CLASSIFICATION:

| EXHIBIT R-2, RDT&E Budget Item Justification | | | | | | DATE: | | | | |
|----------------------------------------------|-------------------------------|---------|-----------------|-----------------|------------|---------|---------------|---|--|--|
| | | | | | | | February 2006 | ; | | |
| APPROPRIATION/BUDGET ACTIVITY | APPROPRIATION/BUDGET ACTIVITY | | | | | | | | | |
| RESEARCH DEVELOPMENT TEST & EVALUATION, NA | AVY / | BA-5 | 0604218N Air/Oc | ean Equipment E | ngineering | | | | | |
| COST (\$ in Millions) | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 | | | |
| Total PE Cost | 4.325 | 4.491 | 5.578 | 5.731 | 5.830 | 5.837 | 5.961 | | | |
| 2345 Fleet METOC Equipment | 3.038 | 3.127 | 3.967 | 4.088 | 4.165 | 4.176 | 4.265 | | | |
| 2346 METOC Sensor Engineering | 1.287 | 1.364 | 1.611 | 1.643 | 1.665 | 1.661 | 1.696 | | | |
| 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 changes in investment line description beginning in FY07. This change supports acquisition and development investment lines that support the vision, operations concept, and capability requirements. Changes consolidate and better define RDT&E efforts as well as better reflect the new Commander Naval Meteorological and Oceanographic Command (CNMOC) reorganization.

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

R-1 SHOPPING LIST - Item No.

88

CLASSIFICATION:

UNCLASSIFIED

| EXHIBIT R-2, RDT&E Budget Item Justification | | | | DATE: |
|------------------------------------------------|---------|---------|------------------------|-------------------|
| | | | | February 2006 |
| APPROPRIATION/BUDGET ACTIVITY | | R | -1 ITEM NOMENCLATU | RE |
| RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / | BA 5 | 06 | 604218N Air/Ocean Equi | pment Engineering |
| (U) C. PROGRAM CHANGE SUMMARY: | | | | |
| (U) Funding: | FY 2005 | FY 2006 | FY 2007 | |
| FY06 President's Budget | 4.461 | 4.558 | 5.690 | |
| FY07 President's Budget | 4.325 | 4.491 | 5.578 | |
| Total Adjustments | (0.136) | (0.067) | (0.112) | |
| Summary of Adjustments | | | | |
| Small Business Innovation Research (SBIR) | (0.050) | | | |
| Nuclear Physical Security (OSD-09) | 0.001 | | | |
| Trusted Foundary | 0.004 | | | |
| Department of Energy Transfer | (0.003) | | | |
| Execution Realignments | (0.088) | | | |
| Sec 8125: Revised Economic Assumptions | , | (0.020) | | |
| Congressional Action 1% Reduction | | (0.047) | | |
| Contract Support Reduction | | (0.011) | (0.127) | |
| NWCF CIVPERS Efficiencies | | | (0.018) | |
| Inflation | | | 0.025 | |
| CIVPERS Pay Raise Change | | | 0.008 | |
| Subtotal | (0.136) | (0.067) | (0.112) | |
| Subtotal | (0.136) | (0.067) | (0.112) | |
| | | | | |
| (U) Schedule: | | | | |
| | | | | |
| (U) Technical: Not Applicable | | | | |
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CLASSIFICATION:

| EXHIBIT R-2a, RDT&E Project Justificat | on | | | | | | | DATE: | | | |
|------------------------------------------------------------------------------|------------|-------------------|-----------------|-------------|---------|---------|---------|---------|---------|--|--|
| | | | | | | | | Februa | ry 2006 | | |
| APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT NUMBER AND NAME PROJECT NUMBER | | | | | | | | | | | |
| RDT&E, N / BA-5 | 0604218N A | xir/Ocean Equipme | 2345 Fleet METO | C Equipment | | | | | | | |
| COST (\$ in Millions) | | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 | | | |
| Project Cost | | 3.038 | 3.127 | 3.967 | 4.088 | 4.165 | 4.176 | 4.265 | | | |
| 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), the Marine Corps Meteorological Mobile Facility (METMF), the AN/SMQ-11 satellite data receiver/recorder, shipboard weather radar capabilities, and the development of new sensors such as active and passive atmospheric profilers. This project also exploits new GOTS/COTS technologies 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 reflects changes in investment line description beginning in FY07. This change supports acquisition and development investment lines that support the vision, operations concept, and capability requirements. Changes consolidate and better define RDT&E efforts as well as better reflect the new Commander Naval Meteorological and Oceanographic Command (CNMOC) reorganization.

R-1 SHOPPING LIST - Item No.

88

CLASSIFICATION:

| EXHIBIT R-2a, RDT&E Project Justificat | ion | | | DATE: | | | | |
|------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------|-------|---------------|--|--|--|--|
| | | | | February 2006 | | | | |
| APPROPRIATION/BUDGET ACTIVITY | AME | | | | | | | |
| RDT&E, N / BA 5 | DT&E, N / BA 5 0604218N Air Ocean Equipment Engineering 2345 Fleet METOC Equip | | | | | | | |
| (U) B. Accomplishments/Planned Program Object Oriented Database Management/ | | | | | | | | |
| MetOc in IT Enterprise Environment | FY 05 | FY 06 | FY 07 | | | | | |
| Accomplishments/Effort/Subtotal Cost | 0.050 | 1.600 | | | | | | |
| RDT&E Articles Quantity | | | | | | | | |

- FY05 Completed transition and delivered final version to web-enabled high-speed battlegroup data server. Development of Object Oriented Database Management engineering for next generation data server employing expert system techniques.
- FY06: Complete and deliver Object Oriented Database Management system for next generation data server employing expert system techniques.
- FY07 Integrate Object Oriented Database Management system for the next generation data server into the Network infrastructure. Deliver associated documentation. Deliver initial report detailing huge dataset transfer capability into Tactical Environmental Data Services (TED Services).

| Fleet System Engineering/ | | | | |
|--------------------------------------|-------|-------|-------|--|
| TDA/Mission Planning | FY 05 | FY 06 | FY 07 | |
| Accomplishments/Effort/Subtotal Cost | 0.050 | 0.420 | 2.367 | |
| RDT&E Articles Quantity | | | | |

- FY05: Delivered Alternatives Study for the Next Generation Meteorological Mobile Facility.
- FY06 Deliver final study on Next Generation Mini-Rawin System (MRS). Begin development of NITES NG.
- FY07 Deliver Alternatives Study for the Next Generation mobile Met Sensors. Continue development of NITES NG. Continue Lead Laboratory support.

| Lead Laboratory/ | | | | |
|--------------------------------------|-------|-------|-------|--|
| TDA/Mission Planning | FY 05 | FY 06 | FY 07 | |
| Accomplishments/Effort/Subtotal Cost | 0.050 | 0.487 | | |
| RDT&E Articles Quantity | | | | |

- FY05-07 Lead laboratory conducts annual software integration, assists model developers, and provides technical assistance to other activities.
- FY05 Delivered Quarterly Reports.
- FY06 Deliver Quarterly Reports.
- FY07 Effort rolled into the "TDA/Mission Planning" investment line.

CLASSIFICATION:

| EXHIBIT R-2a, RDT&E Project Justification | 1 | | DATE: |
|-------------------------------------------|------------------------------------------|----------------------------|---------------|
| | | | February 2006 |
| 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

| Off-the-Shelf Technology/ | | | | |
|--------------------------------------|-------|-------|------|--|
| MetOc in IT Enterprise Environment | FY 05 | FY 06 | FY07 | |
| Accomplishments/Effort/Subtotal Cost | 0.057 | 0.400 | | |
| RDT&E Articles Quantity | | | | |

- FY05 Delivered Evaluation Report for COTS Database.
- FY06 Deliver SMQ-11 antenna Analysis of Alternatives study.
- FY07 Efforts rolled into the "InteMetOc in IT Enterprise Environment" investment line.

| USMC Acquisition | FY 05 | FY 06 | FY07 | |
|--------------------------------------|-------|-------|------|--|
| Accomplishments/Effort/Subtotal Cost | 2.831 | 1.400 | | |
| RDT&E Articles Quantity | | | | |

- FY05 Conducted Alternative Analysis for prototype development of the Meteorological Mobile Environmental Facility (Replacement) Next Generation (METMF(R) NG) including radar and communications integration.
- FY06 Development of METMF(R) NG Variant I EDM, Variant II prototype.

CLASSIFICATION:

| EXHIBIT R-2a, RDT&E | Project Justification | | | | | | | DATE: | | |
|----------------------|-----------------------|--------------|--------------|----------------|------------|-------------------------|---------------|----------------------------|--|--|
| | | | | | | | | February 2006 | | |
| APPROPRIATION/BUDGET | ACTIVITY | PROGRAM EL | EMENT NUM | BER AND NAN | PROJECT NU | PROJECT NUMBER AND NAME | | | | |
| RDT&E, N / | BA-5 | 0604218N Air | Ocean Equipr | nent Engineeri | ng | | 2345 Fleet ME | 2345 Fleet METOC Equipment | | |
| (U) C. OTHER PROG | GRAM FUNDING SUMMARY: | | | | | | | | | |
| Line Item No. & Na | <u>me</u> | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 | | |
| OPN 4226 METI | EOROLOGICAL EQUIPMENT | 19.996 | 22.486 | 15.037 | 19.101 | 23.306 | 26.203 | 26.781 | | |
| | | | | | | | | | | |

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 and miscellaneous contractors, with management oversight by the Program Executive Officer for Command, Control, Communications, Computers and Intelligence and Space (PEO C4I & Space).

(U) E. MAJOR PERFORMERS:

N/A

(U) F. METRICS:

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

CLASSIFICATION:

| Exhibit R-3 Cost Analysis (page APPROPRIATION/BUDGET ACTIVITY | 1) | | | | | | | | | | | | | | |
|---------------------------------------------------------------|--------------------|--------------------------|--------------|---------------|----------------|----------------|----------------------------|----------------|-------|----------------|---------|-------|--------------|--|--|
| APPROPRIATION/BLIDGET ACTIVITY | | | | | | | February 2006 | | | | | | | | |
| / I TROF RIVER ON BOBOLT NOTIVIT | Y | | PROGRAM EL | | | | PROJECT NU | | | | | | | | |
| RDT&E, N / BA-5 Cost Categories | | I= | 0604218N Air | | nent Engineeri | ng | 2345 Fleet METOC Equipment | | | | | T | | | |
| Cost Categories | Contract Method | Performing Activity & | | Total PY s | FY 05 | FY 05 Award | FY 06 | FY 06 Award | FY 07 | FY 07 Award | Cost to | Total | Target Value | | |
| | & Type | Location | | Cost | Cost | Date | Cost | Date | Cost | Date | Cost to | Cost | of Contract | | |
| | WX | NRL | | 7.249 | 1.110 | | 1.165 | | 1.488 | | CONT | | | | |
| | WX | SSCs | | 3.291 | 0.446 | | 0.467 | | 0.590 | | CONT | CONT | | | |
| | СР | RAYTHEON | | 1.502 | 0.224 | | 0.234 | | 0.296 | | CONT | CONT | | | |
| | NA | MISC | | 10.722 | 1.228 | NA | 1.261 | NA | 1.592 | NA | CONT | CONT | | | |
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| | | | | | | | | | | | | | | | |
| Subtotal Product Development | | | | 22.764 | 3.008 | 0.000 | 3.127 | 0.000 | 3.967 | , | CONT | CONT | | | |
| Remarks: | | | | | | | | | | | | | | | |
| Development Support | СР | SSA/CSC | | 1.312 | | | | | | | | | | | |
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| Subtotal Support | | | | 1.312 | | | | | | | CONT | CONT | | | |
| Remarks: | | | | | PING LIST - | | 88 | | | | | | | | |

CLASSIFICATION:

| | | | | | | | | | | | | DATE: | | | | | |
|----------------------|--------------|--------|------------|------------|--------|-------|-------|-------|----------------------------|-------|-------|-------|-------|--------------|-------|--------------|--|
| Exhibit R-3 Cost Ar | nalysis (pag | e 2) | | | | | | | | | | | | February 200 |)6 | | |
| APPROPRIATION/BUD | | ΓΥ | | PROGRAM EL | | | | | PROJECT NUMBER AND NAME | | | | | | | | |
| RDT&E, N / | BA-5 | | | | | | | | 2345 Fleet METOC Equipment | | | | | | | | |
| Cost Categories | | | Performing | | Total | | | FY 05 | | FY 06 | | | FY 07 | | | | |
| | | Method | Activity & | | PY s | FY 05 | | | FY 06 | Awa | | FY 07 | Award | Cost to | Total | Target Value | |
| | | & Type | Location | | Cost | Cost | | | Cost | Date | | Cost | 1 | Complete | Cost | of Contract | |
| Developmental Test & | Evaluation | PD | OPTEVFOR | | 0.364 | . (| 0.030 | N/A | 0.0 | 00 | N/A | 0.000 | N/A | CONT | CONT | | |
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| Subtotal T&E | | | | | 0.364 | ı | 0.030 | 0.000 | 0.0 | 000 | 0.000 | 0.000 | 0.000 | CONT | CONT | | |
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| Subtotal Management | | | | | | | | | | | | | | | | | |
| Remarks: | | | | | | | | | | | | | | | | | |
| Total Cost | | | | | 24.440 | | 3.038 | | 3 - | 27 | | 3.967 | | CONT | CONT | | |
| Remarks: | | | 1 | | 25.44 | | 0.000 | I | <u> </u> | 2.1 | | 0.007 | I | 93.11 | 00.11 | | |
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CLASSIFICATION:

| EXHIBIT R4, Schedule | Profile | ! | | | | | | | | | | | | | | DATE: February 2006 PROJECT NUMBER AND NAME | | | | | | | | | | | | |
|-----------------------------------------------------|----------|---------|---------|----------|--------|---------|---------|--------|------|---------|---------|-----|---|----|-------|---------------------------------------------|--------|---------|-------|--------|-------|-------|---------|---------|--------------|--------|--------|------|
| APPROPRIATION/BUDGET | ACTIV | ITY | | | PRO | SRAM | ELEMI | ENT NU | JMBE | R AND | NAM | E | | | | | PROJ | ECT N | IUMBE | R AN | D NAN | ЛΕ | | | , <u>-</u> . | | | |
| RDT&E, N / | BA- | 5 | | | 0604 | 1218N | Air Oc | ean Eq | uipm | ent Eng | gineeri | ng | | | | | 2345 | Fleet N | иЕТОС | C Equi | pment | | | | | | | |
| Fiscal Year | | 20 | 005 | | | 2006 | | | | 20 | 07 | | | 20 | 008 | | 2009 | | | | 2010 | | | | | 20 | 11 | |
| | 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 |
| Ar Fleet Sys Engineering/ | oA for N | EXGE | N MET | MF | | | | | | | | | | | | | | | | | | | | | | | | |
| TDA/Mission Planning | Sys E | ngine | ering U | pgrad | es | | | | | | | | | | | | | | | | | | | | | | | |
| Lead Laboratory/ TDA/Mission Planning | Quar | terly R | eport | A | Qı | arterly | Repo | ri | • | | | | | | | | | | | | | | | | | | | |
| TD 4/44 and a Discourse | | | | | | | | | l | NITES | NG | | | N | TES N | IG DC | GS-N/L | BSI&F | | | | In | tegrati | on of E | mergi | ng Ted | hnolog | jies |
| TDA/Mission Planning | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Off-the-Shelf Technology/ MetOc in IT Enterprise | | | SI | MQ-11 | Anten | na | | | • | | | | | | | | | | | | | | | | | | | |
| Metoc III II Enterprise | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Obj Oriented DBMS/ Hig MetOc in IT Enterprise | gh Spee | d BG [| Data Se | rver | Incorp | Expert | Syste | ms/CO | E | | | | | | | | | | | | | | | | | | | |
| MetOc in IT Enterprise | | | | | | | | | N | EXGEN | 000 | BA. | | | TED S | Service | s DCG | S-N | | | | TED S | ervices | JTRS | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | Е | mergi | ng DB | MS Te | chnolo | gies |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| USMC Acquisition | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Alt An | alysis | | | EDM/ | Prototy | | | | | | | | 00 | | | | | | | | | | | | | |

CLASSIFICATION:

| Exhibit R-4a, Schedule Detail | | | | | DATE: | | |
|---------------------------------------------------------------------------------|---------|---------|---------|---------------|-------------|-------------|---------|
| · | | | | | F | ebruary 200 |)6 |
| APPROPRIATION/BUDGET ACTIVITY | | | | PROJECT NU | MBER AND N | | |
| RDT&BA-5 | | | | 2345 Fleet ME | TOC Equipme | nt | |
| Schedule Profile | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 |
| Fleet Sys Engineering/TDA/Mission Planning Lead Laboratory/TDA/Mission Planning | 4Q | | | | | | |
| Lead Laboratory/TDA/Mission Planning | 4Q | 4Q | | | | | |
| TDA/Mission Planning | | | | 1Q | 4Q | | |
| Off-the-Shelf Technology/METOC in IT Enterprise | | 4Q | | | | | |
| Obj Oriented DBMS/METOC in IT Enterprise | 4Q | 4Q | | | | | |
| MÉTOC in IT Enterprise | | | 4Q | | 4Q | | 2Q |
| USMC Acquisition | 2Q | | | | | | |
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UNCLASSIFIED

Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 10)

CLASSIFICATION:

| EXHIBIT R-2 | a, RDT&E Project Justific | cation | | | | | DATE: | | |
|--------------|---------------------------|---------------------------|-----------------|---------|---------|-----------------|-----------------|---------------|--|
| | | | | | | | | February 2006 | |
| APPROPRIATIO | ON/BUDGET ACTIVITY | PROGRAM ELEMI | ENT NUMBER AND | NAME | | PROJECT NUMBE | R AND NAME | - | |
| RDT&E, N / | BA-5 | 0604218N Air/Ocean Equipm | ent Engineering | | | 2346 METOC Sens | sor Engineering | | |
| | COST (\$ in Millions) | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 | |
| Project Cost | | 1.287 | 1.364 | 1.611 | 1.643 | 1.665 | 1.661 | 1.696 | |
| RDT&E Articl | es 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 provide near-term future mission capabilities that are intended to ruggedize and package systems, sensors and instruments 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 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 project engineers and integrates sensor capabilities that are intended to obtain unique METOC data that will provide important inputs for predictive models in areas of potential interest.

This project reflects changes in investment line description beginning in FY07. This change supports acquisition and development investment lines that support the vision, operations concept, and capability requirements. Changes consolidate and better define RDT&E efforts as well as better reflect the new Commander Naval Meteorological and Oceanographic Command (CNMOC) reorganization.

R-1 SHOPPING LIST - Item No.

88

CLASSIFICATION:

| EXHIBIT R-2a, RDT&E Project Justification | | DATE: |
|-------------------------------------------|------------------------------------------|-------------------------------|
| | | February 2006 |
| 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

| Unmanned Aerial Vehicle METOC Sensors/ | | | | |
|----------------------------------------|-------|-------|-------|--|
| Sensors/Observing Systems | FY 05 | FY 06 | FY 07 | |
| Accomplishments/Effort/Subtotal Cost | 0.183 | 0.200 | 1.611 | |
| RDT&E Articles Quantity | | | | |

- FY05 Resumed Meteorological Sensor engineering development to include micro-miniature temperature, pressure, and humidity sensors.
- FY06 Flight test for first generation micro-miniature sensors in operational Unmanned Aerial Vehicles (UAVs). Development of follow-on Meteorological sensors using evolving techniques.
- FY07 Develop and demonstrate sensor integration and compatibility with Network. Development of follow-on UAV Meteorological sensors using evolving technologies. Deliver initial engineering plan including Total Ownership Cost (TOC) estimates. Development of sensor -Unmanned Underwater Vehicle Sensor (UUVs) engineering plans. Flight test air-deployed micro-sensors and deliver Final Report. Begin investigating Network integration. Deliver Technical Reports on Buoy.

| Clandestine Sensors/ | | | | |
|--------------------------------------|-------|-------|-------|--|
| Sensors/Observing Systems | FY 05 | FY 06 | FY 07 | |
| Accomplishments/Effort/Subtotal Cost | 0.185 | 0.200 | | |
| RDT&E Articles Quantity | | | | |

- FY05 Delivered Initial Sensor Development Execution Plan.
- FY06 Deliver Final Technical Report on air-deployed micro-sensors.
- FY07 Efforts incorporated into the "Sensors/Observing Systems" investment line.

| Tactical Battlespace Sensors (formerly MEASURE)/ | | | | |
|--------------------------------------------------|-------|-------|-------|--|
| Sensors/Observing Systems | FY 05 | FY 06 | FY 07 | |
| Accomplishments/Effort/Subtotal Cost | 0.740 | 0.772 | | |
| RDT&E Articles Quantity | | | | |

FY05: Delivered Technical Reports to include post demonstration Lessons Learned. Performed end-to-end Battlespace Sensor Data Acquisition Demonstration, from sensor data acquisition through tactical application. Development of Metoc Air, Surface, Undersea Reporting Equipment (MEASURE) including sensors and processing/distribution devices that detect, characterize and distribute meteorological and oceanographic data from the battlespace.

- FY06 Deliver Technical Reports. Development of next generation sensors.
- FY07 Efforts incorporated into the "Sensors/Observing Systems" investment line.

CLASSIFICATION:

| EXHIBIT R-2a, RDT&E Project Justification | | DATE: |
|-------------------------------------------|------------------------------------------|-------------------------------|
| | | February 2006 |
| 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

| Unmanned Underwater Vehicle Sensors/ | | | | |
|--------------------------------------|-------|-------|-------|--|
| Sensors/Observing Systems | FY 05 | FY 06 | FY 07 | |
| Accomplishments/Effort/Subtotal Cost | 0.179 | 0.192 | | |
| RDT&E Articles Quantity | | | | |

- FY05 Delivered Technical Reports. Development of Unmanned Underwater Vehicle Sensors engineering for tactical acoustic measurement buoy.
- FY06 Deliver Technical Reports. Demonstrate prototype sensors to include Post Demonstration Lessons Learned.
- FY07 Efforts incorporated into the "Sensors/Observing Systems" investment line.

CLASSIFICATION:

| EXHIBIT R-2a, RDT&E | Project Justification | | | | | | DATE: | Fabruary 2000 |
|----------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------|---------------|------------|---------------|---------|---------------|
| APPROPRIATION/BUDGET | F ACTIVITY | IDDOCDAM ELEM | ENT NUMBER AND NA | ME | PROJECT NU | MDED AND N | IAME | February 2006 |
| RDT&E, N / | BA-5 | | ean Equipment Engineer | | 2346 METOC | | | |
| RDIGE, N / | DA-3 | 0004216IN All OC | ean Equipment Engineer | rig | 2346 METOC | Sensor Engine | eering | |
| (U) C. OTHER PROC | GRAM FUNDING SUMMARY: | | | | | | | |
| Line Item No. & I | <u>Name</u> | <u>FY 2005</u> <u>F</u> | FY 2006 FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 | |
| Not applicable | | | | | | | | |
| Related RDT&E: | PE 0603207N, Air/Ocean Tactical A | pplications | | | | | | |
| (U) D. ACQUISITION S | TRATEGY: | | | | | | | |
| real-time in-situ r | contracting strategies are to support e meteorological and oceanographic (M r for Command, Control, Communicat | ETOC) data in denied or remote | e areas by providing fund | s to NAVAIR a | | | | |
| (U) E. MAJOR PERFO | RMERS: | | | | | | | |
| N/A | | | | | | | | |
| (U). F. METRICS: | | | | | | | | |
| Earned Value M | Management (EVM) is used for metrics | reporting and risk managemer | nt. | | | | | |
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CLASSIFICATION:

| Exhibit R-3 Cost Analysis (page APPROPRIATION/BUDGET ACTIVIT | e 1) | | | | | | | | | DATE: | Feb | bruary 200 | D6 | | | |
|--------------------------------------------------------------|------------------------------|--------------------------------------|--------------|-----------------------|--------|---------------|------------------------|------------|------------------------|---------------|------|---------------------|---------------------|------|---------------|--------------------------|
| APPROPRIATION/BUDGET ACTIVIT | Ϋ́ | | PROGRAM EL | EMENT | | | | PROJECT NU | IMBER AN | ID NAME | | | | | | |
| RDT&E, N / BA-5 | | | 0604218N Air | Ocean I | Equipn | nent Enginee | ring | 2346 METOC | Sensor Er | ngineering | | | | | | |
| Cost Categories | Contract Method & Type | Performing Activity & Location | | Total PY s Cost | | FY 05 Cost | FY 05 Award Date | FY 06 | FY 06 Award Date | FY 07 Cost | Αv | Y 07 ward ate | Cost to Complete | | Total Cost | Target Value of Contract |
| | WX | NRL | | | 1.314 | | 3 NA | 0.056 | | | 67 N | | | CONT | | |
| | NA | MISC | | | 6.321 | | 34 NA | 1.308 | | | 44 N | | | CONT | | |
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| Subtotal Product Development | | | | | 7.635 | 1.28 | 37 | 1.364 | | 1.6 | 611 | | | CONT | CONT | - |
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| | | | | | | | | | | | | | | | | |
| Total Cost | | | | | 7.635 | 1.28 | 37 | 1.364 | | 1.6 | 511 | | | CONT | CONT | |
| Remarks: | | | | | | DING LIST | | 00 | | | | | | | | |

CLASSIFICATION:

| EXHIBIT R4, Schedule Profi | | | | | | | | | | | | | | | | | | | | | DATE Feb i | ruary | 2006 | | | | | |
|------------------------------------------------------------------------|---------|-----------------|--------|---------------|------|-------|---------|--------|----------------------------|---------|----------|---------|---|-------|----|---|--------|--------|--------|---|----------------------|--------|--------|--------|---------|---------|---------|-----|
| APPROPRIATION/BUDGET ACT | | | | | PROC | RAM I | ELEM | ENT N | UMBE | R AND | D NAM | E | | | | | | | | | PRO | JECT N | NUMBE | | | | | |
| RDT&E, N / | BA-5 | 5 | | | 0604 | 218N | Air Oce | ean Ed | quipme | nt Eng | gineerii | ng | | | | | 1 | | | | 2346 | МЕТО | C Sens | sor En | gineeri | ng | | |
| Fiscal Year | | 20 | 05 | | | 200 | 06 | | | 20 | 07 | | | 200 | 08 | | | 20 | 09 | | | 20 |)10 | | | 20 | 11 | |
| | 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 |
| Micro-Se UAV METOC Sensors/ Sensors/Observing Systems | ensor I | Develo | pment | t DEM/ | VAL | • | | | | | | | | | | | | | | | | | | | | | | |
| Autonomous Sensor Clandestine Sensors/ Sensors/Observing Systems | | eering M/VAL | | A | | | | | • | | | | | | | | | | | | | | | | | | | |
| End-to-E Tactical Battlespace Sensors/ Sensors/Observing Systems | ind Int | egrate | d Dem | | | | | | | | | | | | | | | | | | | | | | | | | |
| UUV Sensors/ Sensors/Observing Systems | U | | nsor [| Develor AL | ment | | | | | | | | | | | | | | | | | | | | | | | |
| Sensors/Observing Systems | | | | | | | | | Netwo UAV Ir | ntegrat | tion | sensor | | BSI&F | | W | ave Bu | ioy Up | grades | | N | EXGE | N Sens | or De | | | eration | |
| | | | | | | | | | UUV Ir | | | Selisoi | 5 | | | | | | | | | | | | Nex | it Gene | FIGUOTI | ovs |
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CLASSIFICATION:

| Exhibit R-4a, Schedule Detail APPROPRIATION/BUDGET ACTIVITY PROJECT NU | | | | | DATE: February 2006 IMBER AND NAME | | |
|--------------------------------------------------------------------------|---------|---------|---------|-------------------------------|------------------------------------|---------|---------|
| | | | | | | | |
| | | | | 2346 METOC Sensor Engineering | | | |
| Schedule Profile | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | FY 2010 | FY 2011 |
| UAV METOC Sensors/Sensors/Observing Systems | | 2Q | | | | | |
| Clandestine Sensors/Sensors/Observing Systems | 4Q | | | | | | |
| Tactical Battlespace Sensors/Sensors/Observing Systems | 4Q | | | | | | |
| UUV Sensors/Sensors/Observing Systems | | 1Q | | | | | |
| Sensors/Observing Systems | | | | 3Q | 4Q | | 4Q |
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R-1 SHOPPING LIST -

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Exhibit R-2, RDTEN Budget Item Justification (Exhibit R-2, page 17)