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EXHIBIT R-2a, FY 2002 RDT&E,N PROJECT JUSTIFICATION

DATE: June 2001

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604218N PROJECT NUMBER: X2345
PROGRAM ELEMENT TITLE: Air/Ocean Equipment Engineering PROJECT TITLE: Fleet METOC Equipment

(U) COST (Dollars in thousands)

PROJECT NUMBER & Title	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	To Complete	Total Program
X2345 Fleet METOC Equipment										
	4,223	4,472	4,785						CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides for the engineering and manufacturing development of sensors, communication interfaces, and processing and display equipment. This equipment is designed to measure, ingest, store, process, distribute and display meteorological and oceanographic (METOC) parameters and derived products. Major emphasis areas include the Tactical Environmental Support System (TESS) and the associated Navy Integrated Tactical Environmental Subsystem (NITES), the Marine Corps Meteorological Mobile Facility (METMF), the AN/SMQ-11 satellite receiver/recorder, weather radars, and the development of new sensors such as active and passive atmospheric profilers for incorporation into the replacement system (MORIAH) for the Shipboard Meteorological and Oceanographic Observing System (SMOOS). This project also exploits new GOTS/COTS technologies for the Navy's computer-based tactical shipboard and shore capability used to predict and assess the impact of the operating environment on the performance of platforms, weapons and sensor systems.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2000 ACCOMPLISHMENTS:

- (U) (\$1,219) Continued engineering development of a data exchange interface.
- (U) (\$1,233) Continued engineering development of fleet systems.
- (U) (\$725) Continued Lead Laboratory tasks in support of software development, assisting model developers and providing technical assistance to other activities.
- (U) (\$721) Began exploitation of off-the shelf prototype hardware and other emerging technologies.

R-1 Shopping List - Item No 100 (2) of 100 (12)

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BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604218N PROJECT NUMBER: X2345
PROGRAM ELEMENT TITLE: Air/Ocean Equipment Engineering PROJECT TITLE: Fleet METOC Equipment

- (U) (\$325) Completed development of advanced database and visualization tools.

2. (U) FY 2001 PLAN:

- (U) (\$1,345) Complete engineering development of a data exchange interface. Begin engineering development of an object oriented database management system employing artificial intelligence technology.
- (U) (\$1,340) Continue engineering development of fleet systems.
- (U) (\$715) Continue Lead Laboratory tasks in support of software development, assisting model developers and providing technical assistance to other activities.
- (U) (\$1,072) Continue exploitation of off-the shelf prototype hardware and other emerging technologies.

3. (U) FY 2002 PLAN:

- (U) (\$1,450) Continue engineering development of an object oriented database management system employing artificial intelligence technology.
- (U) (\$1,562) Continue engineering development of fleet systems.
- (U) (\$750) Continue Lead Laboratory tasks of software integration, assisting model developers and providing technical assistance to other activities.
- (U) (\$1,023) Continue exploitation of off-the-shelf prototype hardware and other emerging technologies.

B. (U) PROGRAM CHANGE SUMMARY:

(U) Funding: FY 2000 adjustments are due to SBIR Assessment (-64), Across the Board adjustments (-25), and Section 8055 Congressional Proportionate Rescission (-17), Reprogrammed to Tomahawk (-87) and Miscellaneous Navy Adjustments (-45).

R-1 Shopping List - Item No 100 (3) of 100 (12)

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BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604218N PROJECT NUMBER: X2345
PROGRAM ELEMENT TITLE: Air/Ocean Equipment Engineering PROJECT TITLE: Fleet METOC Equipment

(U) Funding: FY 2001 adjustments are due to Section 8086 .7% Pro-rata Reduction (-32), Government Wide Recission (-10).

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

R-1 Shopping List - Item No 100 (4) of 100 (12)

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BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604218N PROJECT NUMBER: X2345
PROGRAM ELEMENT TITLE: Air/Ocean Equipment Engineering PROJECT TITLE: Fleet METOC Equipment

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

	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY2007 Estimate	To Complete	Total Program
(U) OPN line 4226	18,396	24,328	26,114						CONT.	CONT.
(U) RELATED RDT&E: PE 0603207N, Air/Ocean Tactical Applications.										

D. (U) ACQUISITION STRATEGY: Not applicable.

R-1 Shopping List - Item No 100 (5) of 100 (12)

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Exhibit R-3 Proejct Cost Analysis (page 1)							Date: June 01					
APPROPRIATION/BUDGET ACTIVITY: RDT&E,N/BA5			PROGRAM ELEMENT: 0604218N				PROJECT NAME AND NUMBER: X2345 FLEET METOC EQUIP					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total FY00 + PY Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Product Development												
	WX	NRL	3,122	1,738	N/A	1,903	N/A		N/A	CONT	CONT	CONT
	WX	SSC SD	1,200	610	N/A	622	N/A		N/A	CONT	CONT	CONT
	CP	RAYTHEON	400	205	N/A	209	N/A		N/A	CONT	CONT	CONT
	N/A	MISC	2,473	1,449	N/A	1,572	N/A		N/A	CONT	CONT	CONT
Subtotal Product Development			7,195	4,002	N/A	4,306	N/A		N/A	CONT	CONT	CONT
Remarks:												
Support	CP	SSA	775	410	N/A	418	N/A		N/A	CONT	CONT	CONT
Subtotal Support			775	410	N/A	418	N/A		N/A	CONT	CONT	CONT
Remarks												

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Exhibit R-3 Project Cost Analysis (page 2)									Date: June 01			
APPROPRIATION/BUDGET ACTIVITY: RDT&E,N/BA5			PROGRAM ELEMENT: 0604218N				PROJECT NAME AND NUMBER: X2345 FLEET METOC EQUIP					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total FY00 + PY Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
T&E	PD	OPTEVFOR	120	60	N/A	61	N/A		N/A			
Subtotal T&E			120	60	N/A	61	N/A		N/A			
Remarks												
Subtotal Management												
Remarks												
Total Cost			8,090	4,472	N/A	4,785	N/A	4,958	N/A	CONT	CONT	CONT
Remarks												

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EXHIBIT R-2a, FY 2002 RDT&E,N PROJECT JUSTIFICATION

DATE: June 2001

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604218N PROJECT NUMBER: X2346
PROGRAM ELEMENT TITLE: Air/Ocean Equipment Engineering PROJECT TITLE: METOC Sensor Engineering

(U) COST (Dollars in Thousands)

PROJECT NUMBER & Title	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	To Complete	Total Program
X2346 METOC Sensor Engineering	1,510	1,523	1,561						CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides for the engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement techniques for obtaining near real-time in-situ meteorological and oceanographic (METOC) data in denied or remote areas. The objectives are to ruggedize and package systems, sensors and instruments to survive the harsh littoral environment and also to meet demanding requirements for timeliness and accuracy. Engineering is performed within this project to ensure that air and safety certification for deployment from fleet aircraft or ships is met and that the proper data formats are employed for integration into existing or planned communications and displays. The end products are sensors and systems that will provide the tactical commander with near real-time, in-situ METOC data for operational use. In addition, this difficult to obtain data will provide important inputs for predictive models in areas of potential interest.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2000 ACCOMPLISHMENTS:

- (U) (\$615) Completed development transition of tactical dropsonde capability to NAVAIR PMA-264 for P-3/S-community, PMA-299 for SH-60R transition and acquisition sponsorship by PMA-222.
- (U) (\$418) Continued development of microsensor based miniature weather stations/buoys based on Defense Advanced Research Projects Agency/Office of Naval Research developed Micro Electro Mechanical (MEMS).
- (U) (\$477) Continue development of MEASURE.

R-1 Shopping List - Item No 100 (8) of 100 (12)

Exhibit R-2a, RDT&E,N Project Justification (X2346)

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EXHIBIT R-2a, FY 2002 RDT&E,N PROJECT JUSTIFICATION

DATE: June 2001

BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604218N PROJECT NUMBER: X2346
PROGRAM ELEMENT TITLE: Air/Ocean Equipment Engineering PROJECT TITLE: METOC Sensor Engineering

2. (U) FY 2001 PLAN:

- (U) (\$598) Begin engineering development of METOC sensors for ultra-light Unmanned Airborne Vehicles.
- (U) (\$500) Continue development of microsensor based miniature weather stations/buoys based on Defense Advanced Research Projects Agency/Office of Naval Research developed Micro Electro Mechanical (MEMS).
- (U) (\$425) Continue development of MEASURE.

3. (U) FY 2002 PLAN:

- (U) (\$458) Continue engineering development of METOC sensors for ultra-light Unmanned Airborne Vehicles.
- (U) (\$388) Complete development of microsensor based miniature weather stations/buoys based on Defense Advanced Research Projects Agency/Office of Naval Research developed Micro Electro Mechanical (MEMS).
- (U) (\$400) Continue development of MEASURE.
- (U) (\$315) Begin engineering development of intelligent sensor suite for Unmanned Undersea Vehicles.

B. (U) PROGRAM CHANGE SUMMARY:

(U) Funding: FY 2000 adjustments are due to SBIR Assessment (-30), Miscellaneous Navy adjustments (-88), and Section 8055 Congressional Proportionate Rescission (-6).

(U) Funding: FY 2001 adjustments are due to Section 8086 .7% Pro-rata Reduction (-11), Miscellaneous Navy adjustments (-234).

R-1 Shopping List - Item No 100 (9) of 100 (12)

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BUDGET ACTIVITY: 5 PROGRAM ELEMENT: 0604218N PROJECT NUMBER: X2346
PROGRAM ELEMENT TITLE: Air/Ocean Equipment Engineering PROJECT TITLE: METOC Sensor Engineering

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

C. (U) OTHER PROGRAM FUNDING SUMMARY:

(U) OTHER RDT&E: PE 0602435N (Ocean and Atmospheric Technology)
PE 0603207N (Air/Ocean Tactical Applications)

D. (U) ACQUISITION STRATEGY: Not Applicable.

R-1 Shopping List - Item No 100 (10) of 100 (12)

Exhibit R-2a, RDT&E,N Project Justification (X2346)

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Exhibit R-3 Project Cost Analysis (page 1)								Date: June 01				
APPROPRIATION/BUDGET ACTIVITY: RDT&E, N/BA5			PROGRAM ELEMENT: 0604218N					PROJECT NAME AND NUMBER: X2346 METOC SENSOR ENGINEERING				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total FY00 + PY Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Product Development	WX	NRL	1,150	610	N/A	622	N/A		N/A	CONT	CONT	
	N/A	MISC	2,138	913	N/A	939	N/A		N/A	CONT	CONT	
Subtotal Product Development			3,288	1,523	N/A	1,561	N/A		N/A	CONT	CONT	
Remarks:												
Subtotal Support												
Remarks												

R-1 Shopping List - Item No 100 (11) of 100 (12)

Exhibit R-3, Project Cost Analysis

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Exhibit R-3 Project Cost Analysis (page 2)								Date: June 01				
APPROPRIATION/BUDGET ACTIVITY: RDT&E, N/BA5				PROGRAM ELEMENT: 0604218N				PROJECT NAME AND NUMBER: X2346 METOC SENSOR ENGINEERING				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total FY00 + PY Cost	FY01 Cost	FY01 Award Date	FY02 Cost	FY02 Award Date	FY03 Cost	FY03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal T&E												
Remarks												
Subtotal Management												
Remarks												
Total Cost			3,288	1,523	N/A	1,561	N/A		N/A	CONT	CONT	
Remarks												

R-1 Shopping List - Item No 100 (12) of 100 (12)

Exhibit R-3, Project Cost Analysis

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