EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5				R-1 ITEM NOMENCLATURE 0604218N Air/Ocean Equipment Engineering			
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total PE Cost	**5.431**	**5.054**	**5.750**	**6.167**	**6.789**	**7.110**	**6.728**
2345 Fleet METOC Equipment	3.853	3.438	4.078	4.478	5.066	5.351	4.935
2346 METOC Sensor Engineering	1.578	1.616	1.672	1.689	1.723	1.759	1.793
Quantity of RDT&E Articles							

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Air/Ocean Equipment Engineering (AOEE) Program Element provides future mission capabilities to support naval combat forces. This program engineers and developmentally tests organic and remote sensors, communication interfaces, and processing and display devices. These equipments are engineered to measure, ingest, store, process, distribute and display conditions of the physical environment that are essential to the optimum employment and performance of naval warfare systems. AOEE also engineers capabilities for shipboard and shore-based tactical systems. A major thrust area for the AOEE program is to provide the engineering development of specialized equipment and measurement capabilities that are intended to monitor specific conditions of the physical environment in hostile and remote areas. With such capabilities, the war fighters' situational awareness of the operational effects of the physical environment are made more certain.

This budget reflects a reorganization by program/project to better support the acquisition process.

EXHIBIT R-2, RDT&E Budget Item Justification	DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA 5	R-1 ITEM NOMENCLATURE 0604218N Air/Ocean Equipment Engineering

(U) C. PROGRAM CHANGE SUMMARY:

(U) Funding:	FY 2007	FY 2008	FY 2009
FY08/09 President's Budget	5.557	5.162	5.784
FY09 President's Submit	5.431	5.054	5.750
Total Adjustments	(0.126)	0.108	(0.034)
Summary of Adjustments			
Small Business Innovative Research (SBIR) Tax	(0.126)	(0.075)	0.000
Misc. Congressional Adjustments	0.000	(0.033)	0.000
Misc. Adjustments	0.000	0.000	(0.034)
Subtotal	(0.126)	(0.108)	(0.034)

(U) Schedule:

This budget reflects a reorganization by program/project to better support the acquisition process. Schedules are now presented separately for each program/project.

(U) Technical:

Not Applicable

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air/Ocean Equipment Engineering				PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**3.853**	**3.438**	**4.078**	**4.478**	**5.066**	**5.351**	**4.935**
RDT&E Articles Qty							

(U) A. 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 provide future mission capabilities for warfighters 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), NITES Next Generation (Next), the Marine Corps Meteorological Mobile Facility Replacement (METMF(R)), METMF(R) Next Generation (NEXGEN), the Environmental Satellite Receiver Processor (ESRP) (comprised of AN/SMQ-11 (sea and shore configuration) and AN/FMQ-17 (shore configuration)) satellite data receiver/recorder. This project also exploits new government off-the-shelf (GOTS)/commercial off-the-shelf (COTS) technologies, tactical sensors and web enablement for the Navy's computer-based tactical shipboard and shore capability used to predict and assess the operational effects of the physical environment on the performance of platforms, weapons and sensor systems. This project includes development of warfare specific mission planning modules to support unmanned systems with integration of data from environmental and tactical sensor systems, model forecast information and Geospatial Information & Services Databases. This project also supports development of autonomous environmental sensing systems for situational awareness and tactical decision aid/mission planner support, as well as iridium and advanced satellite communication integration in meteorological and oceanographic (METOC) sensor, vehicle control and mission planning systems that will be required to achieve full reach back capability.

This budget reflects a reorganization by program/project to better support the acquisition process.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E, N / BA-5	0604218N Air Ocean Equipment Engineering	2345 Fleet METOC Equipment

(U) B. Accomplishments/Planned Program

Meteorlogical and Oceanographic (METOC) Future Misson Capabilities (FMC)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.445	1.079
RDT&E Articles Quantity			

FY08 - Begin technical evaluation and selection of autonomous ocean and atmospheric sensor packages; perform sensor package capability demonstration testing. Efforts formerly located in "Fleet System Engineering/TDA/Mission Planning." Develop Hazardous Weather Detection and Discplay Capability (HWDDC), and Tactical Environmental Processor (TEP) data collection and fusion systems.

FY09 - Continuation of FY08 efforts. Conduct system development and demonstration for environmental equipment to include associated engineering and support efforts. Continue development advanced tools and techniques for METOC asset allocation, METOC decision support applications and interfaces to tactical and strategic decision aids. Develop the Hazardous Weather Detection and Display Capability (HWDDC), Tactical Environmental Processor (TEP), and Littoral Battlespace Sensors - Unmanned Undersea Vehicle (LBS-UUV) data collection and fusion systems.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E, N / BA-5	0604218N Air Ocean Equipment Engineering	2345 Fleet METOC Equipment

(U) B. Accomplishments/Planned Program

Littoral Battlespace Sensing, Fusion and Integration (LBSF&I)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.117	0.100
RDT&E Articles Quantity			

FY08 - Develop unmanned system mission modules for forward deployed oceanographers and system operators to improve deployment effectiveness. Begin technical evaluation and selection of autonomous ocean and atmospheric sensor packages; perform sensor package capability demonstration testing. Efforts formerly located in "Fleet System Engineering/TDA/Mission Planning." Develop Littoral Battlespace Sensors - Unmanned Undersea Vehicle (LBS-UUV) data collection and fusion systems.

FY09 - Complete sensor based atmospheric sensing Analysis of Alternatives (AoA) for both stationary and expeditionary applications (including application of UAV's (Unmanned Airborne Vehicle's) and airborne sensors). Complete selection of potential solutions. Complete related testing. Begin PLCCE (Program Life Cycle Cost Estimate). Develop system integration requirements, system performance specifications, and begin CDD (Capabilities Development Document) development. Begin interoperability and system security studies and identify related requirements. Complete UUV prototype development, including the launch and recovery system, the mission planning and tracking and telemetry system, the sensor system, and the shipping/storage system. Begin definition of the LBSF&I UUV Spiral 2 system. Begin development of the Increment 2 system. Conduct studies as required.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering	PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment

(U) B. Accomplishments/Planned Program

USMC Meteorological Mobile Facility (Replacement) Next Generation (METMF(R) NEXGEN)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	3.554	2.374	0.600
RDT&E Articles Quantity			

FY07 - Conducted System Development (Integration) phase activities of METMF(R) NEXGEN (formerly METMF(R) NG) prototypes to include: Systems Requirement Review (SRR), Systems Functional Review (SFR), Preliminary Design Review (PDR), Critical Design Review, Design Readiness Review (DRR). Began System Development (Demonstration) phase activities. Funds realigned from the Future Meteorological and Oceanographic (METOC) Capabilities program in execution.

FY08 - Conduct verification & validation testing of METMF(R) NEXGEN (formerly METMF(R) NG) prototypes and prepare for delivery. Funds realigned from the Future Meteorological and Oceanographic (METOC) Capabilities program. Efforts formerly located in "USMC Acquisition."

FY09 - Conduct Engineering Change Proposals (ECPs) to the METMF(R) NEXGEN (formerly METMF(R) NG) prototype systems.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E, N / BA-5	0604218N Air Ocean Equipment Engineering	2345 Fleet METOC Equipment

(U) B. Accomplishments/Planned Program

Naval Integrated Tactical Environmental System Next Generation (NITES-Next)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost		0.197	1.982
RDT&E Articles Quantity			

FY08 - Engineering for Naval Integrated Tactical Environmental System Next Generation (NITES-Next) (formerly NITES NG). Efforts formerly located in "Fleet System Engineering/TDA/Mission Planning."

FY09 - Software test and integration (developed in PE 0603207N, project 2343 Tactical METOC Applications) related to equipment and infrastructure in support of system engineering activities for Naval Integrated Tactical Environmental System Next Generation (NITES-Next). Efforts include extensive integration and test efforts on infrastructure for developmental test and evaluation (DT&E) required in preparation for Milestone decision for NITES-Next. Efforts formerly located in "Fleet System Engineering/TDA/Mission Planning."

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E, N / BA-5	0604218N Air Ocean Equipment Engineering	2345 Fleet METOC Equipment

(U) B. Accomplishments/Planned Program

Environmental Satellite Receiver Processor (ESRP)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.299	0.305	0.317
RDT&E Articles Quantity			

FY07 - Formerly "Off-the-shelf Technology/METOC in IT Enterprise Environment".

* Continued and completed software integration of new satellite sensors for Geostationary Operational Environmental Satellites (GOES) Low Rate Information Transmission (LRIT) and Alternative Study for the Next Generation mobile Met Sensors.

* Continued software integration of new Satellite Sensors for Polar Orbiting Environmental Satellite (POES) and completed technical support and analysis to determine impacts of future satellite telemetries on the ESRP systems.

FY08 - Continue software integration of new Satellite Sensors and Polar Orbiting Environmental Satellite (POES).

* Commence and complete development and integration to provide new functionality and capability to the ESRP System and provided technical support and analysis to determine impacts of future satellite telemetries on the ESRP systems.

FY09 - Continue and complete software integration of new Satellite Sensors for Polar Orbiting Environmental Satellite (POES).

* Commence Software development in support of Polar Orbiting Environmental Satellite (POES) National Preparatory Project (NPP) for Environmental Satellite Receiver Processors (ESRP).

* Commence and complete engineering research to determine prospective candidate technologies and/or products to augment the capabilities of ESRP and provided technical support and analysis to determine impacts of future satellite telemetries on the ESRP systems.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering	PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OPN 4226 METEOROLOGICAL EQUIPMENT	21.387	11.903	24.742	37.674	38.259	41.591	38.879

Related RDT&E: PE 0603207N, Air/Ocean Tactical Applications

(U) D. ACQUISITION STRATEGY:

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to Naval Research Laboratories (NRL) and miscellaneous contractors, with management oversight by the Program Executive Officer for Command, Control, Communications, Computers and Intelligence (PEO C4I).

(U) E. MAJOR PERFORMERS:

N/A

(U) F. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

Exhibit R-3 Cost Analysis (page 1)												DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineering			PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Software/Product Development	WX	NRL	9.524	1.381	N/A		N/A		N/A	CONT	CONT	
	WX	SSCs	4.204	0.590	N/A	1.151	N/A	0.750	N/A	CONT	CONT	
	CP	RAYTHEON	1.960	0.299	N/A	0.300	N/A	0.317	N/A	CONT	CONT	
	NA	MISC	13.211	1.583	N/A		N/A		N/A	CONT	CONT	
	CP	MISC			N/A	1.987	N/A	3.011	N/A	CONT	CONT	
Subtotal Software/Product Development			28.899	3.853	N/A	3.438	N/A	4.078	N/A	CONT	CONT	
Remarks:												
Systems Engineering	CP	SSA/CSC	1.312		N/A		N/A		N/A	CONT	CONT	
Subtotal Systems Engineering			1.312	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	
Remarks:												

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2008		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineering			PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	PD	OPTEVFOR	0.394		N/A		N/A		N/A	CONT	CONT	
Subtotal Developmental T & E			0.394	0.000	N/A	0.000	N/A	0.000	N/A	CONT	CONT	
Remarks:												
Management												
Subtotal Management			0.000	0.000		0.000		0.000				
Remarks:												
Total Cost			30.605	3.853	N/A	3.438	N/A	4.078	N/A	CONT	CONT	

EXHIBIT R4, Schedule Profile | **DATE:** February 2008

APPROPRIATION/BUDGET ACTIVITY
RDT&E, N / BA-5

PROGRAM ELEMENT NUMBER AND NAME
0604218N Air Ocean Equipment Engineering

PROJECT NUMBER AND NAME
2345 Fleet METOC Equipment - Program: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)

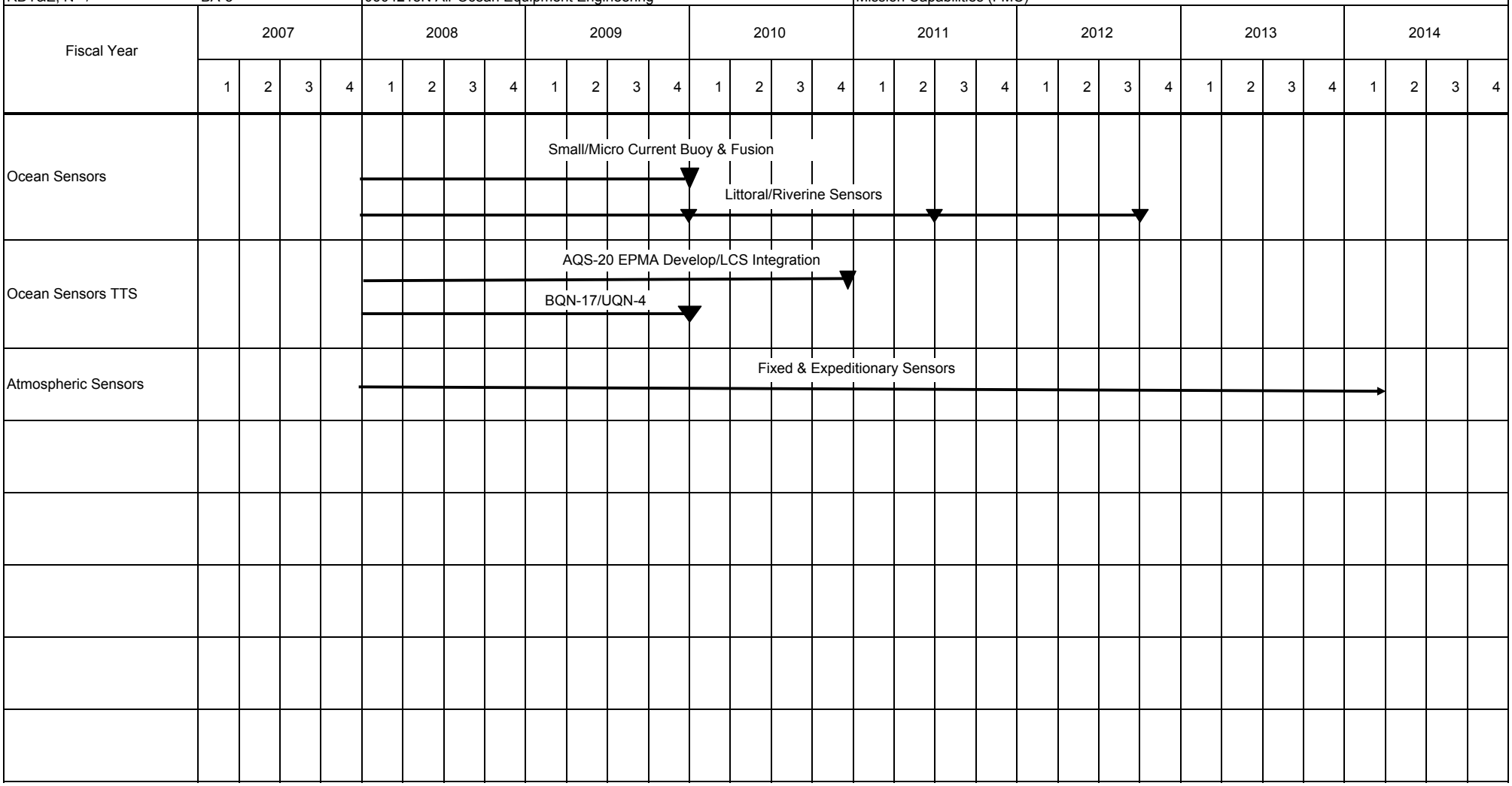

Exhibit R-4a, Schedule Detail					**DATE:** February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				**PROJECT NUMBER AND NAME** 2345 Fleet METOC Equipment - Program: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Ocean Sensors			4Q		2Q	3Q		
Ocean Sensors TTS			4Q	4Q				
Atmospheric Sensors								

EXHIBIT R4, Schedule Profile																															**DATE:** February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5					**PROGRAM ELEMENT NUMBER AND NAME** 0604218N Air Ocean Equipment Engineering												**PROJECT NUMBER AND NAME** 2345 Fleet METOC Equipment - Program: Littoral Battlespace Sensing, Fusion and Integration															
Fiscal Year	2007				2008				2009				2010				2011				2012				2013				2014			
	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	3	4
LBSF&I UUV						SDD			←				BLK II Prototype/EDM Dev				→				→	←			BLK III Prototype/EDM				→			
								MS C								IOC				FOC		BLK II - MS C										BLK III MS - C

Exhibit R-4a, Schedule Detail					**DATE:** February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				**PROJECT NUMBER AND NAME** 2345 Fleet METOC Equipment - Program: Littoral Battlespace Sensing, Fusion and Integration (LBSF&I)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
LBSF&I UUV		4Q		1Q	4Q	2Q		4Q

EXHIBIT R4, Schedule Profile			DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering	PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment - Program: USMC Meteorological Mobile Facility (Replacement) Next Generation (METMF(R) NEXGEN)	

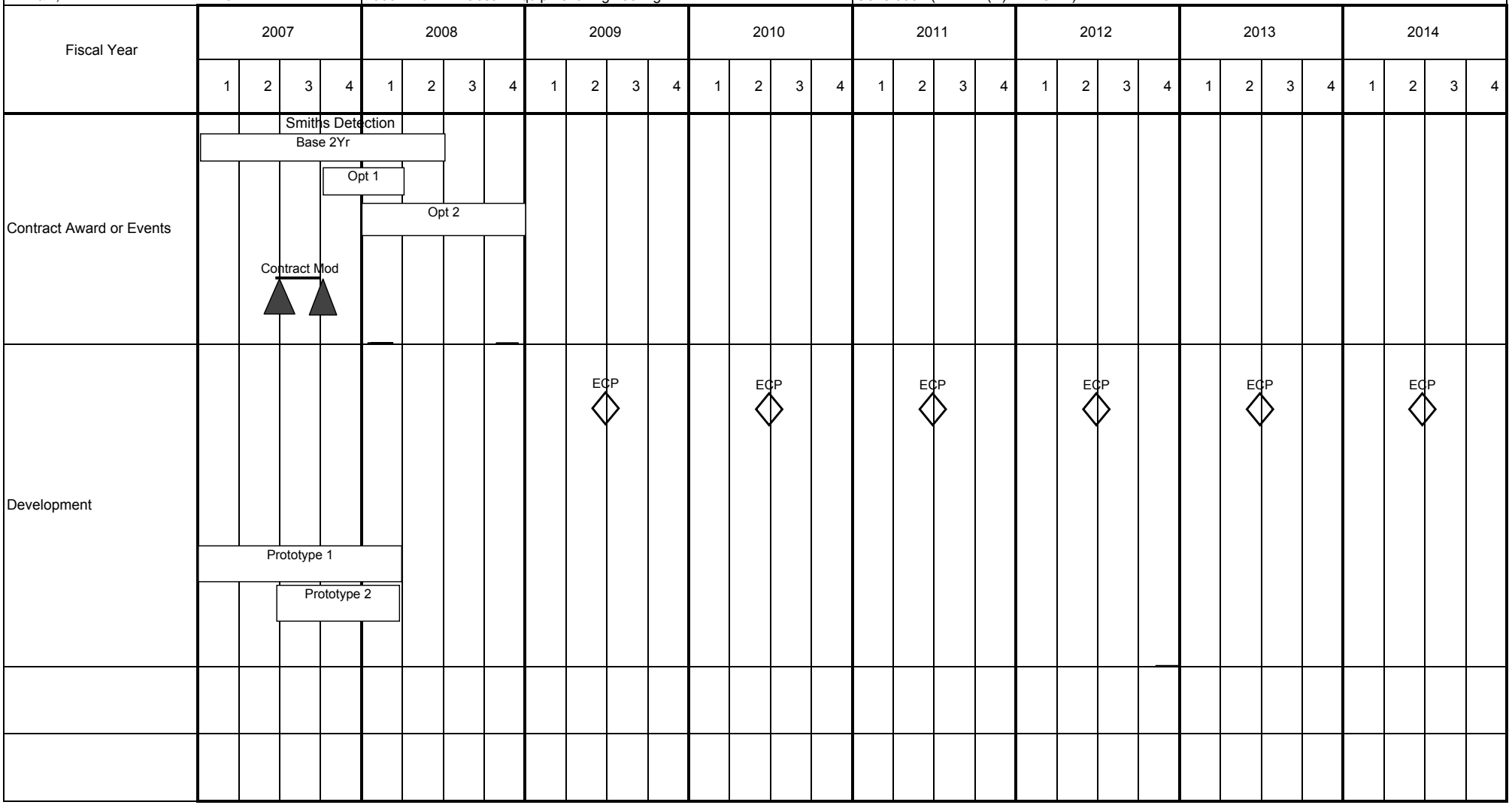

Exhibit R-4a, Schedule Detail					**DATE:** February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				**PROJECT NUMBER AND NAME** 2345 Fleet METOC Equipment - Program: USMC Meteorological Mobile				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Contract Award or Events								
Base	1Q - 4Q	1Q - 2Q						
Modification	3Q							
Option 1	4Q	1Q						
Option 2		1Q - 4Q						
Development								
Prototype 1	1Q - 4Q	1Q						
Prototype 2	3Q - 4Q	1Q						
Engineering Change Proposal (ECP)		2Q	2Q	2Q	2Q	2Q	2Q	2Q

EXHIBIT R4, Schedule Profile																															
																													DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5					PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering												PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment - Program: Naval Integrated Tactical Environmental System Next													
Fiscal Year	2007				2008				2009				2010				2011				2012				2013				2014			
	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	3	4
Infrastructure Engineering & Development									Arch/Design Engineering																							
Development and Test (DT&E)of Netcentric Enterprise Hardware Solutions in NITES-Next										DT&E							Net-centric METOC integration								NITES-next SOA infrastructure							

Exhibit R-4a, Schedule Detail					**DATE:** February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				**PROJECT NUMBER AND NAME** 2345 Fleet METOC Equipment - Program: Naval Integrated Tactical Environmental System Next Generation (NITES-Next)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Infrastructure Engineering & Development			1Q, 4Q					
Development and Test (DT&E)of Netcentric Enterprise Hardware Solutions in NITES-Next			2Q	1Q, 2Q	1Q	2Q		

EXHIBIT R4, Schedule Profile

DATE: February 2008

APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E, N / BA 5	0604218N Air Ocean Equipment Engineering	2345 Fleet METOC Equipment - Program: Environmental Satellite Receiver Processor (ESRP)

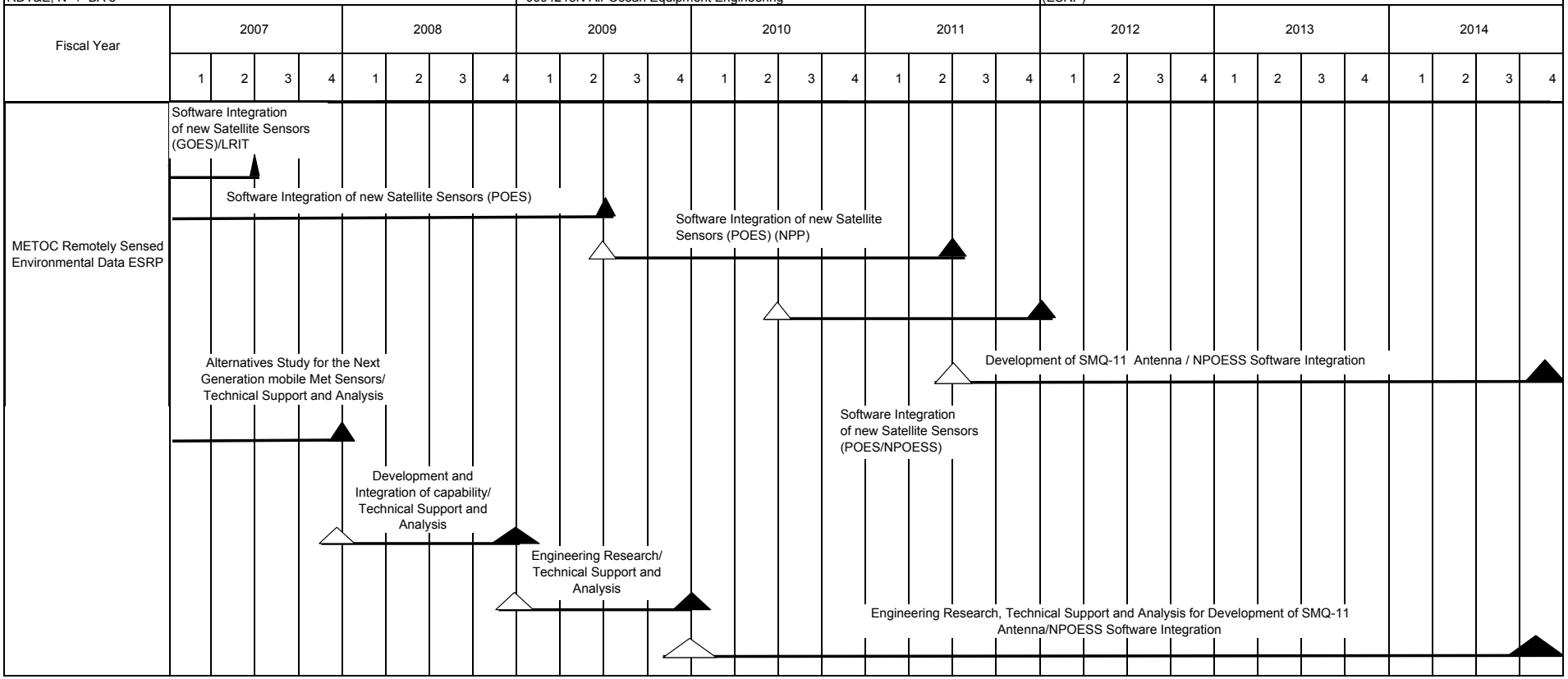

Exhibit R-4a, Schedule Detail					DATE: February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				PROJECT NUMBER AND NAME 2345 Fleet METOC Equipment - Program: Environmental Satellite Receiver Processor (ESRP)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
METOC Remotely Sensed Environmental Data ESRP	4Q	4Q	4Q	4Q	4Q	4Q	2Q/4Q	2Q/4Q

EXHIBIT R-2a, RDT&E Project Justification						DATE: February 2008	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air/Ocean Equipment Engineering				PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering		
COST ($ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project Cost	**1.578**	**1.616**	**1.672**	**1.689**	**1.723**	**1.759**	**1.793**
RDT&E Articles Qty							

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides for the engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement capabilities for obtaining near real-time, in-situ meteorological and oceanographic (METOC) data in hostile, remote, and denied areas. The project's objectives are to engineer near-term future mission sensing capabilities that are intended to survive the harsh littoral and deep-strike environments 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 engineered for electronic communications transmissions, human interface displays, and inputs to predictive models.

This budget reflects a reorganization by program/project to better support the acquisition process.

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E, N / BA-5	0604218N Air Ocean Equipment Engineering	2346 METOC Sensor Engineering

(U) B. Accomplishments/Planned Program

Meteorlogical and Oceanographic (METOC) Future Mission Capabilities (FMC)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	1.480	1.427	1.436
RDT&E Articles Quantity			

FY07 - Developed and demonstrated sensor integration and compatibility with Network. Developed follow-on UAV Meteorological sensors using evolving technologies. Delivered initial engineering plan including Total Ownership Cost (TOC) estimates. Developed of Unmanned Underwater Vehicle (UUV) Sensor engineering plans. Flight tested air-deployed micro-sensors and delivered Final Report. Began investigating Network integration. Efforts formerly located in "Unmanned Aerial Vehicle METOC Sensors/Sensors/Observing Systems."

FY08 - Develop Architecture and document UAV Meteorological and Oceanographic sensors using evolving technologies. Proceed with verification and validation tests of air-deployed micro-sensors and deliver Test Report. Extend strategy definition on network integration studies for insitu environmental sensor systems. Upgrade Navy buoys and expand capabilities to acquired hydrodynamic characteristics in the littoral for production center use. Develop follow-on tactical through-the-sensor oceanographic and acoustic data collection system engineering plans. Efforts formerly located in "Unmanned Aerial Vehicle METOC Sensors/Sensors/Observing Systems."

FY09 - Continue system development and demonstration of METOC manned, unmanned and automated sensors (to include integration of environmental sensors into a larger environmental sensing strategy) Continue the development of advanced sensor system support technologies and techniques for sensor deployment, data processing and performance metrics to optimize sensor performance. Efforts formerly located in "Unmanned Aerial Vehicle METOC Sensors/Sensors/Observing Systems."

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY	**PROGRAM ELEMENT NUMBER AND NAME**	**PROJECT NUMBER AND NAME**
RDT&E, N / BA-5	0604218N Air Ocean Equipment Engineering	2346 METOC Sensor Engineering

(U) B. Accomplishments/Planned Program

Tactical Oceanographic Capabilities / UnderSea Warfare (TOC/USW)	FY 07	FY 08	FY 09
Accomplishments/Effort/Subtotal Cost	0.098	0.189	0.236
RDT&E Articles Quantity			

FY07 - Delivered Technical Reports on Buoy. Efforts formerly located in "Unmanned Aerial Vehicle METOC Sensors/Sensors/Observing Systems."

FY08 - Upgrade Navy buoys and expand capabilities to acquired hydrodynamic characteristics in the littoral for production center use. Modify existing Naval Oceanographic Office acoustic and oceanographic data collection buoys to allow them to collect geo-acoustic and seabed properties via covert, passive methods and geo-acoustic inversion techniques. Develop follow-on tactical through-the-sensor oceanographic and acoustic data collection system engineering plans. Efforts formerly located in "Unmanned Aerial Vehicle METOC Sensors/Sensors/Observing Systems."

FY09 - Conduct Verification and Validation tests on insitu oceanographic and acoustic buoys. Deliver sensor upgrade for prototype acoustic and oceanographic data collection buoy to expand geoacoustic data collection to active methods. Continue design of an end-to-end ASW Reconstruction and Analysis (R&A) System Architecture. Test buoy at sea and deliver report. Continue modification of existing Naval Oceanographic Office acoustic and oceanographic data collection buoys to allow them to collect geo-acoustic seabed properties via covert, passive methods and geoacoustic inversion techniques to include SESSS and SRFLOS modules. Efforts formerly located in "Unmanned Aerial Vehicle METOC Sensors/Sensors/Observing Systems."

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5	PROGRAM ELEMENT NUMBER AND NAME 0604218N Air Ocean Equipment Engineering	PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering

(U) C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013

Not applicable

Related RDT&E: PE 0603207N, Air/Ocean Tactical Applications

(U) D. ACQUISITION STRATEGY:

Acquisition and contracting strategies are to support engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement techniques for obtaining nea real-time in-situ meteorological and oceanographic (METOC) data in denied or remote areas by providing funds to NAVAIR and miscellaneous contractors, with management oversight by the Program Executive Officer for Command, Control, Communications, Computers and Intelligence (PEO C4I).

(U) E. MAJOR PERFORMERS:

N/A

(U). F. METRICS:

Earned Value Management (EVM) is used for metrics reporting and risk management.

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2008				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineering			PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Software/Product Development	WX	NRL	1.423	0.766	N/A	1.116	N/A	0.915	N/A	CONT	CONT	
	NA	MISC	8.863	0.812	N/A		N/A		N/A	CONT	CONT	
	CP	MISC			N/A	0.500	N/A	0.757	N/A	CONT	CONT	
Subtotal Software/Product Development			10.286	1.578	N/A	1.616	N/A	1.672	N/A	CONT	CONT	
Remarks:												
Systems Engineering												
Subtotal Systems Engineering			0.000	0.000		0.000		0.000				
Remarks:												

Exhibit R-3 Cost Analysis (page 2)												DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT 0604218N Air Ocean Equipment Engineering			PROJECT NUMBER AND NAME 2346 METOC Sensor Engineering						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 07 Cost	FY 07 Award Date	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation												
Subtotal Developmental T & E			0.000	0.000		0.000		0.000				
Remarks:												
Management												
Subtotal Management			0.000	0.000		0.000		0.000				
Remarks:												
Total Cost			10.286	1.578	N/A	1.616	N/A	1.672	N/A	CONT	CONT	

EXHIBIT R4, Schedule Profile																																
																																DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5					**PROGRAM ELEMENT NUMBER AND NAME** 0604218N Air Ocean Equipment Engineering																				**PROJECT NUMBER AND NAME** 2346 METOC Sensor Engineering - Program: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)										
Fiscal Year	2007				2008				2009				2010				2011				2012				2013				2014			
	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	3	4
Atmospheric Sensors	Helicopter Temperature & Relative Humidity												Atmospheric Microsensors/Expendables																			
Oceanographic Sensors	Wave & current Buoy												Oceanographic Sensing Systems/Microsensors/Expendables																			

Exhibit R-4a, Schedule Detail					**DATE:** February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				**PROJECT NUMBER AND NAME** 2346 METOC Sensor Engineering - Program: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Atmospheric Sensors		2Q	3Q, 4Q	4Q		2Q		
Oceanographic Sensors		2Q	4Q		2Q	4Q		

EXHIBIT R4, Schedule Profile																																
																																DATE: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5					**PROGRAM ELEMENT NUMBER AND NAME** 0604218N Air Ocean Equipment Engineering																								**PROJECT NUMBER AND NAME** 2346 METOC Sensor Engineering - Program: Tactical Oceanographic Capabilities / UnderSea Warfare (TOC/USW)							
Fiscal Year	2007				2008				2009				2010				2011				2012				2013				2014			
	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	3	4
Acoustic and Oceanographic Data Collection Buoys						Buoy Sea Test	▲			Follow-on Tactical TTS Demo		▲						NEXGEN Acoustic Buoy Development		▲						NEXGEN Acoustic Buoy At Sea Test		▲					

Exhibit R-4a, Schedule Detail					**DATE:** February 2008			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5				**PROJECT NUMBER AND NAME** 2346 METOC Sensor Engineering - Program: Tactical Oceanographic Capabilities / UnderSea Warfare (TOC/USW)				
Schedule Profile	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Acoustic and Oceanographic Data Collection Buoys		3Q	4Q		4Q		Q4	