

# UNCLASSIFIED

FY 1999 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1998

BUDGET ACTIVITY: 5      PROGRAM ELEMENT: 0603658N  
PROGRAM ELEMENT TITLE: Cooperative Engagement Capability

(U) COST: (Dollars in Thousands)

## PROJECT

NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
U2039 Cooperative Engagement Capability (CEC)	*224,281	206,851	131,623	82,704	64,692	77,920	53,677	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Cooperative Engagement Capability (CEC) significantly improves Battle Force Anti-Air Warfare (AAW) capability by coordinating all Battle Force AAW sensors into a single, real-time, composite track picture having fire control quality. CEC distributes sensor data from each ship and aircraft, or cooperating unit (CU), to all other CUs in the battle force through a real-time, line of sight, high data rate sensor and engagement data distribution network. CEC is highly resistant to jamming and provides accurate gridlocking between CUs. Each CU independently employs high capacity, parallel processing and advanced algorithms to combine all distributed sensor data into a fire control quality track picture which is the same for all CUs. CEC data is presented as a superset of the best AAW sensor capabilities from each CU, all of which are integrated into a single input to each CU's combat weapons system. CEC will significantly improve our Battle Force defense in depth, including both local area and ship defense capabilities against current and future AAW threats. Moreover, CEC will provide critical connectivity and integration of over-land air defense systems capable of countering emerging air threats, including land attack cruise missiles, in a complex littoral environment.

(U) CEC consists of the Data Distribution System (DDS), the Cooperative Engagement Processor (CEP), and Combat System Modifications. The DDS encodes and distributes ownship sensor and engagement data, is a high capacity, jam resistant, directive system providing a precision gridlocking and high throughput of data. The CEP is a high capacity distributed processor which is able to process force levels of data in a timely manner that allows its output to be considered real-time fire control data. This data is passed to the ship's combat system as fire control quality data for which the ship can cue its onboard sensors or use the data to engage targets without actually tracking them.

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PROGRAM ELEMENT TITLE: Cooperative Engagement      PROJECT TITLE: Cooperative Engagement  
Capability (CEC)      Capability (CEC)

(U) Project U2039 transferred from Program Element 0603755N beginning in FY 1998.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.

**\*NOTE: FY 1997 and prior are in Program Element 0603755N (Project U2039) and is also reflected in this budget as reference.**

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1997 ACCOMPLISHMENTS:

- (U) (\$125,017) Continued development of shipboard Common Equipment Set (CES).
- (U) (\$60,000) Continued development of airborne integration.
- (U) (\$22,219) Continued integration with Naval systems.
- (U) (\$17,045) Continued field support.

2. (U) FY 1998 PLAN:

- (U) (\$77,669) Continue development of shipboard CES.
- (U) (\$58,603) Continue development of airborne integration.
- (U) (\$45,265) Continue integration with Naval systems.
- (U) (\$25,314) Continue field support.

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3. (U) FY 1999 PLAN:
- (U) (\$50,904) Complete system development of shipboard CES.
  - (U) (\$38,700) Continue development of airborne integration.
  - (U) (\$31,419) Continue integration with Naval systems.
  - (U) (\$10,600) Continue field support.

B. (U) PROGRAM CHANGE SUMMARY:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
(U) FY 1998 President's Budget:	224,829	139,229	87,556
(U) Appropriated Value:	234,503	213,229	
(U) Adjustments to FY 1997/98 Appropriated Value/ FY 1998 President's Budget:	-10,222	-6,378	+44,067
(U) FY 1999 PESBUDG Submit:	224,281	206,851	131,623

U) CHANGE SUMMARY EXPLANATION:

- (U) Funding: FY 1997 change is due to Congressional Undistributed Reductions and minor pricing adjustments. FY 1998 decrease is due to Congressional undistributed reductions. The FY1999 change is due to additional programming of funds for E-2C airborne integration; conversion of LAMPS frequency band; Low Cost CES; HAWK/TPS-59 integration and participation in fleet exercises, and a decrease for revised economic assumptions and minor pricing adjustments.
- (U) Schedule: FOT&E of the integrated CEC/E-2C aircraft is scheduled for FY 2001.
- (U) Technical: Not applicable.

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Capability (CEC)

PROJECT NUMBER: U2039  
PROJECT TITLE: Cooperative Engagement  
Capability (CEC)

## C. (U) OTHER PROGRAM FUNDING SUMMARY: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 1997 ACTUAL	FY 1998 ESTIMATE	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
OPN 260600	0	73,255	47,332	107,894	94,333	173,171	175,768	635,909	1,307,662
SCN Various	0	23,100	6,000	12,200	34,600	35,300	36,000	69,403	216,603
O&M 1D4D	10,911	15,150	22,024	21,862	26,077	26,491	26,606	CONT.	CONT.
APN (BA-5,1) 330000	500	1,400	29,700	36,800	29,100	53,400	45,000	271,440	467,340
R&D (0204152N)	4,000	5,109	0	0	0	0	0	0	9,109

NOTE: Program Element 0603755N (Project U2039) contains CEC program for FY 1997 and prior, reflected in this budget for reference.

## (U) RELATED RDT&E:

- (U) PE 0205604N (Tactical Data Links)
- (U) PE 0604307N (AEGIS Combat System Engineering)
- (U) PE 0604366N (Standard Missile Improvements)
- (U) PE 0604518N (Combat Information Center Conversion)
- (U) PE 0204152N (E-2C Improvements)

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D. (U) SCHEDULE PROFILE:

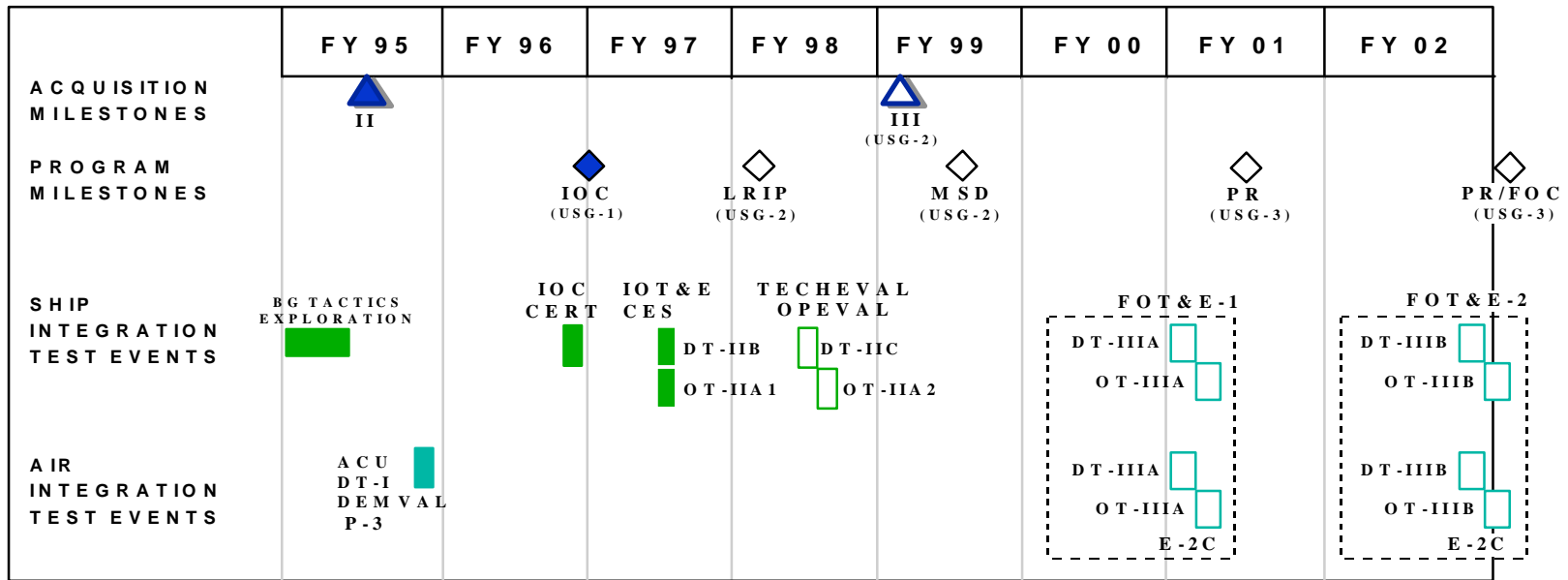
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## CEC Program Structure



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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

DATE: February 1998

BUDGET ACTIVITY: 5

PROGRAM ELEMENT: 0603658N

PROJECT NUMBER: U2039

PROGRAM ELEMENT TITLE: Cooperative Engagement  
Capability (CEC)

PROJECT TITLE: Cooperative Engagement  
Capability (CEC)

## A. (U) PROJECT COST BREAKDOWN: (\$ in thousands)

Project Cost Categories	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
a. Program Management	12,400	5,378	5,274
b. Systems Engineering	49,811	51,999	26,967
c. Equipment Assembly	31,775	18,880	15,800
d. Software Development	33,500	17,725	15,213
e. Integration	62,242	76,197	51,669
f. Installation	9,975	5,455	4,200
g. Test	7,220	6,585	7,000
h. Technical Data	3,415	2,205	2,000
i. Integrated Logistics Support	13,943	22,427	3,500
Total	224,281	206,851	131,623

\* Note: Project U2039 transferred from PE 0603755N beginning in FY 1998, reflected in budget exhibit for reference.

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RDT&E PE/Project Cost Breakdown  
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FY 1999 RDT&E,N PROGRAM ELEMENT/PROJECT COST BREAKDOWN

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B. (U) BUDGET ACQUISITION HISTORY AND PLANNING INFORMATION (\$ in thousands)

Performing Organizations

Contractor/ Government Performing Activity	Contract Method/Type or Funding Vehicle	Award/ Oblig Date	Perform Activity EAC	Project Office EAC	Total FY1996 &Prior	FY1997 Budget	FY1998 Budget	FY1999 Budget	To Compl	Total Program
<b>Product Development</b>										
E-Systems St. Petersburg, FL	SS/CPFF	10/97	CONT.	CONT.	261,704	63,057	56,593	31,134	CONT.	CONT.
JHU/APL Laurel, MD	SS/CPFF	2/98	CONT.	CONT.	98,920	25,230	47,204	14,000	CONT.	CONT.
NAVAIR PMA-231 Washington, DC	PD	Various	221,040	221,040	13,340	42,000	32,000	38,800	98,000	221,040
LOCKHEED AEROSYS Marietta, GA	C/FFP	10/97	49,283	49,283	11,000	29,783	6,500	0	2,000	49,283
NAVSURFWARCENDIV Crane, IN	WR	Various	CONT.	CONT.	10,067	5,838	4,071	2,618	CONT.	CONT.
NAVSURFWARCENDIV Dahlgren, VA	WR	Various	CONT.	CONT.	19,361	5,634	3,631	3,627	CONT.	CONT.
NAVSURFWARCENDIV Port Hueneme, CA	WR	Various	CONT.	CONT.	23,171	5,573	3,418	2,555	CONT.	CONT.
NORFOLK NSY	SS/CPFF	Various	CONT.	CONT.	7,915	241	5,481	0	CONT.	CONT.

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RDT&E PE/Project Cost Breakdown  
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