications and SIGINT processing capabilities will support and automate the management and dissemination of SIGINT-derived intelligence reports.

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 4 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2270

PROGRAM ACCOMPLISHMENTS AND PLANS:

(U) FY 1999 Accomplishments:

- (U) \$ 1055 TCO: Initiated Phase IV ORD requirements.
 - (U) \$ 157 TCO: Program Management Support
 - (U) \$ 65 TCO: Performed testing on existing systems.
 - (U) \$ 21 IAS: Program Management Support.
 - (U) \$ 505 IAS: Developed intelligence applications into the C2PC software baseline.
 - (U) \$ 369 IDASC: Completed investigation of hardware ECPs for the HMD DASC system for migration towards a common USMC Aviation Command and Control Communications System.
 - (U) \$ 221 IAS MOD: Continued research of hardware ECPs for MEF IAS and IAS Suites.
 - (U) \$ 164 IAS MOD: Continued program management for ECPs.
 - (U) \$ 460 MAGTF C4I BASELINE: Continued development of client software focused on the Joint Operations Planning and Execution Segments (JOPES) within GCCS.
 - (U) \$ 822 MAGTF C4I BASELINE: Began software development necessary to allow the integration of the Combat Operations Center Interim (COC(I)) into the MAGTF C4I software baseline.
 - (U) \$ 609 EICOC/UOC: Built two (2) notional BN-Level COC prototypes.
 - (U) \$ 150 EICOC/UOC: Conducted an Early Operational Assessment of these prototypes
 - (U) \$ 456 EICOC/UOC: Continued investigation of COTS/GOTS hardware and software for COC component systems and subsystems; drafted COC systems; drafted COC subsystems segment specifications.
 - (U) \$ 1,484 AFATDS: Began and completed development and interoperability efforts on AFATDS 98 Software. Migrated to the Defense Information Infrastructure Common Operating Environment (DII COE). Added additional fire support functionality to support Marine Corps fire support systems. Identified a smaller computer for AFATDS.
 - (U) \$ 790 TCAC PIP: Developed M65 Multi-land Family and integrated CA & TN tools. Integrated with Joint Signet Systems, complete the Signet analysis toolkit , matches integration.
- (U)Total \$ 7,328

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2270

(U) FY 2000 Planned Program:

- (U) \$ 760 TCO: Begin incorporating Phase V ORD requirements , complete Phase IV ORD requirements and integrate software changes into existing system.
- (U) \$ 302 TCO: Forward finances effort to incorporate Phase V ORD requirements, complete PHASE IV ORD requirements and integrate software changes into existing system.
- (U) \$ 129 TCO: Program Management Support.
- (U) \$ 194 TCO: Conduct OT&E on previously integrated systems.
- (U) \$ 400 TCAC: Develop software to maintain compatibility with Signals Intelligence systems.
- (U) \$ 490 TCAC: Integrate signals intelligence correlator.
- (U) \$ 201 IAS MOD: Conduct system interoperability testing with Marine Corps and Joint systems to include: TCO,GCCS, ASAS, AFATDS, and other emerging systems as needed to ensure Marine Corps compatibility in the joint arena.
- (U) \$ 200 IAS MOD: Begin integration of ECP changes into manuals.
- (U) \$ 193 IAS MOD: Continue C2PC Intel software development.
- (U) \$ 156 IAS MOD: Forward finances effort to continue C2PC Intel software development
- (U) \$ 1618 MAGTF C4I BASELINE: Design, and build legacy system software release.
- (U) \$ 2357 MAGTF C4I BASELINE: Complete trade studies, market surveys and functional assessments on Combat Information C2 System Applications from Squad Leader to MARFOROPFAC.
- (U) \$ 1400 MAGTF C4I BASELINE: Design and build DII COE compliant prototype.
- (U) \$ 400 MAGTF C4I BASELINE: Conduct an Early Operational Assessment of the DII/COE compliant prototype.
- (U) \$ 277 MAGTF C4I BASELINE: Commence disciplined risk management, requirements tracking and system engineering and analysis efforts for the DII/COE compliant prototype.
- (U) \$ 1723 MAGTF C4I BASELINE: Forward finances disciplined risk management, requirements tracking and system engineering and analysis efforts for the DII/COE compliant prototype.
- (U) \$ 1739 AFATDS: Begin and complete development efforts on AFATDS 99 Software. Migrate to DII COE. Add additional fire support functionality to support Marine Corps fire support systems. Begin training of test beds users (designated Marine Units) for release of AFATDS 99 Software. Develop interoperability with MAGTF C4I system (IOW, DACT, TLDHS, and TCO).
- (U) \$ 521 AFATDS: Forward finances completion of development efforts on AFATDS 99 Software. Migrate to DII COE. Add additional fire support functionality to support Marine Corps fire support systems. Begin training of test beds users (designated Marine Units) for release of AFATDS 99 Software. Develop interoperability with MAGTF C4I system (IOW, DACT, TLDHS, and TCO).
- (U) \$ 4800 UOC: Develop three (3) mobile Combat Operations Centers (COC) at various echelons of command and two (2) fixed Command Center (CC) prototypes; complete trade studies, market surveys and functional assessments.

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 6 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
**0206313M Marine Corps Communications
Systems**

PROJECT
C2270

- (U) \$ 1076 UOC: Conduct Early Operational Assessments of the prototypes three (3) COC and two (2) CC prototypes.
- (U) \$ 1975 UOC: Continue research on COTS/GOTS hardware and software for COC component systems and subsystems.
- (U) \$ 1970 UOC: Commence disciplined risk management, requirements tracking and system engineering and analysis efforts for the prototypes three (3) COC and two (2) CC prototypes..
- (U) \$ 100 UOC: Program Management Support.
- (U)Total \$ 22,981

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2000
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2270
(U) FY 2001 Planned Program:		
• (U) \$	793	TCO: Complete Phase V ORD requirements.
• (U) \$	336	TCO: Integrate software changes into existing system and perform testing.
• (U) \$	0	TCO: Incorporate Phase V ORD requirements, complete PHASE IV ORD requirements and integrate software changes into existing system. This effort forward financed with FY00 funding in the amount of \$302K.
• (U) \$	140	IAS MOD: Continue research of hardware ECPs for MEF IAS, IAS suites, and IAS workstation.
• (U) \$	200	IAS MOD: Continue system interoperability testing.
• (U) \$	243	IAS MOD: Continue C2PC Intel software development.
• (U) \$	0	IAS MOD: Continue C2PC Intel software development. This effort forward financed with \$156K of FY00 funding.
• (U) \$	1360	MAGTF C4I BASELINE: Complete all trade studies, market surveys and functional assessments.
• (U) \$	2539	MAGTF C4I BASELINE: Continue designing and building DII COE compliant prototypes.
• (U) \$	1513	MAGTF C4I BASELINE: Conduct an Early Operational Assessment of a multi-echelon environment of all prototypes.
• (U) \$	1261	MAGTF C4I BASELINE: Continue disciplined risk management, requirements tracking and system engineering and analysis efforts.
• (U) \$	100	MAGTF C4I BASELINE: Program Management Support.
• (U) \$	0	MAGTF C4I BASELINE: Continue disciplined risk management, requirements tracking and system engineering and analysis efforts for the DII/COE compliant prototype. This effort forward financed with \$1,723 of FY00 funding.
• (U) \$	1949	AFATDS: Begin and complete development efforts on AFATDS 02 Software. Migrate to DII COE. Add additional fire support functionality to support Marine Corps fire support systems. Begin training of test beds users (designated Marine Units) for release of AFATDS 02 Software. Develop interoperability with MAGTF C4I system (IOW, DACT, TLDHS, and TCO) and Navy fire support control systems.
• (U) \$	0	AFATDS: Begin and complete development efforts on AFATDS 99 Software. Migrate to DII COE. Add additional fire support functionality to support Marine Corps fire support systems. Begin training of test beds users (designated Marine Units) for release of AFATDS 99 Software. Develop interoperability with MAGTF C4I system (IOW, DACT, TLDHS, and TCO). This effort forward financed with \$521K of FY00 funding.
• (U) \$	7773	UOC: Develop four (4) additional COCs at other command echelons previously not developed and one (1) CC prototype.
• (U) \$	1638	UOC: Conduct an Early Operational Assessment of the prototypes for the four (4) COC and one (1) CC prototype.
• (U) \$	1481	UOC: Continue research on COTS/GOTS hardware and software for COC component systems for the four (4) COC and one (1) CC prototype.
• (U) \$	1281	UOC: Continue disciplined risk management, requirements tracking and system engineering and analysis efforts for the DII/COE compliant prototype.
• (U) \$	100	UOC: Program Management Support.
(U)Total \$	22707	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2270

B. (U) <u>Project Change Summary</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) Previous President's Budget	10218	23109	23490
(U) Adjustments to Previous President's Budget	-2890	-128	-783
(U) Current Budget Submit	7328	22981	22707

(U) Change Summary Explanation:

(U) Funding: FY99 decrease in the amount of \$2,890K reflects a SBIR tax assessment (\$157K) , a minor inflation adjustment (\$58K) and reprioritization of funds (\$2675K). FY00 decrease reflects a minor inflation adjustment. FY01 decrease of (\$783K) is due to reprioritization of programs within the Marine Corps and a minor inflation adjustment.

(U) Schedule: TCO: Schedule change is contributed to contractor protest.

(U) Technical: N/A

C. (U) <u>Other Program Funding Summary</u> (APPN, BLI #, NOMEN)	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To</u>	<u>Total</u>
								<u>Compl</u>	<u>Cost</u>
(U) PMC BLI# 463100 TCO	2246	0	1270	14	56	97	138	0	11146
(U) PMC BLI# 474700 IAS	10063	0	0	0	0	0	0		19714
(U) PMC BLI# 463600 IDASC	3502	0	0	0	0	0	0	0	4410
(U) PMC BLI# 474900 IAS MOD	1655	1397	1430	1356	1369	1405	1423	CONT	CONT
(U) PMC BLI# 463100 AFATDS	10104	3052	2917	2306	0	474	2599	0	14901
(U) PMC BLI# 463100 UOC	0	0	0	17266	23304	48286	76296	CONT	CONT
(U) TCO (O&MMC)	339	1527	1516					CONT	CONT
(U) MEF IAS (O&MMC)	1467	1831	1718					CONT	CONT
(U) IDASC (O&MMC)	137	214	212					CONT	CONT
(U) AFATDS (O&MMC)	0	271	460					CONT	CONT
(U) TCAC (O&MMC)	1128	1277	1246					CONT	CONT

(U) Related RDT&E

(U) PE 0301301L (Department of Defense Intelligence and Information Systems/Military Intelligence Integrated Data System/Integrated Data Base I and II) (Defense Intelligence Agency).

(U) Navy Tactical Flag Communication and Control System.

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 9 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

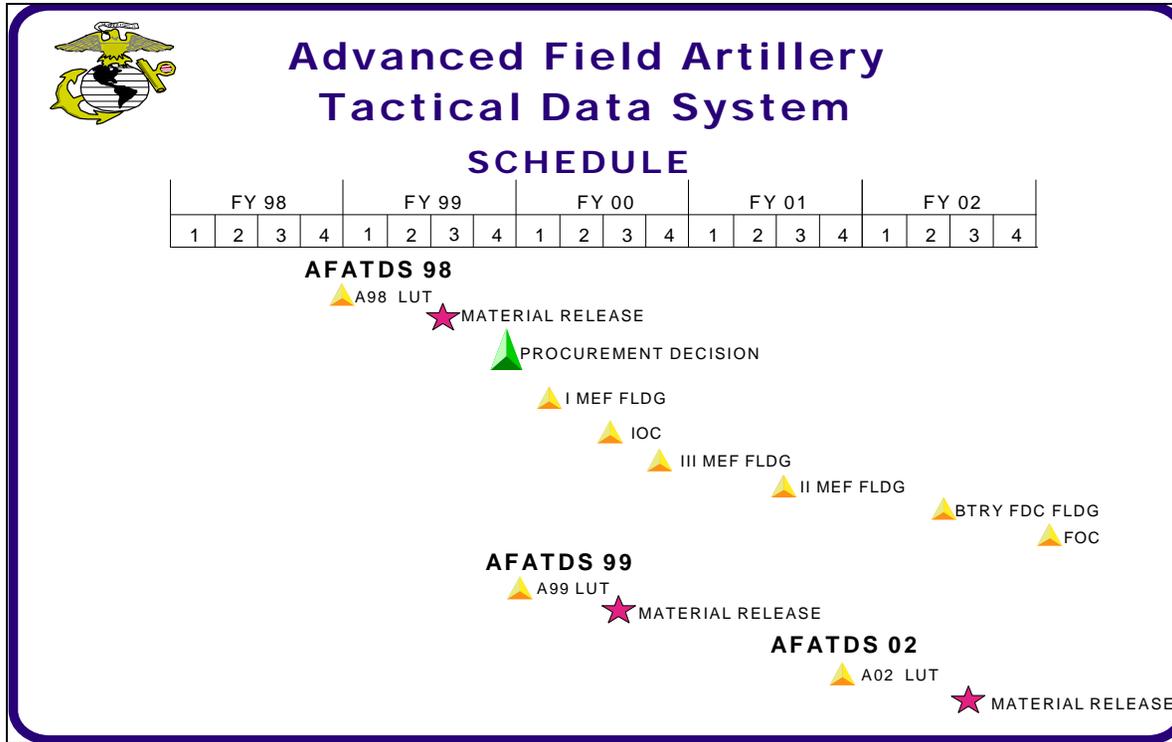
BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2270

D. (U) Schedule Profile

AFATDS Schedule:



R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 10 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

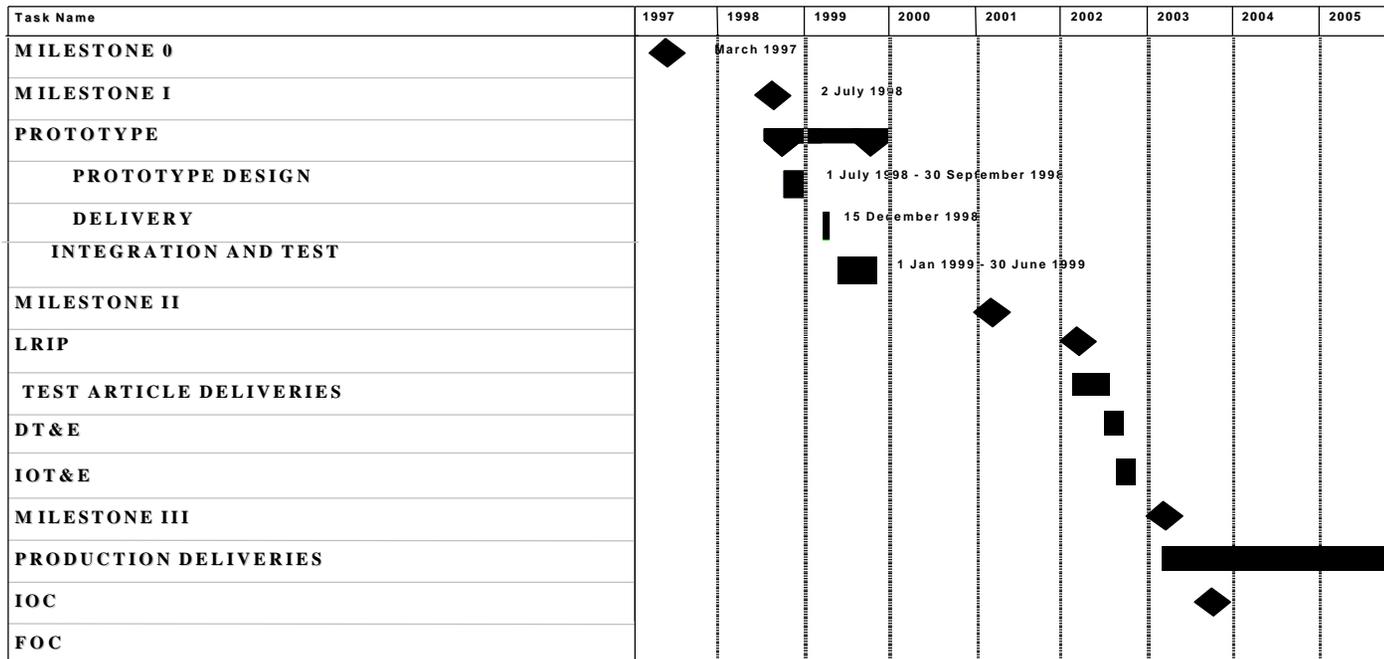
DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2270

UOC Program Schedule



R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 11 of 85)

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2270

A. (U) Project Cost Breakdown

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Primary HW/SW Development	6675	20781	18820
Test and Evaluation	286	1871	3545
Program Management Support	367	329	342
Total	7328	22981	22707

B. Budget Acquisition History and Planning Information

Performing Organizations

Contractor or Government	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1999	FY 1999	FY 2000	FY 2001	Budget to Complete	Total Program
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Product Development Organizations

EICOC/UOC:

SSC Charleston	WR	Aug 99			674	969	8745	10535	CONT	CONT
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TCO:

MCTSSA, Camp Pendleton, CA	RCP	Dec98	3559	3559	584	215	250	107	CONT	CONT
NWSC, Crane, IN	RCP	Oct 98				150	86	0	0	236
MCSC	RCP	Oct 98				75	0	0	0	75
SPAWAR Charleston, SC	WR	Oct 97			72	615	726	686	CONT	CONT

IAS:

MCTSSA, Camp Pendleton, CA	RCP	Dec 98	505	505		505	0	0	0	505
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IAS MOD:

NSWC, Crane, IN	C/RCP	Dec 98	871	871	481	50	200	140	0	871
SPAWAR Charleston, SC	C/RCP	Jan 99	1227	1227	0	171	349	243	464	1227

IDASC:

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 12 of 85)

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE
February 2000

BUDGET ACTIVITY	PE NUMBER AND TITLE								PROJECT	
7 - Operational System Development	0206313M Marine Corps Communications Systems								C2270	
NSWC, Crane, IN	WR	Oct 97	445	445	205	25	0	0	CONT	CONT
MCSC, Quantico, VA	WR	Jan 99	0	0	0	40	0	0	0	40
NATICK	WR	Jun 99	0	0	0	40	0	0	0	40
WR AFB	RCP	Apr 99	0	0	0	128	0	0	0	128
MCSC, Quantico, VA	RCP	Jul 99	0	0	0	116	0	0	0	116
MCTSSA Camp Pendleton, CA	WR	Oct 97	471	471	229	20	0	0	CONT	CONT
MAGTF C4I										
BASELINE:										
SSC, Charleston, SC	WR	Jan 99	4026	4026	352	1282	7275	5160	CONT	CONT
AFATDS:										
USA, Ft. Sill, OK	MIPR	Jan 97	1402	1402	1402	78	80	80	CONT	CONT
MCSC, Quantico, VA	Omnibus	Oct 98			100	137	590	590	CONT	CONT
USA, Ft Wayne, IN	CPFF/MIPR	Mar 00			0	0	1240	929	CONT	CONT
Travel (Various)	WR	Sep 99				31				
NAVELEX, SC	WR	Dec 98				200				
USA,CECOM Monmouth, NJ	CPFF/MIPR	Jan 99	2786	2786	0	1038	350	350	CONT	CONT
TCAC PIP:										
BTG, Fairfax, VA	RCP	Jan 99	2580	2580	0	790	890	0	CONT	CONT
Support and Management Organizations										
EICOC/UOC:										
Marcorsyscom	WR	Dec 00				25	100	100	CONT	CONT
TCO:										

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 13 of 85)

UNCLASSIFIED

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)									DATE February 2000	
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems				PROJECT C2270	
MCTSSA, Camp Pendleton, CA	RCP	Jan99	512	512	97	157	129	142	CONT	CONT
IAS										
Travel						21	0	0	0	21
IAS MOD:										
SPAWAR Charleston, SC	WR	Nov 98			0	164	0	0	0	164
MAGTF C4I										
Baseline:										
MARCORSYSCO M CTQ, Quantico, VA (Logicon, Stafford, VA)	FFP/CPFF	Jan 99			0	0	100	100	CONT	CONT
Test and Evaluation Organizations										
TCO:										
MCTSSA, Camp Pendleton, CA	RCP	Oct 97	537	537	80	65	194	194	CONT	CONT
IAS MOD:										
ARL, Adelphi, MD	C/MIPR	Jan 00			0	0	101	100	CONT	CONT
MCTSSA Camp Pendleton, CA	RCP	Jan 00			0	0	100	100	CONT	CONT
MAGTF C4I										
Baseline:										
MCOTEA	RCP	Nov 99			0	0	400	1513	CONT	CONT
EICOC/UOC:										
MCTSSA, Camp Pendleton, CA	WR	Oct 97	2581	2581	581	0	0	0	CONT	CONT
MCOTEA	RCP	Nov 99				0	1076	1638	CONT	CONT
CECOM	WR	Nov 98	0	0	0	1	0	0	CONT	CONT
CECOM	RCP	May 99	0	0	0	120	0	0	CONT	CONT
CECOM	RCP	Mar 99	0	0	0	100	0	0	CONT	CONT

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 14 of 85)

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	DATE February 2000
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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2270
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	Total Prior to <u>FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	Budget to <u>Complete</u>	Total <u>Program</u>
Subtotal Product Development	4099	6675	20781	18820	CONT	CONT
Subtotal Support and Management	209	286	1871	3545	CONT	CONT
Subtotal Test and Evaluation	661	367	329	342	CONT	CONT
Total Project	4969	7328	22981	22707	CONT	CONT

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 15 of 85)

UNCLASSIFIED

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2000
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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2271
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COST (In Millions)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
C2271 Maneuver C2 Systems	1654	981	1953	744	629	0	0	0	5961
Quantity of RDT&E Articles									

A. (U) Mission Description and Budget Item Justification:

(U) Maneuver C2 is the executive layer of decision support that retrieves and fuses information from the functional areas. It provides an integrated representation of the battlespace or a specific area of concern. The subprojects below develop systems which report unit status and location to the Tactical Combat Operations (TCO) and Advanced Tactical Air Command Central (ATACC). They also disseminate maneuver information throughout the battlespace.

1. The Joint Tactical Information Distribution System (JTIDS) provides unit location and status in near-real-time, primarily for aircraft, ships, and air defense systems.
2. The Data Automated Communications Terminal (DACT) will extend situational awareness to echelons below the battalion level within the Marine Corps. The DACT will receive, store, retrieve, create, modify, transmit, and display map overlays, operational messages/reports, and position information via tactical radios, networks, and/or wire lines. A phased approach for fielding the full functionality of the system will be used consisting of software upgrades and enhancements to allow interoperability with other C4I systems

PROGRAM ACCOMPLISHMENTS AND PLANS

(U) FY 1999 Accomplishments:

- (U) \$ 85 DACT: Developed Hardware vehicle mounted domain hardware.
 - (U) \$ 161 DACT: Developed Application Software – Phase I.
 - (U) \$ 80 DACT: System Integrated – vehicle mounted domain hardware and phase I software.
 - (U) \$ 275 DACT: Developed training package, program documentation, program plans, and operational concepts for vehicle mounted domain.
 - (U) \$ 75 DACT: Conducted operational assessment testing.
 - (U) \$ 204 DACT: Program Management Support.
 - (U) \$ 774 JTIDS: Completed the TADIL-J I/F to TAOM prototype.
- (U)Total \$ 1,654

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2271

(U) FY 2000 Planned Program:

- (U) \$ 111 DACT: Develop dismantled end-user hardware.
 - (U) \$ 160 DACT: Develop Application Software – Phase II.
 - (U) \$ 250 DACT: System Integration – dismantled end-user hardware and Phase II Software.
 - (U) \$ 115 DACT: Continue Program Management Support.
 - (U) \$ 100 DACT: Continue develop training package, program documentation, program plans, and operational concepts for dismantled end-user domain.
 - (U) \$ 245 DACT: Conduct Initial Operational Test and Evaluation (IOT&E).
- (U)Total \$ 981

(U) FY 2001 Planned Program:

- (U) \$ 175 DACT: Develop dismantled gateway hardware.
 - (U) \$ 320 DACT: Develop Application Software – Phase III.
 - (U) \$ 787 DACT: System Integration – dismantled gateway hardware and Phase III software.
 - (U) \$ 183 DACT: Continue to develop training package, documentation, program plans and operational concepts for gateway domain.
 - (U) \$ 290 DACT: Conduct Follow-on Operational Test and Evaluation (FOT&E).
 - (U) \$ 198 DACT: Continue Program Management Support.
- (U)Total \$ 1,953

B. (U) Project Change Summary

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) Previous President's Budget	2067	986	446
(U) Adjustments to Previous President's Budget	-413	-5	1507
(U) Current Budget Submit	1654	981	1953

(U) Change Summary Explanation:

- (U) Funding: FY99 Decrease in the amount of \$18K for SBIR tax assessment. Decrease of \$386K is due to reprioritization of programs within the Marine Corps. Decrease of \$9K for NavCompt adjustments. FY00 Decrease in the amount of \$5K for General Reductions. FY01 Increase in the amount of \$1,522K is due to reprioritization of programs with the Marine Corps and a decrease of \$13K is due to PBD 604 and a decrease of \$2K is due to NavCompt adjustments.
- (U) Schedule: N/A
- (U) Technical: N/A

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2271

C. (U) <u>Other Program Funding Summary</u> (APPN, BLI #, NOMEN)	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
(U) PMC, BLI #463200, DACT	1956	6789	0	9575	6556	0	0	0	24876
(U) PMC, BLI #463200, JTIDS	7510	0	0	0	0	0	0	0	7510

(U) Related RDT&E
None

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE February 2000

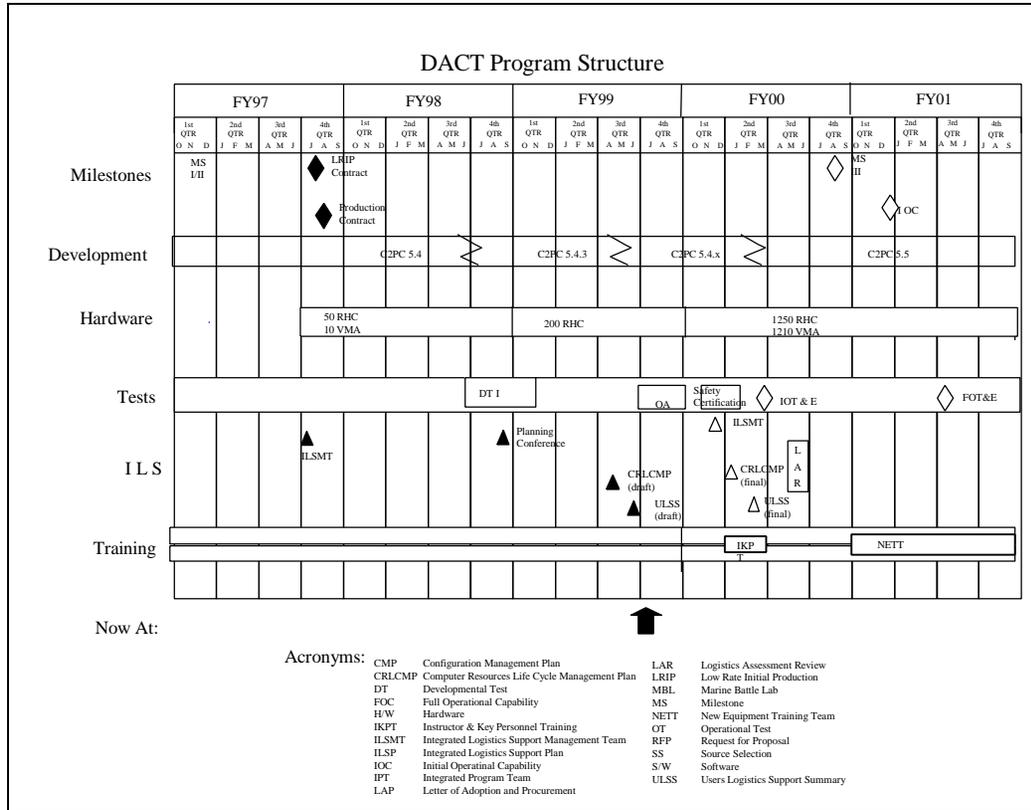
BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2271

D. (U) Schedule Profile

DACT Schedule:



UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems			PROJECT C2271			
A. (U) <u>Project Cost Breakdown</u>				<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>				
Production Development				1370	621	1465				
Support and Management				209	115	198				
Test and Evaluation				75	245	290				
Total				1654	981	1953				
B. <u>Budget Acquisition History and Planning Information</u>										
Performing Organizations										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1999	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	Budget to Complete	Total Program
Product Development Organizations										
JTIDS:										
NSWC	WR	Jun 99	0	0	0	483	0	0	0	483
Crane, IN										
MCSC	RCP	Jul 99	0	0	0	286	0	0	0	286
Quantico, VA										
DACT:										
Raytheon	TM	Jan 97			1,990	161	230	870	445	1706
EPS	FFP	Aug 97			0	80	116	175	245	616
INRI	TM	May 97			526	85	155	320	218	778
OSEC	GSA	Nov 98			0	275	120	100	220	715
Boeing		Jul 99			0	0	0	0	0	0
Support and Management Organizations										
JTIDS:										
2 nd MAW	WR	Aug 99	2	0	0	2	0	0	0	2

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 20 of 85)

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE
BUDGET ACTIVITY										February 2000
7 - Operational System Development					PE NUMBER AND TITLE					PROJECT
					0206313M Marine Corps Communications Systems					C2271
3 rd MAW	WR	Mar 99	3	3	0	3	0	0	0	3
San Diego, CA										
DACT:										
MCTSSA	WR	Oct 99			1,234	25	25	0	0	50
MCCDC	WR	Oct 00			43	18	0	15	20	53
Logicon	FFP				145	66	90	120	140	416
OSEC	GSA				70	95	0	63	100	258
Test and Evaluation Organizations										
MCOTEA	WR	Jan 99	120	120	0	75	25	20	0	120
FMF	WR	Jul 99	599	599	0	0	220	270	0	599
Government Furnished Property										
Contract										
Item	Method/Type	Award or			Total					Total
<u>Description</u>	<u>Vehicle</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Prior to</u>				<u>Budget to</u>	<u>Program</u>
		<u>Date</u>	<u>Date</u>		<u>FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	
Product Development Property N/A										
Support and Management Property N/A										
Test and Evaluation Property N/A										
					Total				Budget to	Total
					<u>Prior to</u>				<u>Complete</u>	<u>Program</u>
					<u>FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>		
Subtotal Product Development					2516	1370	621	1465	1128	7100
Subtotal Support and Management					1492	209	115	198	260	2274
Subtotal Test and Evaluation					0	75	245	290	0	610
Total Project					4008	1654	981	1953	1388	9984

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 21 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2000
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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2272
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COST <i>(In Millions)</i>	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
C2272 Intelligence C2 Systems	3951	13763	8634	9861	10124	7174	7338	Continuing	Continuing
Quantity of RDT&E Articles									

A. (U) Mission Description and Budget Item Justification:

(U) Intelligence Command and Control (C2) supports the employment of reconnaissance, surveillance, and target acquisition resources and the timely planning and processing of all-source intelligence. It ensures that all-source tactical intelligence is tailored to meet specific mission requirements. The systems below collect raw intelligence data on the battlefield, convert raw intelligence data into processed information and deliver the processed products to the Intelligence Analysis Systems (IAS) for analysis.

1. The MANPACK Secondary Imagery Distribution System (SIDS) is used to distribute processed imagery throughout the Marine Corps Communications Systems.
2. Tactical Exploitation of National Capabilities (TENCAP) is a program designed to enhance the ability of tactical Marine Corps forces to exploit the capabilities of national intelligence-gathering systems. Congressionally directed, it requires close liaison with the intelligence community and involves complex and highly-sensitive activities.
3. The Topographic Production Capability (TPC) is an advanced Geographic Information System, which employs commercial computer and software to provide the framework data for the common battlefield visualization by producing both hardcopy and digital geographic intelligence.
4. The Joint Surveillance Target Attack Radar (JSTARS) connectivity program will develop software which will allow the JSTARS Moving Target Indicator (MTI), Fixed Target Indication (FTI) and Synthetic Aperture Radar (SAR) Data to be passed from the JSTARS Common Ground Station (CGS) to lower echelons within the MAGTF. Once the Connectivity Software has been developed, a requirement for a JSTARS CGS software upgrade is anticipated under Joint Program Office Pre-Planned Product Improvement (P3I) initiative.
5. The Coastal Battlefield Reconnaissance and Analysis (COBRA) system is a passive multispectral sensor system capable of operating in a PIONEER unmaned aerial vehicle (UAV). Imagery recorded on the UAV or disseminated via data link is analyzed by the COBRA ground station. Ground station algorithm processing provides near real-time automatic minefield detection with Differential Global Positioning System (DGPS) location accuracy.
6. The TEG is a highly mobile imagery ground station designed to process tactical imagery in support of the MAGTF commander. The system is an integral component of the Joint Service Imagery Processing System (JSIPS), complementing the capabilities of the JSIPS National Input Segment (NIS) located at Camp Pendleton. The system will provide the capability to receive, process, store, exploit, and disseminate Advanced Tactical Air Reconnaissance System (ATARS) electro-optical, infrared, and synthetic aperture radar imagery from the F/A-18D (RC) and receive national secondary imagery from the NIS.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2000

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
**0206313M Marine Corps Communications
Systems**

PROJECT
C2272

7. The Counterintelligence (CI) and Human Intelligence (HUMINT) Equipment Program (CIHEP) is an intelligence collection, analysis and reporting suite of equipment, employing commercial-off-the-shelf (COTS) and non-developmental items (NDI) of equipment and software. It will produce digital soft copy as well as hard copy CI, Interrogator-Translator (IT) and HUMINT information reports and images for the Marine Air Ground Task Force (MAGTF) or Joint Force (JTF) Commander. CIHEP will allow for the electronic storage and dissemination of HUMINT information throughout the command, as well as for low volume traditional hard copy dissemination.

PROGRAM ACCOMPLISHMENTS AND PLANS:

(U) FY 1999 Accomplishments:

- (U) \$ 188 MANPACK SIDS: Completed software upgrade to maintain NITFS standards and improve compression algorithms.
 - (U) \$ 1859 TENCAP: Conducted advance technology demonstrations and integration into the established MAGTF C4I architecture.
 - (U) \$ 300 TENCAP: Conducted technical assessments of emerging national data dissemination capabilities.
 - (U) \$ 461 TENCAP: Continued to support operational planning to enhance operating force capabilities to US national intelligence data within the MAGTF C4I architecture.
 - (U) \$ 437 TENCAP: Evaluated the utility of emerging exploitation, automated and manual target recognition and detection tools.
 - (U) \$ 100 TENCAP: Continued TENCAP training and education efforts by providing the Fleet Marine Force with various TENCAP simulation, scripting, and processing hardware and software support.
 - (U) \$ 207 JSTARS: Continued analysis, test and exercises with the JSTARS CGS and JSTARS connectivity prototype(s).
 - (U) \$ 200 JSTARS: Continued to develop connectivity software.
 - (U) \$ 199 CIHEP: Developed ADP, Imagery, Audio and Technical Surveillance capabilities.
- (U)Total \$ 3,951

(U) FY 2000 Planned Program:

- (U) \$ 332 TPC: Initiate test and evaluations.
- (U) \$ 745 TPC: Initiate engineering, manufacturing and development.
- (U) \$ 2300 TPC: Operational systems development.
- (U) \$ 238 TPC: In-house program management.
- (U) \$ 1947 TENCAP: Continue advance technology demonstrations and integration into the established MAGTF C4I architecture.
- (U) \$ 384 TENCAP: Continue technical assessments of emerging national data dissemination capabilities.
- (U) \$ 470 TENCAP: Continue to support operational planning to enhance operating force capabilities to US national intelligence data within the MAGTF C4I architecture.
- (U) \$ 445 TENCAP: Continue to evaluate the utility of emerging exploitation, automated and manual target recognition and detection tools.

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 23 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2272
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- (U) \$ 125 TENCAP: Continue TENCAP training and education efforts by providing the Fleet Marine Force with various TENCAP simulation, scripting, and processing hardware and software support.
- (U) \$ 1000 JSTARS: Continue to develop connectivity software.
- (U) \$ 254 JSTARS: Engineering and technical management support for connectivity software.
- (U) \$ 1000 JSTARS: Purchase Surveillance Control Data Link (SCDL) for III MEF Field User Evaluation.
- (U) \$ 148 COBRA: MarCorSysCom program support activities.
- (U) \$ 350 COBRA: Coastal Systems Station program engineering support.
- (U) \$ 3030 COBRA: ATD risk reduction verification
- (U) \$ 995 JSIPS TEG: Develop Full Operational Capability; implement factory system for integration of required software/hardware upgrades.
- (U)Total \$ 13,763

(U) FY 2001 Planned Program:

- (U) \$ 147 TPC: Contractor support for Mods.
- (U) \$ 192 TPC: Perform mods from OT&E
- (U) \$ 1978 TENCAP: Continue advance technology demonstrations and integration into the established MAGTF C4I architecture.
- (U) \$ 387 TENCAP: Continue technical assessments of emerging national data dissemination capabilities.
- (U) \$ 475 TENCAP: Continue to support operational planning to enhance operating force capabilities to US national intelligence data within the MAGTF C4I architecture.
- (U) \$ 450 TENCAP: Continue to evaluate the utility of emerging exploitation, automated and manual target recognition and detection tools,
- (U) \$ 126 TENCAP: Continue TENCAP training and education efforts by providing the Fleet Marine Force with various TENCAP simulation, scripting, and processing hardware and software support.
- (U) \$ 140 COBRA: MarCorSysCom program support activities.
- (U) \$ 350 COBRA: Coastal systems station program engineering support.
- (U) \$ 2537 COBRA: Continue ATD risk reduction verification. E&MD design.
- (U) \$ 390 JSTARS: Continue engineering and technical support for development and integration of connectivity software into joint CGS software baseline.
- (U) \$ 1462 JSIPS TEG: Continue to develop Full Operational Capability; implement factory system for integration of required software/hardware upgrades.
- (U)Total \$ 8,634

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2000

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2272

B. (U) Project Change Summary

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) Previous President's Budget	4348	12839	7831
(U) Adjustments to Previous President's Budget	-397	924	803
(U) Current Budget Submit	3951	13763	8634

(U) Change Summary Explanation:

(U) Funding: The FY 1999 decrease is due to SBIR Assessment and other minor program changes. The FY 2000 and 2001 increases are due to program reprioritization within the Marine Corps, NWCF rates adjustment, and other minor program changes.

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) Other Program Funding Summary
(APPN, BLI #, NOMEN)

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To</u>	<u>Total</u>
								<u>Compl</u>	<u>Cost</u>
PMC BLI 474700 Intell Support Equip TPC	0	0	7162	6635	3931	1589	575	Cont	Cont
PMC BLI #474900 JSTARS	883	975	0	958	0	961	0	Cont	Cont
PMC BLI #474700 Intell Support Equip COBRA	0	0	0	0	0	4316	8672	Cont	Cont
PMC BLI #474700 JSIPS	0	973	959	2880	2870	2877	0	0	10559
O&M JSIPS/TEG and National	0	5911	6018	0	0	0	0	0	11929
TPC	0	0	14	0	0	0	0	0	14
JSTARS	0	547	864	0	0	0	0	0	1411

(U) Related RDT&E

(U) PE 0301301L (Department of Defense Intelligence and Information Systems/Military Intelligence Integrated Data System/Integrated Data Base I and II) (DefenseIntelligence Agency)

(U) PE 0604270A (Intelligence and Electronic Warfare Common Sensor (IEWCS), TACJAM-A)

(U) PE 0305885G (Tactical Cryptologic Program)

(U) PE 0603730A (Tactical Surveillance System - Advanced Development), Army TENCAP, Project D560

(U) PE 0603766A (Tactical Electronic Surveillance System - Advance Development), Army TENCAP, Project D907

(U) PE 0604740A (Tactical Surveillance System - Engineering Development), OSD TENCAP, Project D662

(U) PE 0902398M (United States Special Operations Command), Chariot Program

(U) PE 0605867N (SEW Surveillance/Reconnaissance Support), Project Z1034

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 25 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2272

D. (U) Schedule Profile:

*Topographic Production Capability
Milestone Schedule*

Fiscal Year	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	Total			
Milestones		I/II	III	IOC	FOC											
CE	[Bar from FY99 to FY00]															
EMD Award		[Diamond at start of FY00]														
EMD		[Bar from FY00 to FY01]														
FUE			[Bar from FY01 to FY02]													
Prod Award			[Diamond at start of FY02]													
Production			[Bar from FY02 to FY04]													
IOT&E				[Bar from FY02 to FY04]												

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2272

COASTAL BATTLEFIELD RECONNAISSANCE AND ANALYSIS (COBRA) MILESTONE SCHEDULE

ID	Task Name	00				01				02				03				04				05				06		0						
		4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2		
1	MILESTONES								MS II																									
8	CONTRACTS								AWARD																									
18	DEVELOPMENT																																	
40	TESTING																																	

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 27 of 85)

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2272

A. (U) Project Cost Breakdown	FY 1999	FY 2000	FY 2001	
a. Program Development Support	3202	12100	7204	
b. Support and Management	561	1331	1238	
c. Test and Evaluation	188	332	192	
 Total	 3951	 13763	 8634	

B. Budget Acquisition History and Planning Information

Performing Organizations

Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1999	FY 1999	FY 2000	FY 2001	Budget to Complete	Total Program
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Product Development Organizations

TENCAP:										
Delfin	Various	Oct 97			4427	2596	2776	2815	CONT	CONT
JSTARS:										
TBD	MIPR	Feb 00	2254	2254			2254		0	2254
JSTARS:										
TBD	MIPR	Mar 01	390	390				390	0	390
JSTARS:										
CECOM, Ft. Mammoth, NJ	MIPR	Mar 99	407	407		407			0	407
COBRA:										
ERIM INT	RCP	Feb 00					3030	1800	CONT	CONT
TBD	RCP	Feb 00						737	CONT	CONT
TPC:										
MCSC, GSA	RCP	Mar 00	3045	3045			3045		0	3045
JSIPS TEG										
TBD	TBD	TBD					995	1462	CONT	CONT

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 28 of 85)

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE **February 2000**

BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2272
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CIHEP:									
NSWC,CRANE,In	MIPR	SEP 99	18	18		18		0	18
IMA, FtMeade,Md	MIPR	SEP 99	51	51		51		0	51
Action Sys,NM	RCP	SEP 99	81	81		81		0	81
McBride, NM	RCP	SEP 99	19	19		19		0	19
B.E. Meyers,WA	RCP	SEP 99	30	30		30		0	30
Support and Management Organizations									
TENCAP:									
Delfin	Various	Oct 97			1053	561	595	601	CONT CONT
COBRA:									
CSS	WR	Mar 00					350	350	CONT CONT
BRTRC	RCP	Mar 00					148	140	CONT CONT
TPC:									
Logicon	RCP	Mar 00					238	147	CONT CONT
Test and Evaluation Organizations									
SIDS:									
NAWC, PT Mugu	WR	Dec 96	237	237	49	188		0	249
TPC:									
TBD	WR	Mar 00					332	192	CONT CONT
Total									
Prior to									
					<u>FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	Budget to
									Complete
									Total
Subtotal Product Development					4427	3202	12100	7204	CONT CONT
Subtotal Support and Management					1053	561	1331	1238	CONT CONT
Subtotal Test and Evaluation					49	188	332	192	CONT CONT
Total Project					5529	3951	13763	8634	CONT CONT

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 29 of 85)

UNCLASSIFIED

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2000
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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2273
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COST (In Millions)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
C2273 Air Operations C2 Systems	5985	16324	24780	17889	8519	6690	4045	Continuing	Continuing
Quantity of RDT&E Articles									

A. (U) Mission Description and Budget Item Justification:

(U) Air Operations C2 coordinates and plans Navy and Marine air combat operations and interfaces with joint and combined forces air operations. It also interfaces with fire support C2. The systems in this project are used to detect aircraft and missiles, process the detected information, deliver the processed information to the Advanced Tactical Air Command Central (ATACC), and conduct the air battle.

1. The Tactical Air Operations Module (TAOM) improves the current system; the TAOM is the center for directing aircraft and anti-air systems in real time as part of the joint air battle.
2. The Air Defense Communications Platform (ADCP) provides an interface between the AN/TPS-59 (V)3 radar and for tactical ballistic missile defense as a JTIDS network user, the ADCP provides a direct interface between the AN/TPS-59 (v)3 and the joint services.
3. The Aviation radar (AV RDR) system is a "congressional mandated" national asset. It is the only fielded ground based sensor which can detect and track Theater Ballistic Missiles at ranges of 400 nautical miles, for 360 degrees up to one million feet in elevation.
4. Theater Battle Management Core Systems (TBMCS) provides the commander the automated tools necessary to generate, disseminate and execute the Air Tasking Order (ATO), as mandated by the Chairman, Joint Chiefs of Staff in July 1993. It is an evolutionary acquisition, allowing for the rapid development/fielding of hardware and software to meet today's rapidly advancing technology. It is fielded to all four Marine Tactical Air Command Squadrons (MTACS) and the supporting establishment with Marine Aviation Weapons and Tactics School (MAWTS) and the Battlestaff Training Facility (BSTF) sharing a system. Beginning FY00, CTAPS is migrating to the Theater Battle Management Core Systems (TBMCS) program within the USAF, and will change names from CTAPS to TBMCS.
5. The Common Aviation Command and Control System (CAC2S) will provide a common baseline of equipment, computer hardware, and software required to perform the mission of the Marine Air Command and Control System (MACCS). CAC2S will provide a complete and coordinated modernization effort for the equipment of the Marine Air Command and Control System (MACCS) to support its employment in an Operational Maneuver From The Sea (OMFTS) environment. The CAC2S will eliminate the current dissimilar aviation Command & Control systems, and will add the capability for aviation combat direction and air defense functions. CAC2S will be comprised of standardized tactical facilities, hardware, software and will significantly reduce the physical size and logistical footprint of existing MACCS equipment suite. Utilizing common hardware, the CAC2S will be an open architecture system that will migrate to the DII COE. Furthermore, CAC2S will execute real time functions of controlling aircraft and missiles, and employing weapons systems against time critical targets. CAC2S will provide a capability that allows operators to integrate Marine aviation into joint and combined air/ground operations. CAC2S will provide the tools that perform

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2000

BUDGET ACTIVITY

7 - Operational System Development

PE NUMBER AND TITLE

0206313M Marine Corps Communications
Systems

PROJECT

C2273

aviation C2 planning and execution functions in a positive control environment. CAC2S will assimilate the missions and fiscal resources of the Tactical Air Operations Center (TAOM), Tactical Air Command Center and the Direct Air Support Center (DASC) and the Air Defense Communications Platform (ADCP).

PROGRAM ACCOMPLISHMENTS AND PLANS:**(U) FY 1999 Accomplishments:**

- (U) \$ 443 ADCP: Continued software enhancements concentrating on testing for JTIDS joint certification and a complete VMF development/meshnet upgrades.
- (U) \$ 345 TAOM: Continued closed system (AYK-14) to open system migration.
- (U) \$ 423 TAOM: Continued TMD implementation into the TAOC.
- (U) \$ 186 TAOM: Program support, which consisted of contractor support to provide documentation, hardware/software engineering, and logistics analysis to the program office; support of operational testing, IPR, and contract management.
- (U) \$ 720 AV RDR: Program contractor support.
- (U) \$ 401 AV RDR: Identified false alarm issues by investigation, analysis and test measurement to recommend options to improve radar performance.
- (U) \$ 279 AV RDR: Integrated the AN/TPS-59V(3) into Cooperative Engagement Capability (CEC) network.
- (U) \$ 262 AV RDR: AN/TPS-59 Multichannel Coherent Data Collection System .
- (U) \$ 122 CTAPS: Initiated USMC'S management of Theater Battle Management Core System (TBMCS) 1.0 development
- (U) \$ 650 CAC2S: Program Management Support.
- (U) \$ 1394 CAC2S: Initiated the migration of existing equipment to a Technology Demonstration Laboratory (TDL) as a CAC2S proof on concept for a common suite of equipment; conduct user assessment of TDL for insertion into performance Specification for the EMD phase.
- (U) \$ 760 CAC2S: Conducted exercises and user assessments with laboratory equipment to determine optimum equipment mix and organization.
- (U)Total \$ 5,985

(U) FY 2000 Planned Program:

- (U) \$ 200 ADCP: Complete VMF development/meshnet upgrades.
- (U) \$ 80 ADCP: Continue software modifications.
- (U) \$ 6100 AV RDR: Initiate Safety ECP's developing a replacement IFF Interrogator, maintenance lift, False Alarm Adaptation (FAA) software, and development of software in support of two separate ORDs.
- (U) \$ 750 AV RDR: Forward finances efforts to initiate safety ECP's developing a replacement IFF Interrogator, maintenance lift, False Alarm Adaptation (FAA) software, and development of software in support of two separate ORDs.
- (U) \$ 300 AV RDR: Program in Process Review (IPR), and contract management.

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 31 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2273

- (U) \$ 569 AV RDR: Perform studies and analysis to determine the best approach for upgrading the 59 radar Electronic Protection capability to comply with phase II of the ORD.
 - (U) \$ 319 TBMCS: Continue USMC's TBMCS development.
 - (U) \$ 25 TBMCS: Continue MCTSSA TBMCS software support.
 - (U) \$ 280 TBMCS: Program support to provide documentation, and support of TBMCS development and testing.
 - (U) \$ 740 CAC2S: Continue program management support.
 - (U) \$ 2242 CAC2S: Continue the migration of existing equipment to a Technology Demonstration Laboratory (TDL) as a CAC2S proof of concept for a common suite of equipment; conduct user assessment of TDL for insertion into Performance Specification for the EMD phase. Complete/Conduct initial sensor interface/integration and interoperability testing.
 - (U) \$ 2120 CAC2S: Initiate Phase II system engineering, software design and development, and Processing and Display Suite (PDS) efforts for Version I – Engineering Development Model (EDM).
 - (U) \$ 985 CAC2S: Conduct initial sensor interface/integration and interoperability analysis for Version I – Engineering Development Model (EDM). I.e, integration of Engineering Development Model (EDM) hardware with existing assets and development of shelter configurations.
 - (U) \$ 924 CAC2S: Initiate Version I – Engineering Development Model (EDM) Software development, design, of host processing system, and conduct software integration of Joint mandated applications.
 - (U) \$ 690 CAC2S: Initiate integration of Version I – Engineering Development Model (EDM) hardware with existing assets (to include Communications interface development) and development of shelter configurations.
- (U)Total \$ 16,324

(U) FY 2001 Planned Program:

- (U) \$ 230 ADCP: Continued software enhancements to meet ADCP ORD requirements.
- (U) \$ 0 AV RDR: Initiate safety ECP's developing a replacement IFF Interrogator, maintenance lift, False Alarm Adaptation (FAA) software, and development of software in support of two separate ORDs. This effort forward financed with \$750K of FY00 funding.
- (U) \$ 8557 AV RDR: Antenna obsolescence ECPs to deal with diminishing manufacturing sources issue.
- (U) \$ 500 AV RDR: Counter arm missile defense capability to meet current threats.
- (U) \$ 800 AV RDR: Develop ECP to incorporate IFF antenna into main radar antenna.
- (U) \$ 300 AV RDR: Program in Process Review and contract management.
- (U) \$ 304 TBMCS: Continue USMC's TBMCS development.
- (U) \$ 100 TBMCS: Continue MCTSSA TBMCS software support.
- (U) \$ 230 TBMCS: Program management support.
- (U) \$ 992 CAC2S: Program management support.

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2000
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2273
<ul style="list-style-type: none"> • (U) \$ 1285 CAC2S: Independent Validation & Verification (SPAWAR Systems Center Charleston) of Phase II Contractor's Systems Design, Version I – Engineering Development Model (EDM) Developmental Testing, and Software Configuration Management. • (U) \$ 4924 CAC2S: Continue Phase II system engineering, software design and development, and Processing and Display Suite (PDS) efforts for Version I – Engineering Development Model (EDM). • (U) \$ 2312 CAC2S: Continue and complete initial sensor interface/integration and begin interoperability testing for Version I – Engineering Development Model (EDM). • (U) \$ 2092 CAC2S: Continue Version I – Engineering Development Model (EDM) Software development, design, of host processing system, and conduct software integration of Joint mandated applications. • (U) \$ 1652 CAC2S: Continue integration of Version I – Engineering Development Model (EDM) hardware with existing assets (to include Communications interface development) and development of shelter configurations. • (U) \$ 502 CAC2S: Begin Version I – Engineering Development Model (EDM) Developmental Testing and Evaluation. Begin development of Version II-EDM following the completion of Version I Developmental Testing and Baseline Stabilization. <p>(U)Total \$ 24,780</p>		
B. (U) Project Change Summary		
	<u>FY 1999</u>	<u>FY 2000</u>
(U) Previous President's Budget	6289	16415
(U) Adjustments to Previous President's Budget	-304	-91
(U) Current Budget Submit	5985	16324
 (U) Change Summary Explanation:		
(U) Funding: FY99: Decrease in the amount \$67K is due to SBIR taxes and a decrease in the amount of \$208K is due to reprioritization within the Marine Corps. Decrease of \$29K due to NavCompt adjustments. FY00: Decrease in the amount of \$91K due to General Reductions. FY01: Decrease in the amount of \$758K is due to reprioritization of programs within the Marine Corps; decrease of \$55K to NavCompt adjustments; decrease of \$169K is the result of PBD 604; increase of \$13K is the result of PBD 411; and increase of \$2K is due to NWCF rate adjustments..		
(U) Schedule: N/A		
(U) Technical: N/A		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2273

C. (U) Other Program Funding Summary (APPN, BLI #, NOMEN)	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
(U) PMC, BLI#464000, TAOM	6,300	0	0	0	0	0	0	0	6,300
(U) PMC, BLI#464000, TBMCS	1,462	4,123	3152	3370	2468	6656	3532	CONT	CONT
(U) PMC, BLI#463700, ADCP	2,096	0	0	0	0	0	0	0	2,096
(U) PMC, BLI#462000, ADCP PIP	0	263	279	146	73	60	0	0	801
(U) PMC, BLI#463600, AN/TPS-59 ECPS	7,687	1,306	1,078	3,789	17493	17,721	10,587	0	59661
(U) PMC, BLI #463600, AN/TPS-59	0	1,059	0	0	0	0	0	0	1,059
(U) PMC, BLI #464000, Air Ops Systems CAC2S	0	0	0	0	19,420	43,323	45,320	CONT	CONT
(U) O&M, ADCP	54	154	42	0	0	0	0	0	0
(U) O&M, CAC2S	1767	1762	1675	0	0	0	0	0	0
(U) O&M, CTAPS	1179	390	1148	0	0	0	0	0	566

(U) Related RDT&E
PE 0603216C (Ballistic Missile Defense Organization, Theater Missile Defense)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE February 2000

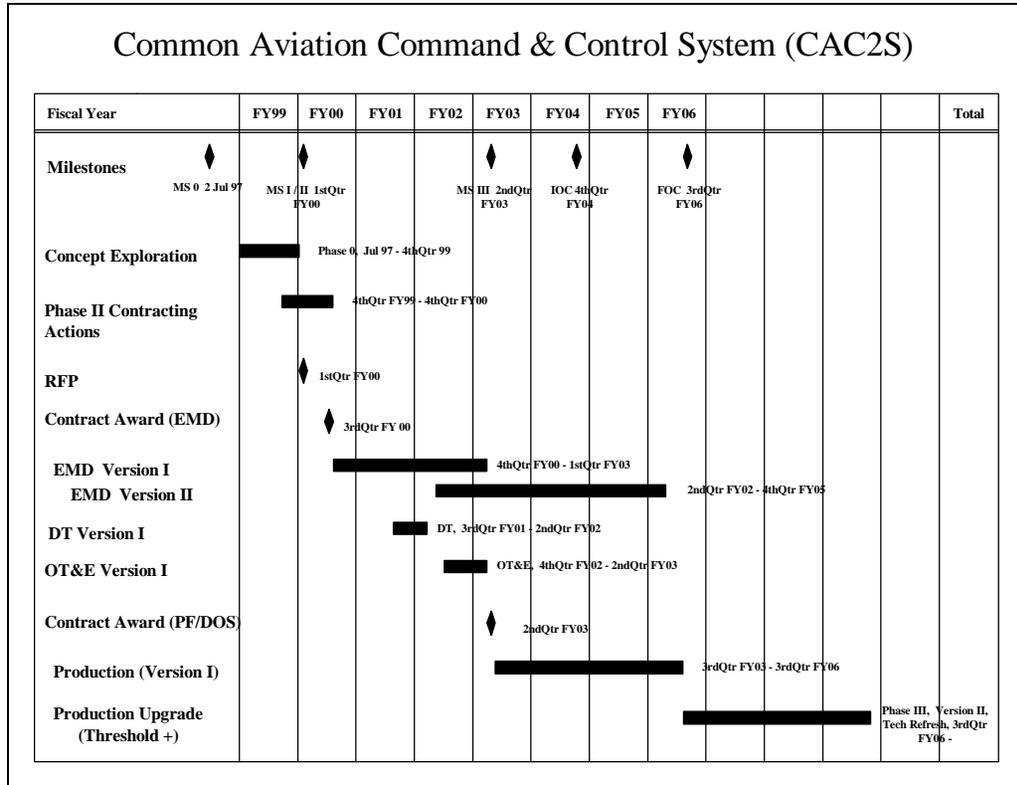
BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2273

D. (U) CAC2S Milestone Schedule Profile

CAC2S Schedule:



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2000

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
**0206313M Marine Corps Communications
Systems**

PROJECT
C2273

TPS-59 RADAR SCHEDULE:

(V)3 Fielding Schedule: 3rd Qtr 98 thru 3rd Qtr 99
IOC: Sep 98
FOC: Aug 99

CEC Integration: 1st Qtr 99 thru 4th Qtr 00
Develop: 1st Qtr 99 thru 3rd Qtr 00
IV&V: 3rd Qtr 99 thru 4th Qtr 00

Antenna Obsolescences ECP's: 1st Qtr 99 thru 3rd Qtr 04
Procure (Various): 1st Qtr 99 thru 4th Qtr 03
IOC: 2nd Qtr 01
FOC: 3rd Qtr 04

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 36 of 85)

UNCLASSIFIED

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems				PROJECT C2273	
A. (U) Project Cost Breakdown					<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
Software Development					441	262	5830			
System Migration					1635	0	0			
System Development					2435	9823	10048			
Program Support					1352	1773	1358			
Management Development					122	0	0			
Software Support					0	24	100			
Processing/Display Suite					0	2120	2267			
System Integration					0	1632	3477			
Communication Package					0	690	1700			
Total					5985	16324	24780			
B. Budget Acquisition History and Planning Information										
Performing Organizations										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1999	FY 1999	FY 2000	FY 2001	Budget to Complete	Total Program
Product Development Organizations										
CAC2S:										
Center Charleston, SC	WR	Apr 99	6918	6918	0	2500	2242	1196	980	6918
TBD	RCP	May00	31776	31776	0	0	4719	10979	16078	31776
ADCP:										
NSWC Crane, IN	WR	May 99			100	345	150	120	CONT	CONT
TAOM:										
MCSC Quantico, VA	RCP	Mar 99	1336	1336	1016	320	0	0	0	1336
					R-1 Line Item 175					
						Budget Item Justification				

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 2000
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems					PROJECT C2273
MCSC	RCP	Apr 99	31	31	0	31	0	0	0	31
Quantico, VA										
MCSC	RCP	Apr 99	421	421	0	421	0	0	0	421
Quantico, VA										
AV RADAR:										
Lockheed	FFP	Oct 96			2956	893	6806	9377	CONT	CONT
Martin, Syracuse NY										
Sensis Corp.	C/CPFF	Nov 98			0	279	176	200	CONT	CONT
Syracuse, NY										
MCSC	RCP	Sep 99	262	262	0	262	0	0	0	262
Quantico, VA										
TBMCS:										
MARCORSYSCOM	WR	May 99	90	90	0	90	0	0	0	90
ESC	MIPR	Feb 99			0	5	319	308	CONT	CONT
Hanscom AFB, MA										
Support and Management Organizations										
CAC2S:										
MARCORSYSCOM	WR	Mar 99	818	818	0	28	90	100	600	818
Logicon	IDIQ	Oct 98			0	0	600	832	CONT.	CONT.
MCTSSA, Camp	WR	Apr 99	310	310	0	20	30	40	220	310
Pendleton, CA										
MCLB Albany GA	WR	Mar 99	196	196	0	6	20	20	150	196
3 rd MAW	WR	Apr 99	8	8	0	8	0	0	0	8
San Diego, CA										
SPAWAR	WR	Nov 98	100	100	0	100	0	0	0	100
Charleston, SC										
CG 1 st MAW	WR	Feb 99	9	9	0	9	0	0	0	9
2 nd MAW	WR	Nov 98	1	1	0	1	0	0	0	1
Cherry Pt, NC										
MarForRes	WR	Dec 98	1	1	0	1	0	0	0	1
New Orleans, LA										

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 38 of 85)

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 2000
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems					PROJECT C2273
MCSC	RCP	May 99	124	124	0	124	0	0	0	124
Quantico, VA										
MCAS	WR	Mar 99	7	7	0	7	0	0	0	7
Yuma, AZ										
ADCP:										
MCAGCC	WR	May 99	2	2	0	2	0	0	0	2
29 Palms, CA										
MCLB	WR	Oct 98	4	4	0	4	0	0	0	4
Albany, GA										
MCTSSA,	WR	Jan 99			0	20	100	80	CONT.	CONT.
Camp Pendleton, CA										
MARCORSYSCOM	WR	Jan 99			0	17	30	30	CONT	CONT
TAOM:										
MCTSSA	WR	Feb 99	86	86	0	86	0	0	0	86
Camp Pendleton, CA										
MCTSSA	RCP	Jun 99	96	96	0	96	0	0	0	96
Camp Pendleton, CA										
AV RADAR:										
NSWC	WR	May 99			0	48	38	50	CONT	CONT
Crane, IN										
MCTSSA Camp	WR	Dec 99			0	0	20	50	CONT.	CONT.
Pendleton, CA										
MCLB	WR	Dec 99			0	0	20	20	CONT	CONT
Albany, GA										
NRL	WR	Jan 99			0	119	208	0	CONT.	CONT.
Washington, DC										
Logicon, Stafford,	CPIFF	Dec 99			0	0	451	460	CONT	CONT
VA										
2 ND MAW	WR	Jan 99	1	1	0	1	0	0	0	1
NSWC	WR	May 99	60	60	0	60	0	0	0	60
Dahlgren, VA										

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 39 of 85)

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE **February 2000**

BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2273
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TBMCS:										
MCTSSA, Camp Pendelton, CA	WR	Oct 99			0	0	102	100	CONT	CONT
3D Maw. El Toro, CA	WR	Oct 99			0	5	47	20	CONT	CONT
Logicon, Stafford, VA	CPFF	Oct 99			0	0	156	180	CONT	CONT
MCSC, Quantico, VA	WR	Feb 99			0	17	0	30	CONT	CONT
CG Yuma, AZ	WR	Apr 99	1	1	0	1	0	0	0	1
MARRESFOR	WR	Aug 99	4	4	0	4	0	0	0	4
Test and Evaluation Organizations										
TBD	RCP	Feb 01	1903	1903	0	0	0	588	1315	1903
ADCP:	RCP	Jan 99	55	55	0	55	0	0	0	55
MCTSSA, Camp Pendleton, CA										
					Total				Budget to	Total
					Prior to	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
					<u>FY 1999</u>					
Subtotal Product Development					4072	5146	14412	22180	CONT	CONT
Subtotal Support and Management					0	784	1912	2012	CONT	CONT
Subtotal Test and Evaluation					0	55	0	588	CONT	CONT
Total Project					4072	5985	16324	24780	CONT	CONT

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 40 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2000
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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2274
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COST (In Millions)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
C2274 C2 Warfare Systems	3191	10329	2663	4290	4930	3119	3319	Continuing	Continuing
Quantity of RDT&E Articles									

A. (U) Mission Description and Budget Item Justification:

- (U) Command and Control (C2) Warfare Project includes the following tactical electronic intercept, direction finding, and electronic attack systems:
1. The Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES) is used to process, sort, analyze, display and correlate ES and EA data collected by EA-6B aircraft and maintains the Tactical Electronic Orders of Battle.
 2. The Mobile Electronic Warfare Support System, Product Improvement Program (MEWSS-PIP) will be used to collect and process communication and non-communication signals and provide electronic attack capability from a mobile ground platform.
 3. Team Portable collection System (TPCS) upgrade is a semi-automated, manpackable/team transportable signals intelligence system that provides communications intercept, radio direction finding analysis and reporting to the Marine Air Ground Task Force (MAGTF) Commander.
 4. The Radio Reconnaissance Equipment Program (RREP) provides the FMF Radio Battalions, Radio Reconnaissance Platoons (RRP) with mission unique Signals Intelligence/Ground Electronic Warfare SIGINT/EW) Equipment suites. Continuing with an evolutionary acquisition approach, the third suite RREP-SS-2 will provide the RRP's with the capability to conduct SIGINT/EW operations in support of Marine Air Ground Task Force (MAGTF) Commanders during advance force special operations, and other special purpose missions where the use of conventional Radio Battalion assets are not feasible. RREP-SS-2 is a ruggedized, modular, man packable system specifically designed utilizing emerging NDI/COTS/GOTS technology for RRP operations, particularly those conducted under the most austere conditions. The RREP-SS-2 module configuration has an "open systems" architecture that will permit future upgrades by simply installing cutting edge NDI/COTS/GOTS technology into the standard modules. The fourth suite, RREP-SS-3, to be fielded in FY04, will have the added capability to intercept those emerging target sets as identified by the NSA, be operated from remoted positions, and incorporate polymer battery technologies.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2000

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
**0206313M Marine Corps Communications
Systems**

PROJECT
C2274

PROGRAM ACCOMPLISHMENTS AND PLANS:

(U) FY 1999 Accomplishments:

- (U) \$ 128 MEWSS: Developed performance enhancing ECP for Electronic Attack integration.
- (U) \$ 57 MEWSS: Developed performance enhancing ECP for SATCOM radio integration.
- (U) \$ 275 TPCS Upgrade: Transitioned TPCS Upgrade 2.0 Software to Defense Information Infrastructure (DII) Common Operating Environment (COE).
- (U) \$ 200 TPCS Upgrade: Initiated Software revisions to TPCS Upgrade 2.0 software.
- (U) \$ 290 TPCS Upgrade: Initiated Hardware revisions to TPCS Upgrade. Achieve MSIII.
- (U) \$ 230 TPCS Upgrade: Continuing Systems Engineering and Technical Assistance (SETA).
- (U) \$ 739 TERPES: Continuing the development of TERPES mission planning software to maintain compatibility with the EA-6B aircraft software changes.
- (U) \$ 142 TERPES: Continuing the development of Tactical Automation Sanitation capability or similar Multi-Level Security (MLS) device or procedure.
- (U) \$ 400 TERPES: Continuing software development of Link 16 TADIL J (IBS) to be incorporated into fusion processor.
- (U) \$ 133 TERPES: Began development of advanced communication suite upgrade for Joint interoperability software changes.
- (U) \$ 480 TERPES: Began DII/COE compliance to reach level 6.
- (U) \$ 117 TERPES: Began Sensitive Secret Compartmented Information (SCI) accreditation and NT migration.
- (U)Total \$ 3191

(U) FY 2000 Planned Program:

- (U) \$ 1800 MEWSS PIP: Complete integration of Electronic Attack subsystem.
- (U) \$ 160 MEWSS PIP: Forward finances completion of the integration of the Electronic Attack module.
- (U) \$ 4513 MEWSS PIP: Final integration and developmental testing
- (U) \$ 816 TPCS Upgrade: In keeping with the evolutionary acquisition strategy, these funds will be used to develop software to enhance the baseline including enhancements to improve the systems interoperability with other systems.
- (U) \$ 195 TPCS Upgrade: Systems Engineering and Technical Assistance (SETA).
- (U) \$ 500 TERPES: Continue development of TERPES mission planning software to maintain compatibility with the EA-6B aircraft software changes.
- (U) \$ 200 TERPES: Continue development of Tactical Automation Sanitation capability or similar Multi-Level Security (MLS) device or procedure.
- (U) \$ 100 TERPES: Forward finances the commencement and completion of software and hardware integration for Joint Tactical Terminal (JTT).
- (U) \$ 538 TERPES: Continue DII/COE compliance to reach level 6 and NT migration.

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 42 of 85)

UNCLASSIFIED

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2000
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems PROJECT C2274	
<ul style="list-style-type: none"> • (U) \$ 31 • (U) \$ 397 • (U) \$ 500 • (U) \$ 579 (U)Total \$ 10,329 	<ul style="list-style-type: none"> TERPES: Forward finances the continuation of DII/COE compliance to reach level 6 and NT migration. TERPES: Continue development of advanced communications suite for Joint interoperability software changes. TERPES: Forward finances the beginning of Enhanced TERPES Fusion Correlator Software. RREP: Integrate GOTS/COTS electronic attack (EA) capability (SS-2). 	
<p>(U) FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • (U) \$ 134 • (U) \$ 315 • (U) \$ 0 • (U) \$ 197 • (U) \$ 131 • (U) \$ 0 • (U) \$ 467 • (U) \$ 100 • (U) \$ 459 • (U) \$ 0 • (U) \$ 275 • (U) \$ 0 • (U) \$ 366 • (U) \$ 219 (U)Total \$ 2663 	<ul style="list-style-type: none"> MEWSS PIP: USMC cost-share of multi-service program development of performance-enhancing ECP for targeting of additional COMINT emitter types. MEWSS PIP: Development of performance-enhancing ECP for TACJAM analyzer upgrade insertion, allowing increased signals analysis capability. MEWSS PIP: Complete integration of Electronic Attack module. This effort forward financed with \$160K of FY00 funding. TPCS Upgrade: Systems Engineering and Technical Assistance(SETA). TPCS Upgrade: These funds will be used to fund development of further system enhancements including for software and later upgrades. TERPES: Begin and complete software and hardware integration for Joint Tactical Terminal (JTT). This effort forward financed with \$100K of FY 00 funding. TERPES: Continue development of TERPES mission planning software to maintain compatibility with the EA-6B software changes. TERPES: Continue development of advanced communications suite for Joint Interoperability hardware/ software changes. TERPES: Continue DII/COE compliance to reach level 6. TERPES: Continue DII/COE compliance to reach level 6 and NT migration. This effort forward financed with \$31K of FY00 funding. TERPES: Begin enhanced TERPES Fusion Engine Software. TERPES: Begin Enhanced TERPES Fusion Correlator Software. This effort forward financed with \$500K of FY00 funding. TERPES: Continue to enhance TERPES Fusion Correlator Software. RREP: Development efforts in support of remote control operations (SS-3). 	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2274

B. (U) Project Change Summary

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) Previous President's Budget	3939	8387	3504
(U) Adjustments to Previous President's Budget	-748	+1942	-841
(U) Current Budget Submit	3191	10329	2663

(U) Change Summary Explanation:

(U) Funding: FY99 decrease of \$748K is due to SBIR assessment, reprioritization of programs within the Marine Corps, and other minor program changes. FY00 and FY01 increases are due to reprioritization of programs within the Marine Corps and other minor program changes.

(U) Schedule: N/A

(U) Technical: N/A

C. (U) Other Program Funding Summary
(APPN, BLI #, NOMEN)

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To</u>	<u>Total</u>
								<u>Compl</u>	<u>Cost</u>
(U) PMC BLI 474900 Modification Kits INTEL TERPES	0	3669	0	2700	0	2680	0	CONT	CONT
(U) PMC BLI 463600 Modification Kits MEWSS	21053	7914	4939	33294	32782	7482	0	0	107464
(U) PMC BLI 474900 Modification Kits INTEL TPCS	24	11278	2833	0	0	2467	2075	0	18677
(U) PMC BLI 474700 Intelligence Support EQUIPMENT RREP	0	2841	0	0	3901	0	0	0	6742
(U) O&M									
TERPES	2141	1967	1957					CONT	CONT
TPCS	1203	2293	2024					CONT	CONT
MEWSS	819	841	810					CONT	CONT

(U) Related RDT&E

(U) (U) PE 0305885G (Tactical Cryptologic Program)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2274

D. (U) Schedule Profile

MEWSS
Schedule

MEWSS-PIP MILESTONE SCHEDULE					
PHASE	FY 98	FY 99	FY 00	FY 01	FY 02
MILESTONE 0					
MILESTONE I/II					
PHASE I OT	X				
PHASE II OT				X	
MILESTONE III				X	
PRODUCTION CONTRACT AWARD				X	
PRODUCTION				X-----	
IOC				X	
FOC					

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 45 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
**0206313M Marine Corps Communications
Systems**

PROJECT
C2274

TPCS Schedule

**TPCS UPGRADE
MILESTONE SCHEDULE**

PHASE	FY	FY	FY	FY	FY
	98	99	00	01	02
MILESTONE 0					
MILESTONE I/II					
OT		X			
MILESTONE III		X			
PRODUCTION CONTRACT AWARD			X		
PRODUCTION			X		
IOC				X	
FOC					X

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 46 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
**0206313M Marine Corps Communications
Systems**

PROJECT
C2274

RREP SCHEDULE:

**R R E P
M I L E S T O N E S C H E D U L E**

PHASE	F Y 9 8	F Y 9 9	F Y 0 0	F Y 0 1	F Y 0 2
M S II (S S - 2)	2 Q				
M S III (S S - 2)			1 Q		
E L E C T R O N I C A T T A C K (E A M O D U L E)			3 Q		
M S 0 / I (S S - 3)			4 Q		
R E M O T E E A C A P A B I L I T Y				2 Q	
I O C / F O C (S S - 2)				3 Q	
M S II (S S - 3)				3 Q	
M S III (S S - 3)					4 Q

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 47 of 85)

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE
February 2000

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2274

A. (U) Project Cost Breakdown

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
a. System Design/Integration/Development	808	160	315
b. Development Testing/Operational Testing	0	4513	0
c. Management Support Services	284	285	289
d. Software Development	1914	3571	1925
e. Primary Hardware Development	185	1800	134
Total	3191	10329	2663

B. Budget Acquisition History and Planning Information

Performing Organizations

Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1999	FY 1999	FY 2000	FY 2001	Budget to Complete	Total Program
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Product Development Organizations

MEWSS:

Lockheed Martin Fed Sys, Owego	CPFF	Nov98			0	185	1960	449	CONT	CONT
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TPCS Upgrade:

DAC/BTG	CPFF	Jan 98			0	808	816	131	CONT	CONT
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TERPES:

NSWC, Crane, IN	RCP	Oct 98			0	700	0	473	CONT	CONT
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SMC/ADF El Segundo, CA	MIPR	Oct 98			0	1214	0	275	CONT	CONT
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NAWCWPNS	RCP	Feb 00			0	0	1707	579	CONT	CONT
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Pt Mugu, CA	WR	Dec 99			0	0	469	248	CONT	CONT
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RREP:

TBD	CPFF	TBD			0	0	579	219	CONT	CONT
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R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 48 of 85)

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE **February 2000**

BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2274
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Support and Management Organizations									
TPCS Upgrade:									
CSC	CPFF	Oct 97	0	187	195	197	CONT	CONT	
TERPES:									
NAWCWPNS, Pt Mugu, CA	WR	Oct 99	0	97	90	92	CONT	CONT	
Test and Evaluation Organizations									
MEWSS:	CPFF	FEB 00	0	0	4513	0	0	4513	
MARTIN FED LOCKHEED SYS, OWEGO									
			Total						
			Prior to						
			<u>FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
Subtotal Product Development				2907	5531	2374	CONT	CONT	
Subtotal Support and Management				284	285	289	CONT	CONT	
Subtotal Test and Evaluation				0	4513	0	CONT	CONT	
Total Project				3191	10329	2663	CONT	CONT	

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 49 of 85)

UNCLASSIFIED

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2000			
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems				PROJECT C2276		
<i>COST (In Millions)</i>	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost	
C2276 Communications Switching and Control Systems	1538	1831	227	0	0	0	0	0	3596	
Quantity of RDT&E Articles										
<p>A. (U) <u>Mission Description and Budget Item Justification:</u></p> <p>(U) This program consists of three interrelated projects: Digital Technical Control (DTC), Tactical Data Network (TDN), and Defense Message System (DMS). Together, these systems form an integrated, digital communications backbone for a deployed Marine Air Ground Task Force (MAGTF) which has the capability to manage, control, switch, and multiplex networks providing voice, data, message, imagery, facsimile, and video services to subscribers.</p> <ol style="list-style-type: none"> 1. (U) The TDN augments existing MAGTF communications infrastructure to provide the commander an integrated data network forming the communication backbone for MAGTF tactical data systems and Defense Message System. The TDN consists of a network of Gateways and Servers interconnected with one another and their subscribers via a combination of common user long-haul transmission systems, local area networks, single channel radios, and the switched telephone system. The network provides its subscribers with basic data transfer and switching services; access to strategic, supporting establishment, joint, and other service component tactical data networks; network management capabilities; and value-added services such as message handling, directory services, file sharing, facsimile handling, and terminal emulation support. Required functionality was separated into three blocks of capabilities due to the leading edge technology required in the Operational Requirement Document (ORD). This evolutionary acquisition strategy and funding provide for development of additional capabilities which compose the Block II upgrade of the system. 2. (U) The DTC facilitates the installation, operation, restoration, and management of individual circuits and digital links consisting of many multiplexed circuits. It provides the primary interface between subscriber systems/networks within a local area and long-haul multichannel transmissions systems to transport voice, message, data, and imagery traffic. It can add, drop and insert digital circuits into multiplexed groups; provide a source of stable timing to connected equipment; condition circuits; and perform analog/digital, 2-wire/4-wire, and signaling conversions. It contains the monitoring, testing, and patching equipment required by technical controllers to troubleshoot and restore faulty circuits and links. This funding provides for the development of interfaces to new technology transmission systems. 3. (U) DMS is an OSD-mandated program to integrate Automatic Digital Network (AUTODIN) and E-Mail into a single, secure, DoD message communications system. DMS will expand writer-to-reader connectivity, support, and message security services. Organizations and individuals will be able to create, edit, send, receive, read, and process organizational and individual messages, secured with end-to-end protection, direct from desktop terminals/personal computers in their workspaces. DMS will do everything our current Banyan E-Mail and AUTODIN systems do with the following additional capabilities: connectivity to all users in DoD. 										
R-1 Line Item 175					Budget Item Justification					

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2000	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2276	
PROGRAM ACCOMPLISHMENTS AND PLANS:			
(U) FY 1999 Accomplishments:			
• (U)\$ 338	DTC: Engineering/testing system technology upgraded.		
• (U)\$ 315	DMS: Supported software and hardware integration/testing. Incorporated evolutionary security products into the unclassified DMS architecture within a Marine Corps-unique network infrastructure.		
• (U)\$ 885	TDN: Developed TDN Block II and software/hardware integration/testing.		
(U)Total\$ 1,538			
(U) FY 2000 Planned Program:			
• (U) \$ 547	DTC: Developmental/Interoperability testing of ATM upgrade, obtain approval for ATM upgrade		
• (U) \$ 196	DMS: Support software and hardware integration/testing. Incorporate evolutionary security products into the unclassified DMS architecture within a Marine Corps-unique network infrastructure.		
• (U) \$ 1088	TDN: Continue TDN BLK II development and S/W and H/W Intergration testing. Achieve milestone III Decision for Block II		
(U)Total \$ 1,831			
(U) FY 2001 Planned Program:			
• (U) \$ 227	DMS: Support software and hardware integration/testing. Incorporate evolutionary security products into the unclassified DMS architecture within a Marine Corps-unique network infrastructure.		
(U)Total \$ 227			
B. (U) Project Change Summary			
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U)Previous President's Budget	1888	1841	229
(U)Adjustments to Previous President's Budget	-350	-10	-2
(U)Current Budget Submit	1538	1831	227
(U) Change Summary Explanation:			
(U) Funding: FY99 decrease in the amount of \$34K for SBIR tax assessment. FY99 decrease in the amount of \$316K is due to reprioritization of programs within the Marine Corps.			
(U) Funding: FY00 decrease in the amount of (\$10k) minor inflation adjustment.			
(U) Funding: FY01 decrease in the amount of (\$2k) minor inflation adjustment.			
R-1 Line Item 175		Budget Item Justification	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2276

C. (U) <u>Other Program Funding Summary</u>	<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Complete</u>	<u>Total Cost</u>
(U)PMC BLI 463400 Communications Switching and Control Systems									
DTC	18066	33454	0	0	0	0	0	0	51520
TDN	39241	21238	0					0	60479
DMS	6786	7303	3152	0	0	0	0	0	17241
(U) O&M									
DTC	0	208	218	0	0	0	0	0	426
TDN	0	141	141	0	0	0	0	0	282
DMS	367	213	220	0	0	0	0	0	800

(U) Related RDT&E : N/A

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE February 2000

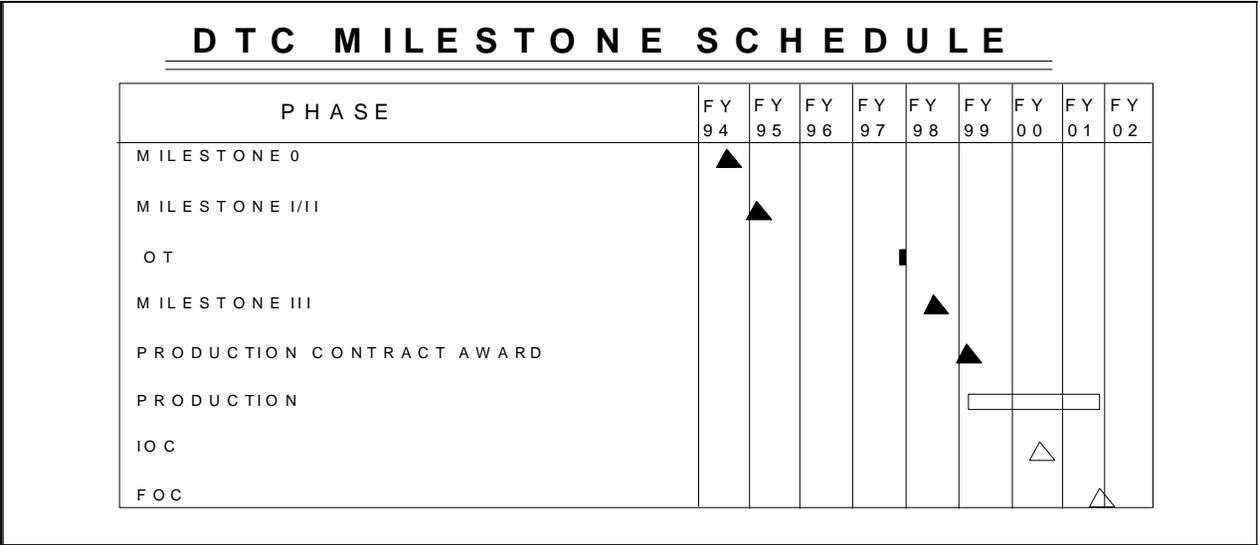
BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2276

D. (U) Schedule Profile:

DTC Schedule



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2276

TDN Schedule

Tactical Data Network (TDN)

TDN MILESTONE SCHEDULE

PHASE	FY								
	94	95	96	97	98	99	00	01	02
MILESTONE 0	▲								
MILESTONE I/II		▲							
BLOCK I OT				▲					
MILESTONE III					▲				
PRODUCTION CONTRACT AWARD						▲			
BLOCK I FIELDDED							△		
BLOCK II FIELDDED								△	
BLOCK III FIELDDED									△
IOC							△		
FOC									△

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 54 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2276

DMS Schedule

PHASE	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01
MAISRC VII	△							
SBU IOC				△				
IOT&E				△				
MAISRC IPR					△			
Secret IOC					△			
TS/SCI IOC						△		
MAISRC III							△	
SBU FOC								△
Secret FOC								△
TS/SCI FOC								△

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 55 of 85)

UNCLASSIFIED

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2000
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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2277
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COST (In Millions)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
C2277 Systems Engineering and Integration	9446	7156	6514	6832	6554	6554	6390	Continuing	Continuing
Quantity of RDT&E Articles									

A. (U) Mission Description and Budget Item Justification:

(U) This project provides funds for engineering, test, and evaluation activity which ensures that the systems being developed within the Program Element (PE) employ consistent standards for interoperability and, to the maximum extent feasible, use hardware and software which is uniform across programs.

1. The Marine Air-Ground Task Force Command, Control, Communications, Computers, and Intelligence Systems Engineering and Integration, Coordination. (MAGTF C4I SE&IC) subproject is a non-acquisition effort which provides centralized planning and execution of MAGTF C4I Systems; it develops, publishes and manages configuration of the MAGTF C4I Systems/Technical Architecture and its implementation; it is also used to develop and test common hardware and software for use in MAGTF C4I Systems; MAGTF C4I SE&I also funds USMC participation in joint planning and technical standards development. MAGTF SE&IC changes name to MAGTF SEI&C in FY00.
2. Joint Warrior Interoperability Demos (JWID) is a JCS-mandated program to demonstrate new C4I interoperability concepts for the warrior. JWID offers the opportunity for demonstrations of evolving technologies in interoperability, information dissemination, fusing and digital communications.
3. The Joint Interoperability of Tactical Command and Control Systems (JINTACCS) is a Joint Chiefs-of-Staff (JCS)-mandated program for joint development, implementation, and testing of data links under the direction of the Joint Interoperability Engineering Organization (JIEO).
4. Common Computer Resources mission – Central and standardized management and acquisition of all common computer hardware and infrastructure adopting the Joint Defense Information Infrastructure (DII) Common Operating Environment (COE) with consolidated Integrated Logistics Support. Ensure the environment remains in synchronization with computer hardware technology hardware improvements. The mission supports the Commandant’s Planning Guidance and input to the Marine Corps Master Plan.

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2000
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2277
PROGRAM ACCOMPLISHMENTS AND PLANS:		
(U) FY 1999 Accomplishments:		
•		
• (U) \$	2117	MAGTF SEI&C: Initiated Independent Verification and Validation (IV&V) to certify that all MAGTF C4I systems are Year 2000 compliant. Improved MCRSSA Battlelab facilities to conduct IV&V testing.
• (U) \$	7209	MAGTF SEI&C: Continued to provide engineering and technical support for configuration management of the MAGTF C4I system and its migration to the DII COE. Started the MAGTF C4I Systems/Technical Architecture Repository (MSTAR) that will provide technical roadmap to MAGTF systems development and aid in its configuration management. This effort assisted UOC and AAAV programs with engineering analysis. Developed functional description of USMC Tactical Internet. Continued to provide systems engineering efforts to implement the emerging Joint Architecture. Provided interoperability testing/certification of MAGTF C4I systems. Participate in the development of the Joint ASCIET Program and conduct yearly ASCIET combat identification evaluations.
• (U) \$	120	JINTACCS: Supported the JINTACCS program by providing system engineering efforts to implement emerging standard and provided interoperability testing/certification of MAGTF C4I systems.
(U)Total \$	9,446	
(U) FY 2000 Planned Program:		
• (U) \$	1372	JWID: Provide management, engineering and technical support in preparation for JWID-00, a JCS-mandated program. JWID offers the opportunity to demonstrate and evaluate emerging technologies.
• (U) \$	1338	JINTACCS: Participate in JINTACCS, a JCS-mandated program aimed at ensuring interoperability of tactical systems. Provide analysis, engineering and technical support in developing joint standards. Provides interoperability testing/certification in support of C4I systems. Provide technical support in varuois joint programs and ACTD's.
• (U) \$	2593	MAGTF SEI&C: Provide engineering and technical support for configuration management of MAGTF C4I system and its migration to the DII COE. Provide analysis, studies and reviews in the development and implementation of the COE migration strategy. Continue MSTAR architecture development, with emphasis on UOC and AAAV support. Support D-30 process to integrate Marine C4I systems onto amphibious ships for MEU deployments. Provide engineering support for remaining Y2K problems within MAGTF C4I systems. Provide USMC share of ASCIET exercise per established MOA.
• (U) \$	177	MAGTF SEI&C: Forward finances engineering and technical support for configuration management of MAGTF C4I system and it migration to the DII COE.
• (U) \$	1676	CCR MCHS: Provide for research, evaluation, test and selection of computer hardware products for the Marine Corps Common Hardware Suite (MCHS). Develop MCHS system specifications and baselines; research and analyze computer technoligies and hardware; conduct performance, compatibility and environment testing; support commercial product selection and application.

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 57 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2000
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2277
(U)Total \$	7,156	
(U) FY 2001 Planned Program:		
• (U) \$	1404 JWID: Participate in JWID, a JCS-mandated program, to demonstrate new C4I interoperability concepts. In JWID-01, USMC is the service lead, it will conduct primary planning equipment preparation, and hosting. JWID-01 offers the opportunity for demonstrations of emerging technologies in interoperability, information dissemination, fusing and communications.	
• (U) \$	1094 JINTACCS: Participate in JINTACCS, a JCS-mandated program aimed at ensuring interoperability of tactical systems. Provide analysis, Engineering and technical support in developing joint standards. Provides interoperability testing/certification in support of C4I systems. Provide technical support in varuois joint programs and ACTD's.	
• (U) \$	2390 MAGTF SEI&C: Provide engineering and technical support for configuration management of MAGTF C4I systems and its migration to the DII COE. Maintain MSTAR system as technical roadmap to MAGTF C4I system integrationProvide analysis, studies and reviews in the development and implementation of the COE migration strategy. Analyze the movement of MAGTF C4I systems to joint standards to mandated levels and provide technical recommendations to correct deficiencies. Continue engineering support to D-30 Amphib Ready Group (ARG) preparation process. Provide USMC fair share of ASCIET exercise per established MOA.	
• (U) \$	0 MAGTF SEI&C: Provide engineering and technical support for configuration management of MAGTF C4I system and it migration to the DII COE. This effort forward financed with \$177K of FY00 funding.	
• (U) \$	1626 CCR MCHS: Provide for research, evaluation, test and selection of computer hardware products for the Marine Corps Common Hardware Suite (MCHS). Develop MCHS system specifications and baselines; research and analyze computer technologies and hardware; conduct performance, compatibility and environmental testing; support commercial product selection and application.	
(U)Total \$	6,514	

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2277

B. (U) Project Change Summary

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) Previous President's Budget	7155	6966	6762
(U) Adjustments to Previous President's Budget	+2291	+190	-248
(U) Current Budget Submit	9446	7156	6514

(U) Change Summary Explanation:

- (U) Funding: FY99 adjustment is due to an increase of \$2,291K due to reprioritization of programs within the Marine Corps. FY00 increase of \$190K and FY01 decrease of \$248K are due to reprioritization of programs within the Marine Corps
- (U) Schedule: N/A
- (U) Technical: N/A

C. (U) Other Program Funding Summary
(APPN, BLI #, NOMEN)

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
(U) CCR PMC BLI # 463000	0	104115	80656	45114	43626	41289	47726	CONT.	CONT.

(U) Related RDT&E

- (U) PE 0604817A
- (U) PE 0206623M, Marine Corps Ground Combat/Supporting Arms Systems

D. (U) Schedule Profile

Not Applicable.

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems				PROJECT C2277	
A. (U) Project Cost Breakdown					<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
Software Development/Integration Testing					300	375	300			
Civilian Salaries					426	435	446			
Program Management Support					2117	1587	1513			
System Engineering PM Support					3892	2485	1961			
Development Support Equipment Acquisition					1065	1065	1644			
Test/Certification					1646	1209	650			
Total					9446	7156	6514			
B. Budget Acquisition History and Planning Information										
Performing Organizations										
Contractor or Government	Contract									
Performing Activity	Method/ Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1999	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	Budget to Complete	Total Program
Product Development Organizations										
JWID:										
MCTSSA, Camp Pendleton, CA	WR	Oct99			110	0	391	500	CONT	CONT
HQMC Arlington, VA	WR	Oct 99			0	0	590	600	CONT	CONT
CCR:										
TBD	TBD	Mar 00			0	0	133	113	CONT	CONT
TBD	TBD	Mar 00			0	0	152	131	CONT	CONT
JINTACCS										
CECOM FT MONMOUTH, NJ	SS	Oct 98	29	29	29	0	0	0	29	29
Support and Management Organizations										
JWID:										
Logicon, Stafford, VA	C/FFP	Oct99			0	0	391	304	CONT	CONT
					R-1 Line Item 175					
					Budget Item Justification					

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE
February 2000

BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2277
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MAGTF SE&I:										
CECOM, Fort Monmouth N.J.	WR	Oct 98	700	700	0	175	175	164	175	700
OSEC, Stafford, VA	CPFF	Nov 98	80	80	0	80	0	0	0	80
Logicon, Stafford VA	C/FFP	Oct 99			0	3229	1048	985	CONT	CONT
MCSC, Quantico, VA	WR	Oct 99			0	0	268	36	CONT	CONT
MAGTF SEIC:										
Eglin AFB, FL	MIPR	Oct 98				1202	59	1330	CONT	CONT
Test and Evaluation Organizations										
MAGTF SEIC:										
Logicon, Stafford, VA	CFFP	Oct 99	8509	8509	1783	2661	2297	941	0	7682
MCTSSA, Camp Pendleton, CA	WR	Nov 98	660	660	0	660	0	0	0	660
JINTACCS:										
Logicon, Stafford, VA	C/CPFF	Oct 98			649	1319	1300	1060	CONT	CONT
MCTSSA, Camp Pendleton, CA	WR	Oct 97			0	120	38	36	CONT	CONT
CCR:										
TBD	TBD	Mar 00			0	0	314	314	CONT	CONT

	Total Prior to <u>FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	Budget to <u>Complete</u>	Total <u>Program</u>
Subtotal Product Development	139	0	1266	1344	CONT	CONT
Subtotal Support and Management	649	4686	1941	2819	CONT	CONT
Subtotal Test and Evaluation	1783	4760	3949	2351	CONT	CONT
Total Project	2571	9446	7156	6514	CONT	CONT

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 61 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2000
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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2278
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COST (In Millions)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
C2278 Air Defense Weapons Systems	1855	9705	21730	27408	21754	6641	4057	Continuing	Continuing
Quantity of RDT&E Articles									

A. (U) Mission Description and Budget Item Justification:

(U) This project encompasses two sub-element programs which are part of the Integrated Air Defense System for the Marine Corps.

1. The Expeditionary Air Defense System (EADS) is the Marine Corps' low altitude ground based air defense system. Upgrades include mobility enhancements and expeditionary air defense improvements. Primarily, the Continuous Wave Acquisition Radar (CWAR) is the only sensor organic to the Marine Corps capable of providing low altitude target acquisition in a high clutter environment.
2. Combat ID (CID) will provide rapid and accurate determination of friends, foes, or neutral identities of all potential targets within a combatant's area of responsibility in time to take decisive action. It will enable fighting forces: to manage and control battlespace; optimally employ weapons and forces to increase the economy of force; lower combat attrition, and increase enemy losses while reducing fratricide.
3. The Cooperative Engagement Capability (CEC) enables all CEC-equipped, Anti-Air Warfare (AAW) weapons systems in a battle force to operate as a single, distributed AAW weapon system. This is accomplished providing timely sharing of fire control quality sensor data, correlated identification data, and AAW weapon system management status via a Data Distribution System (DDS). The data is processed Independently the Cooperative Engagement Processor (CEP) on-board each Cooperating Unit (CU) to construct a detailed tract and status database in real time to provide required remote data to and from the local AAW weapon system elements (hardware and software modified for CEC). In this manner, each CU of a battle force can operate cooperatively with the other CUs, taking advantage of diverse locations and aspect angles, various AAW system capabilities, and degrees of availability by sharing sensor data, and coordinating engagements, fire control illuminators, and AAW missiles.
4. The Complementary Low Altitude Weapons System (CLAWS) is a mobile ground based air defense missile system designed to defeat threat cruise missiles unmanned aerial vehicles, and aircraft. CLAWS takes advantage of government furnished equipment (GFE) and non-developmental items (NDI) and technology by integrating current inventory DoD missiles with existing High Mobility Multi-purpose Wheeled Vehicles (HMMWV). CLAWS shall provide a rapidly deployable, mobile, high firepower, all-weather, standoff air defense system to defend Marine Expeditionary Forces and Naval Forces from attack by cruise missiles, aircraft and UAVs. It shall complement existing short range air defense (SHORAD) capabilities and shall interface with current and proposed Marine Air Command and Control System sensors and data paths.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)DATE
February 2000

BUDGET ACTIVITY

7 - Operational System Development

PE NUMBER AND TITLE

**0206313M Marine Corps Communications
Systems**

PROJECT

C2278**PROGRAM ACCOMPLISHMENTS AND PLANS:****(U) FY 1999 Accomplishments Program:**

- (U) \$ 1,845 EADS: Completed Identification Friend or Foe (IFF) continuous wave acquisition radar integration.
 - (U) \$ 10 EADS: Completed Program Support and supplies IAW the Technical Support Plan
- (U)Total \$ 1,855

(U) FY 2000 Planned Program:

- (U) \$ 3,600 CEC: Initiate development of a land based CEC Engineering Design Model.
 - (U) \$ 1,000 CEC: Initiate design and development of a land based CEC antenna.
 - (U) \$ 158 CEC: Certify AN/TPS-59(V)3 adaptive layer software.
 - (U) \$ 500 CEC: Initiate development of UPX-27(IFF) adaptive layer software.
 - (U) \$ 500 CEC: Initiate design of combat system adaptive layer interface.
 - (U) \$ 700 CEC: Conduct Developmental Testing.
 - (U) \$ 200 CEC: Program support to provide program documentation.
 - (U) \$ 400 CEC: Program Management Support.
 - (U) \$ 400 CID: Test and evaluate systems currently available COTS for applicability.
 - (U) \$ 1,347 CID: Program Definition and Risk Reduction of systems.
 - (U) \$ 250 CID: Initiate Studies to investigate feasibility of using various fielded systems to fulfill some CID requirements.
 - (U) \$ 500 CID: Program Support.
 - (U) \$ 150 CID: Life Cycle Cost Estimate
- (U)Total \$ 9,705

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 63 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2000																
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2278																
<p>(U) FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • (U) \$ 700 CEC: Continue development of land based CEC EDM. • (U) \$ 2,200 CEC: Continue development of land based CEC antenna. • (U) \$ 200 CEC: Certify UPX-27(IFF) adaptive layer software. • (U) \$ 800 CEC: Investigate CWAR and ATC radar adaptive layer development. • (U) \$ 1,000 CEC: Continue combat system adaptive layer development. • (U) \$ 800 CEC: Continue to Conduct Development Testing. • (U) \$ 348 CEC: Continue Program support to provide program documentation. • (U) \$ 500 CEC: Continue Program Management Support. • (U) \$ 2,000 CID: Test and evaluate systems identified by the RFP • (U) \$ 3,288 CID: Program Definition and Risk Reduction of RFP systems. • (U) \$ 1,300 CID: Continue Studies to investigate feasibility of using various fielded systems to fulfill CID requirements (add'l mission areas). • (U) \$ 1,145 CID: Continue Program support. • (U) \$ 6,000 CLAWS: Develop, design and build a CLAWS prototype in preparation for a fly-off and down select. • (U) \$ 1,449 CLAWS: Program Management Support. <p>(U)Total \$ 21,730</p>																		
<p>B. (U) Project Change Summary</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%; text-align: center;"><u>FY 1999</u></th> <th style="width: 15%; text-align: center;"><u>FY 2000</u></th> <th style="width: 15%; text-align: center;"><u>FY 2001</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">2001</td> <td style="text-align: center;">9759</td> <td style="text-align: center;">9350</td> </tr> <tr> <td>(U) Adjustments to Previous President's Budget</td> <td style="text-align: center;">-146</td> <td style="text-align: center;">-54</td> <td style="text-align: center;">12380</td> </tr> <tr> <td>(U) Current Budget Submit</td> <td style="text-align: center;">1855</td> <td style="text-align: center;">9705</td> <td style="text-align: center;">21730</td> </tr> </tbody> </table>				<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	(U) Previous President's Budget	2001	9759	9350	(U) Adjustments to Previous President's Budget	-146	-54	12380	(U) Current Budget Submit	1855	9705	21730
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>															
(U) Previous President's Budget	2001	9759	9350															
(U) Adjustments to Previous President's Budget	-146	-54	12380															
(U) Current Budget Submit	1855	9705	21730															
<p>(U) Change Summary Explanation:</p> <p>(U) Funding: FY99: Decrease in the amount of \$37K for SBIR tax assessment. FY99: Decrease in the amount of \$100K is due to reprioritization of programs within the Marine Corps. FY99: Decrease in the amount of \$9K due to NavCompt adjustments. FY00: Decrease in the amount of \$54K due to General Reductions. FY01: Increase in the amount of \$12.5M is due to reprioritization of programs within the Marine Corps. FY01: Decrease of \$198K due to NavCompt adjustments. FY01: Decrease of \$149K due to PBD 604 and increase of \$197K due to PBD 411. FY01: Increase of \$30K due to NWCF rate adjustments.</p> <p>(U) Schedule: N/A</p> <p>(U) Technical: N/A</p>																		
R-1 Line Item 175		Budget Item Justification																

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2278

C. (U) Other Program Funding Summary

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To Complete	Total Cost
(U) PMC LINE BLI 300600 EADS MOD	976	0	0	0	0	0	0	0	976
(U) PMC LINE BLI 462000 EADS (CWAR)	0	1500	1507	1552	1593	0	0	0	6152
(U) PMC LINE BLI 464000 CID	0	0	0	0	0	15805	22838	CONT.	CONT.
(U) PMC LINE BLI 464000 CEC	0	0	0	10957	17320	21564	28295	CONT.	CONT.
(U) PMC LINE BLI 300600 CLAWS	0	0	0	0	0	19739	31544	CONT.	CONT.

(U) Related RDT&E

PE 0603216C (Ballistic Missile Defense Organization, Theater Missile Defense)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

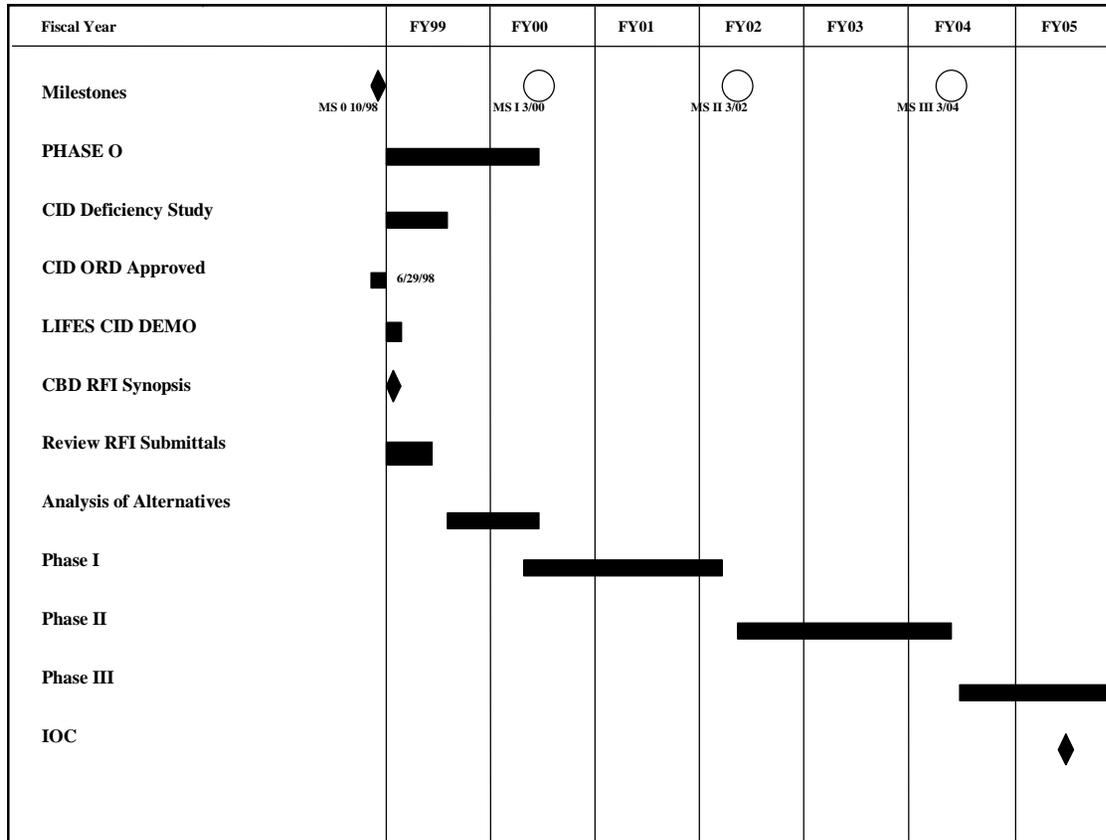
BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2278

D. (U) Schedule Profile

CID Schedule:



R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 66 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

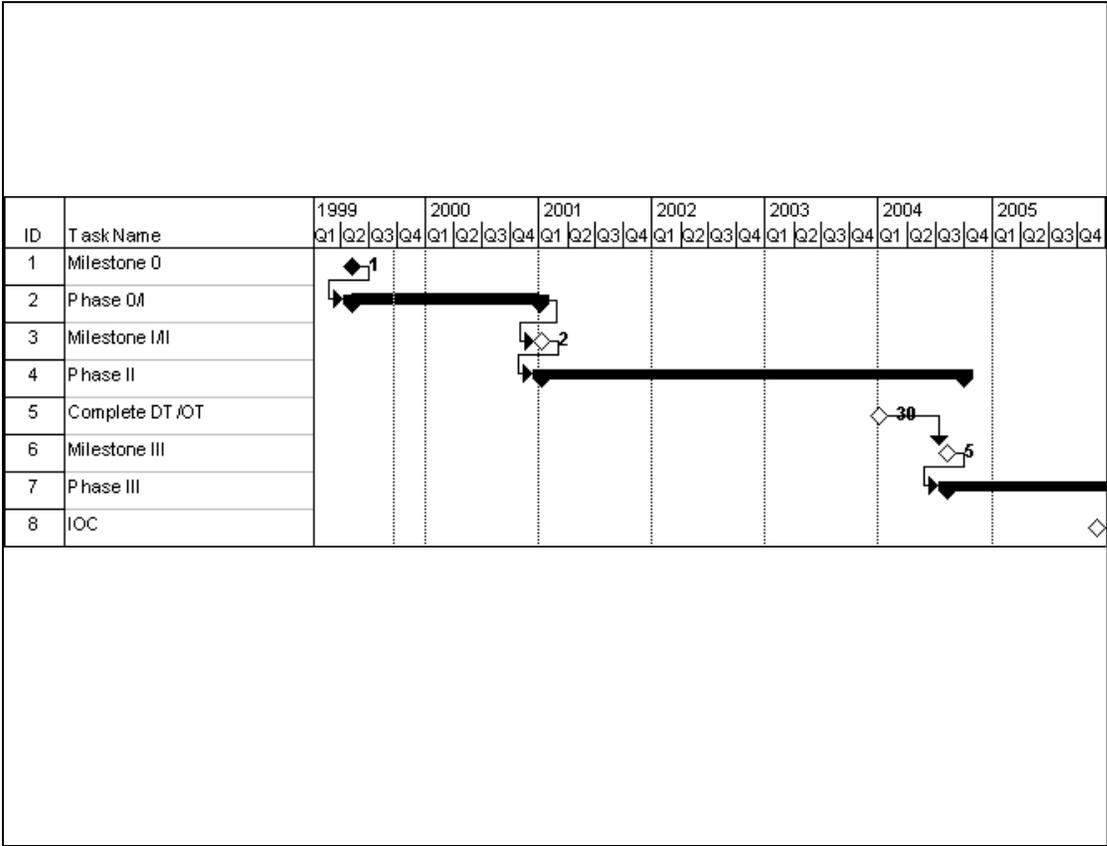
DATE February 2000

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2278

CLAWS Schedule:



UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems			PROJECT C2278		
A. (U) Project Cost Breakdown										
				<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>				
a.	Development of Engineering Design Model			0	3600	700				
b.	System Design and Development			0	1500	10000				
c.	Software Certification			0	158	200				
d.	Software Development			0	500	0				
e.	Developmental Testing			0	700	800				
f.	Program Support			10	1100	3442				
g.	Test and Evaluation			0	400	2000				
h.	Program Definition and Risk Reduction			0	1347	3288				
i.	Studies			0	250	1300				
j.	System Integration			1845	0	0				
k.	Life Cycle Cost Estimate			0	150	0				
	Total			1855	9705	21730				
B. Budget Acquisition History and Planning Information										
Performing Organizations										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	Budget to Complete	Total Program
Product Development Organizations										
EADS:										
MICOM, Redstone Arsenal, AL	MIPR	FEB 99	2400	2400	545	1845	0	0	0	2400
MCTSSA, Camp Pendleton, CA	WR	DEC 98	29	29	19	10	0	0	0	29
CID:										
USACOM Norfolk, VA	MIPR	JAN 00			0	0	1347	0	CONT.	CONT.
					R-1 Line Item 175					
						Budget Item Justification				

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000	
BUDGET ACTIVITY 7 - Operational System Development			PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems				PROJECT C2278	
MCSC	RCP	JAN 00	0	0	400	1300	CONT.	CONT.
Quantico, VA								
TBD	TBD	TBD	0	0	0	3288	CONT.	CONT.
CEC:								
JHU/APL	MIPR	DEC 99	0	0	700	850	CONT.	CONT.
NAVSEA	MIPR	DEC 99	0	0	3358	2200	CONT.	CONT.
Crystal City, VA								
MCSC	RCP	DEC 99	0	0	200	200	CONT.	CONT.
Quantico, VA								
MCSC	RCP	DEC 99	0	0	300	300	CONT.	CONT.
Quantico, VA								
MCTSSA, Camp	WR	DEC 99	0	0	250	300	CONT.	CONT.
Pendleton, CA								
NSWC	WR	DEC 99	0	0	850	950	CONT.	CONT.
Crane, IN								
NSWC	WR	DEC 99	0	0	100	100	CONT.	CONT.
Dahlgren, VA								
CLAWS:								
TBD	TBD	TBD	0	0	0	6000	CONT.	CONT.
Support and Management Organizations								
CID:								
MCSC	RCP	JAN 00	0	0	450	970	CONT.	CONT.
Quantico, VA								
MCSC	WR	DEC 99	0	0	50	175	CONT.	CONT.
Quantico, VA								
CEC:								
NAVSEA	MIPR	DEC 99	0	0	400	500	CONT.	CONT.
Crystal City, VA								
MCSC	RCP	DEC 99	0	0	200	348	CONT.	CONT.
Quantico, VA								
CLAWS:								
TBD	TBD	TBD	0	0	0	1449	CONT.	CONT.
Test and Evaluation Organizations								

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 70 of 85)

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000		
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems				PROJECT C2278	
CID:									
NSWC	WR	JAN 00		0	0	400	2000	CONT.	CONT.
China Lake, CA									
CEC:									
JHU/APL	MIPR	DEC 99		0	0	300	300	CONT.	CONT.
NAVSEA	MIPR	DEC 99		0	0	200	300	CONT.	CONT.
Crystal City, VA									
MCSC	RCP	DEC 99		0	0	200	200	CONT.	CONT.
Quantico, VA									
Government Furnished Property									
	Contract								
	Method/Type	Award or		Total					
Item	or Funding	Obligation	Delivery	Prior to				Budget to	Total
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Product Development Property									
Support and Management Property									
Test and Evaluation Property									
				Total					
				Prior to				Budget to	Total
				<u>FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				564	1855	7505	15488	CONT.	CONT.
Subtotal Support and Management				0	0	1100	3442	CONT.	CONT.
Subtotal Test and Evaluation				0	0	1100	2800	CONT.	CONT.
Total Project				564	1855	9705	21730	CONT.	CONT.

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 71 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2000
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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2315
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COST (In Millions)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
C2315 Training Devices/Simulators	8213	12088	5871	9529	12221	5042	486	Continuing	Continuing
Quantity of RDT&E Articles									

A. (U) Mission Description and Budget Item Justification:

(U) Training simulators supported by this program element include Joint Simulation System (JSIMS), Range Instrumentation Systems (RIS), and Combat Vehicle Appended Trainer (CVAT). These training systems provide tactical weapons and decision-making skill training from entry level through Marine Air-Ground Task Force (MAGTF) staff level. Together these systems will be interoperable and will allow for mission planning, mission rehearsal and concept evaluation in a valid synthetic environment with objective, timely feedback. Through live, virtual and constructive simulation, the Marine Corps will have the means to train jointly, educate, develop doctrine and tactics; formulate and assess operational plans, assess warfighting situations and define operational requirements.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

(U) FY 1999 Accomplishments:

- (U) \$ 298 JSIMS: Provided Marine Corps funding to Communication and Electronics Command (CECOM) for the development of the USMC specific Test and Evaluation master plan and provide technical expertise to the JSIMS test planning group for the Build 1 demonstration.
- (U) \$ 5316 JSIMS: Continued to provide technical expertise to the US Army, US Navy and US Air Force in the development of USMC specific requirements. Completed development of USMC requirements for software build 1. Procured Test hardware for Camp Lejeune in preparation for Collaborative Event.
- (U) \$ 400 JSIMS: Provided USMC Funding to Naval Air Warfare Center to continued development of JSIMS Build 2 and Build 3 conceptual models for USMC.
- (U) \$ 1000 JSIMS: Provided USMC Funding to US Army Simulation Training and Instrumentation Command (STRICOM) to begin development of USMC Tactical Intelligence Systems.
- (U) \$ 528 JSIMS: Supported development of USMC notional hardware configurations and participated in the Enterprise development of USMC C4I interface requirements.
- (U) \$ 624 MTWS: Performed analysis, design, implementation and tested of MAGTF Tactical Warfare Simulation product improvement development.
- (U) \$ 47 Amount set aside for inflation savings
- (U)Total \$ 8,213

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 72 of 85)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2000
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2315
(U) FY 2000 Planned Program:		
• (U) \$	4903	JSIMS: Continue to provide technical expertise to the US Army, US Navy and US Air Force in the development of USMC specific requirements. Participate in Collaborative Event 1 (a joint training exercise demonstration of software functionality). Procure testing hardware for Quantico site to support developmental testing and Verification, Validation and Accreditation of USMC requirements. Complete build 2 software development and continue build 3 software development.
• (U) \$	250	JSIMS: Continue technical expertise to test planning group for build 1 demonstration. Participate in Collaborative Event and provide Verification, Validation, and Accreditation of USMC requirements.
• (U) \$	528	JSIMS: Continue support in the development of USMC notional hardware configurations and participates in the Enterprise development of USMC C4I interface requirements.
• (U) \$	6407	CVAT: Develop appended trainer M1A1 and LAV prototype.
• (U) \$	450	CVAT: Develop/Modify visual database.
• (U) \$	550	CVAT: Perform independent verification and validation/testing of prototype functionality and interfaces.
(U)Total \$	12088	
(U) FY 2001 Planned Program:		
• (U) \$	3955	JSIMS: Continue to provide technical expertise to the US Army, US Navy and US Air Force in the development of USMC specific requirements. Participate in Collaborative Event 2 (software for build 2) and the Initial Operational Capability (IOC) event. Complete build 3 software development.
• (U) \$	340	JSIMS: Continue Verification, Validation, and Accreditation and participate in Collaborative Event 2 and IOC event.
• (U) \$	528	JSIMS: Continue support in the development of USMC notional hardware configurations and participate in the Enterprise development of USMC C4I interface requirements.
• (U) \$	123	CVAT: Complete developmental testing
• (U) \$	925	CVAT: Complete software modification enhancements to prototypes incorporating results of developmental test.
(U)Total \$	5871	

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2000

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
**0206313M Marine Corps Communications
Systems**

PROJECT
C2315

B. (U) Project Change Summary

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) Previous President's Budget	9368	8850	4881
(U) Adjustments to Previous President's Budget	(1155)	3238	990
(U) Current Budget Submit	8213	12088	5871

(U) Change Summary Explanation:

(U) Funding: FY99 decrease in the amount of (\$1155) for miscellaneous adjustments. FY00 and FY01 adjustments are the result of reprioritization of programs within the Marine Corps.

(U) Schedule: A revised acquisition strategy will require increased developmental testing for the CVAT program extending the schedule into FY01. The increase developmental testing is required to develop new software instead of reusing existing software.

(U) Technical:

C. (U) Other Program Funding Summary
(APPN, BLI #, NOMEN)

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To</u>	<u>Total</u>
								<u>Compl</u>	<u>Cost</u>
(U) PC BLI# 653200 Training Devices/Simulators	3297	13750	30791	21577	17567	24741	24959	CONT.	CONT.
(U) PC BLI# 463000 Common Computer Resources	0	0	935	434	434	398	0	0	2201

(U) Related RDT&E

PE 0603832D, Joint Simulation Management

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 74 of 85)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE February 2000

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications
Systems

PROJECT
C2315

D. (U) Schedule Profile

JSIMS

Fiscal Year	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	Total
Contract Award	2 Dec 96			B1 VRM	B2 VRM	B3 VRM				
Version 1.0	[Bar]					Dec 96 - Apr 01				
Build 1			[Bar]		Jan 98 - Jul 99					
Build 1 SERRT Demo				[Bar]	Jul 12-16 99					
Build 2				[Bar]	Mar 99- Mar 00					
Build CE				[Bar]	Feb 00-May 00					
Build 3				[Bar]	Apr 99 - Aug 00					
Build 3 CE					[Bar]	Oct 00 - Nov 00				
Version 1.0 VRM						Jan 01				
IOC Event/OT&E						[Bar]	Feb 01 - Apr 01			
MS III							Jun 01			
Version 1.1/VRM					[Bar]	Apr 00 - Mar 02				
Version 1.2/VRM						[Bar]	Apr 01 - Mar 03			
Version 2.0/VRM							[Bar]	Feb 02 - Mar 04		

R-1 Line Item 175

Budget Item Justification

(Exhibit R-2, Page 75 of 85)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2315

CVAT SCHEDULE:

ID	Task Name	2000			2001				2002				2003				2004					
		Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	
4	Milestone I/II	◆																				
5	Contract Award		◆																			
6	Developmental Testing				▬																	
7	Milestone III																					
8	Prod Contract Award																					
9	IOC																					
10	FOC																					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems				PROJECT C2315		
A. (U) Project Cost Breakdown				<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>				
Subtotal Product Development				7746	11143	5289				
Subtotal Support and Management				169	745	242				
Subtotal Test and Evaluation				298	200	340				
Total				8213	12088	5871				
Performing Organizations										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1999	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	Budget to Complete	Total Program
Product Development Organizations										
VISICOM, Labs Inc. San Diego, CA	RCP	NOV 97			3447	3479	3315	3317	CONT	CONT
STRICOM Orlando, FL	RCP	NOV 98	1000	1000	0	1000	0	0	0	1000
TBD, MARCOR SYSCOM	RCP	DEC 99			0	0	5781	925	0	6706
NRaD, San Diego, CA	WR	DEC 97			1196	600	400	400	CONT	CONT
CECOM, Ft. Monmouth, NJ	MIPR	NOV 97			1375	528	528	528	CONT	CONT
Naval Air Warfare Center, Orlando, FL	RCP	DEC 97	680	680	279	401	0	0	0	1029
Naval Air Warfare Center Orlando FL	RCP	NOV 97	760	760	380	380	0	0	0	760
MCIA	WR	NOV 97			238	119	119	119	CONT	CONT
R-1 Line Item 175						Budget Item Justification				

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE
February 2000

BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2315
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Quantico, VA				CCR	RCP	JAN 99	2500	2500	0	1239	1000	0	0	2500
Quantico, VA				Support and Management Organizations										
Naval Air Warfare Center, Orlando, FL				WR	NOV 97	100	100	50	50	0	0	0	0	100
Naval Surface Warfare Center Indian Head, MD				RCP	NOV 97			238	119	119	119	CONT	CONT	
SVERDRUP Ft Walton Beach FL				RCP	MAR 00			0	0	353	0	0	0	353
Quantico, VA				Test and Evaluation Organizations										
MCOTEA				RCP	NOV 98			0	298	200	340	CONT	CONT	
Quantico, VA				Government Furnished Property										
				Contract										
Item	Method/Type	Award or	Delivery	Total				Budget to			Total			
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>					
				Product Development Property										
				Support and Management Property										
				Test and Evaluation Property										
				Total				Budget to			Total			
				<u>FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>					
Subtotal Product Development				6915	7746	11143	5289	CONT	CONT					
Subtotal Support and Management				288	169	745	242	CONT	CONT					
Subtotal Test and Evaluation				0	298	200	340	CONT	CONT					
Total Project				7203	8213	12088	5871	CONT	CONT					

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 78 of 85)

UNCLASSIFIED

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2000
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BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2510
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COST (In Millions)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
C2510 MAGTF CSSE S&E	0	1135	1074	681	535	257	257	Continuing	Continuing
Quantity of RDT&E Articles									

A. (U) Mission Description and Budget Item Justification:

(U) The MAGTF Combat Service Support Element & Supporting Establishment (CSSE & SE) consists of mutually supporting Logistics Information Technology (IT) programs that support force deployment, planning, and execution; sustainment and distribution; and contribute to the CINC's Common Operating Picture (COP) to support rapid accurate decision making.

1. The ATLASS capability represents a deployable capability that will be used in the tactical deployed areas of the Marine Corps, as well as in garrison. The ATLASS PIP program funds the improvement of the fielded ATLASS II+ system as well as the migration of base and station (non-deployable) USMC intermediate and consumer level supply and maintenance systems from a mainframe environment into a personal computer application using a networked client server architecture. The ATLASS PIP consolidated the total force intermediate and consumer level supply and maintenance information management functions into a single material management system. ATLASS PIP enhances ATLASS II+, retires existing mainframe legacy applications in use by the bases and stations, and expands the client-server based supply maintenance and material readiness Automated Information System (AIS) ATLASS II+ to them. ATLASS PIP retains the flexibility to exploit existing commercial and government off-the-shelf software. This system remains compliant with the MAGTF C4I concept, GCCS COE, and published DOD standards for open systems architecture.
2. TC-AIMS II is a Joint transportation and deployment Automated Information System (AIS) supporting the DOD mission areas of mobility and sustainment. It will replace two of our MAGTF LOG AIS applications over a parallel transition starting in FY00. TC-AIMS II will be used by Command Elements, Traffic Management Offices (TMO), and all operating forces deploying units to automate the processes of planning, organizing, coordinating, and controlling deployment, redeployment, and sustainment activities worldwide, in peace as well as during contingencies. It provides a modernized, scaleable, integrated, and easily deployable AIS that supports reengineered deployment and business processes throughout DOD. TC-AIMS II is the key enabler towards Force Deployment Planning and Execution. It is the source system for In-Transit-Visibility (ITV) data, which provides CINC's and Components with critical visibility of items in the transportation pipeline. TC-AIMS II links all DOD Component unit movement and Installation Transportation Office/Traffic Management Office (ITO/TMO) functionality into a single transportation management system. It is a Joint ACAT 1A(M) program, with the USMC portion being handled as an ACAT III.

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2000
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems	PROJECT C2510
<p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>(U) FY 1999 Accomplishments: Not Applicable.</p> <p>(U) FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • (U) \$ 792 ATLASS PIP: Commence design and development activity of ATLASS PIPs • (U) \$ 200 ATLASS PIP: Evaluate and Integrate existing software and hardware modules and technology. • (U) \$ 50 ATLASS PIP: Commence development of implementation and support plans. • (U) \$ 49 TC-AIMS II: Exploration and development of Integration Plans with Air/Ship/Rail Load Planning and Joint Planning & Execution Tools, leveraging data warehousing and operational data stores initiatives. • (U) \$ 44 TC-AIMS II: Evaluate web-enabling technologies and messaging backbone utilities for developing a web based version of TC-AIMS II as an improvement in the concept of operations over the client server configuration. <p>(U)Total \$ 1,135</p> <p>(U) FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • (U) \$ 250 ATLASS PIP: Continue evaluating design and development activity of ATLASS PIP's. • (U) \$ 138 ATLASS PIP: Test and evaluate existing ATLASS II+ software. • (U) \$ 100 ATLASS PIP: Continue and Complete implementation and support plans. • (U) \$ 241 TC-AIMS II: Continue design & development of web-enabling technologies, messaging backbone, and integration with air/ship/rail load and joint planning & execution tools. • (U) \$ 345 TC-AIMS II: Exploration and development of Automatic Identification Technology (AIT) and Radio Frequency Identification (RF ID) enablers, supporting data warehousing and operational data store initiatives. <p>(U)Total \$ 1,074</p>		
R-1 Line Item 175		Budget Item Justification

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
**0206313M Marine Corps Communications
Systems**

PROJECT
C2510

B. (U) <u>Project Change Summary</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
(U) Previous President's Budget	0	1141	1083
(U) Adjustments to Previous President's Budget	0	-6	-9
(U) Current Budget Submit	0	1135	1074

(U) Change Summary Explanation:
 (U) Funding: FY00 and FY01 funding decreases reflect a minor inflation adjustment.
 (U) Schedule: N/A
 (U) Technical: N/A

C. (U) <u>Other Program Funding Summary</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To	Total
(APPN, BLI #, NOMEN)								<u>Compl</u>	<u>Cost</u>
(U) PMC Line (BLI#464100) ATLASS PIP	0	0	0	2529	1161	385	478	CONT	CONT
(U) PMC Line (BLI#464100) TC-AIMS II	0	4486	10072	0	0	0	0	CONT	CONT

(U) **Related RDT&E**
None

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

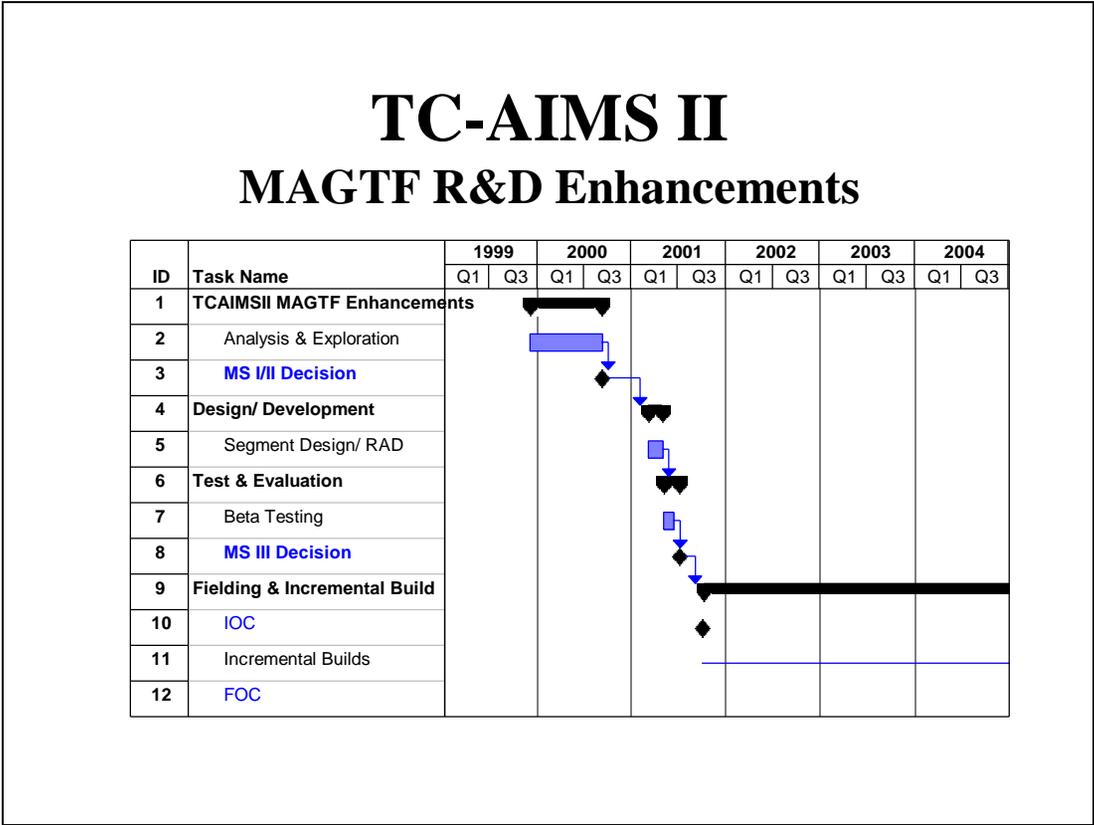
DATE **February 2000**

BUDGET ACTIVITY
7 - Operational System Development

PE NUMBER AND TITLE
0206313M Marine Corps Communications Systems

PROJECT
C2510

TC-AIMS II Schedule:



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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0206313M Marine Corps Communications Systems			PROJECT C2510			
A. (U) Project Cost Breakdown				<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>				
Product Development				0	773	645				
Support and Management				0	101	237				
Test and Evaluation				0	261	192				
Total				0	1135	1074				
B. Budget Acquisition History and Planning Information										
Performing Organizations										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1999	FY 1999	FY 2000	FY 2001	Budget to Complete	Total Program
Product Development Organizations										
ATLASS PIP:										
SSC Chesapeake	MIPR	Feb 00	1580	1580	0	0	680	250	650	1580
TC-AIMS II:										
US Army (PEOSTAMIS) (GTE, BBN)	FFP/O	Feb 00			0	0	93	395	CONT	CONT
Support and Management Organizations										
ATLASS PIP:										
Logicon	Spt/Svcs	Nov 99	297	297	0	0	101	196	0	297
TC-AIMS II:										
US Army, PEOSTAMIS (GTE, BBN)	FFP/O	Feb 00			0	0	0	41	CONT	CONT
Test and Evaluation Organizations										
ATLASS PIP:										
SSC Charleston	MIPR	Feb 00	303	303	0	0	261	42	0	303
TC-AIMS II:										

R-1 Line Item 175

Budget Item Justification

(Exhibit R-3, Page 84 of 85)

