

**UNCLASSIFIED**

**EXHIBIT R-2, FY 2001 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET**

DATE: February 2000

**BUDGET ACTIVITY: 4**

**PROGRAM ELEMENT: 0603261N**

**PROGRAM ELEMENT TITLE: Tactical Airborne Reconnaissance**

(U) COST: (Dollars in Thousands)

| <u>Project Number &amp; Title</u>    | <u>FY 1999<br/>Actual</u> | <u>FY 2000<br/>Estimate</u> | <u>FY 2001<br/>Estimate</u> | <u>FY 2002<br/>Estimate</u> | <u>FY 2003<br/>Estimate</u> | <u>FY 2004<br/>Estimate</u> | <u>FY 2005<br/>Estimate</u> | <u>To<br/>Complete</u> | <u>Total<br/>Program</u> |
|--------------------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------|--------------------------|
| A2467 UAV CONOPS Research            | 0                         | 1,964                       | 1,956                       | 1,950                       | 1,945                       | 1,943                       | 1,946                       | CONT.                  | CONT.                    |
| E0534 Tactical Reconnaissance System | 1,444                     | 0                           | 0                           | 0                           | 0                           | 0                           | 0                           | 0                      | 220,426                  |
| <b>TOTAL</b>                         | <b>1,444</b>              | <b>1,964</b>                | <b>1,956</b>                | <b>1,950</b>                | <b>1,945</b>                | <b>1,943</b>                | <b>1,946</b>                | <b>CONT.</b>           | <b>CONT.</b>             |

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides for the development of studies, analyses and demonstrations for Unmanned Aerial Vehicle (UAV) concept of operation (CONOP) development. Additionally, in Fiscal years 1998 and 1999 this program allowed development of systems to provide timely and accurate imagery intelligence for the U.S. Marine Corps. Specifically:

- UAV CONOPS Research: The efforts supported under this program provide studies of concept of operations (CONOPS) for UAV integration into USN Battlespace Dominance Operations. Specifically, the CONOPS research will evaluate the roles UAV's play in network centric warfare, sensor-to-shooter, and time critical strike. Areas of interest include the joint utility of Global Hawk (LVL II-IV) and Predator (LVL IV) integration into CVBG operations.
- F/A –18D Tactical Reconnaissance System: The F/A-18D Tactical Reconnaissance System will replace the RF-4B which was phased out in 1990. Electro-Optical, Infrared and Synthetic Aperture Radar (SAR) sensors will provide high resolution imagery in all weather conditions, day or night at low, medium or high altitude over flight or stand off ranges. Imagery data is digitally recorded and can be data linked in near real-time and/or returned to base for playback, analysis, processing, and storage.

(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under DEMONSTRATION & VALIDATION because it develops and integrates hardware for experimental test related to specific ship or aircraft applications.

**R-1 Item No. 33  
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**EXHIBIT R-2a, FY 2001 RDT&E,N BUDGET PROJECT JUSTIFICATION SHEET**

DATE: February 2000

**BUDGET ACTIVITY: 4**

**PROGRAM ELEMENT: 0603261N**

**PROJECT NUMBER: A2467**

**PROGRAM ELEMENT TITLE: Tactical Airborne Reconnaissance**

**PROJECT TITLE: UAV CONOPS  
 Research**

**U) COST: (Dollars in Thousands)**

| <u>Project Number &amp; Title</u> | <u>FY 1999<br/>Actual</u> | <u>FY 2000<br/>Estimate</u> | <u>FY 2001<br/>Estimate</u> | <u>FY 2002<br/>Estimate</u> | <u>FY 2003<br/>Estimate</u> | <u>FY 2004<br/>Estimate</u> | <u>FY 2005<br/>Estimate</u> | <u>To<br/>Complete</u> | <u>Total<br/>Program</u> |
|-----------------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------|--------------------------|
| A2467 UAV CONOPS Research         | 0                         | 1,964                       | 1,956                       | 1,950                       | 1,945                       | 1,943                       | 1,946                       | CONT.                  | CONT.                    |
| <b>TOTAL</b>                      | <b>0</b>                  | <b>1,964</b>                | <b>1,956</b>                | <b>1,950</b>                | <b>1,945</b>                | <b>1,943</b>                | <b>1,946</b>                | <b>CONT.</b>           | <b>CONT.</b>             |

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides funding for concept of operation (CONOP) development, research and studies in the integration of tactical unmanned aerial vehicles into Naval Strike Warfare. This program is funded under DEMONSTRATION & VALIDATION because it develops and integrates hardware and technologies for experimental test related to specific ship or aircraft applications.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

Previous Accomplishments:

1. FY 2000 Plan:

- (U) (\$1,387) Initiate studies and demonstrations for CONOPS development into Naval Strike Warfare.
- (U) (\$ 577) Funds miscellaneous efforts including technical and management support.

2. FY 2001 Plan:

- (U) (\$1,956) Continue studies and demonstrations for CONOPS development into Naval Strike Warfare.

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**BUDGET ACTIVITY: 4**

**PROGRAM ELEMENT: 0603261N**

**PROGRAM ELEMENT TITLE: Tactical Airborne Reconnaissance**

**PROJECT NUMBER: A2467**

**PROJECT TITLE: UAV CONOPS  
Research**

(U) B. PROGRAM CHANGE SUMMARY

|   | <u>FY 1999</u> | <u>FY 2000</u> | <u>FY 2001</u> |
|---|----------------|----------------|----------------|
| (U) FY 2000 President's Budget:         | 0              | 1,975          | 1,981          |
| (U) Appropriated Value:                 | 0              | 1,975          |                |
| (U) Adjustments from Pres Budget:       | 0              | -11            | -25            |
| (U) FY 2001 President 's Budget Submit: | 0              | 1,964          | 1,956          |

CHANGE SUMMARY EXPLANATION:

(U) Funding: The FY 2000 decrease reflects a \$11 thousand Across the Board Congressional Recision. The FY 2001 net decrease of \$25 thousand reflects a decrease of \$13 thousand for revised economic assumptions, and a decrease of \$12 thousand for reprioritization of requirements within the Navy.

(U) Schedule: N/A

(U) Technical: N/A

(U) C. OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) D. ACQUISITION STRATEGY: N/A.

(U) E. SCHEDULE PROFILE : N/A.

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EXHIBIT R-3, FY 2001 RDT&E,N COST ANALYSIS

DATE: February 2000

BUDGET ACTIVITY: 4

PROGRAM ELEMENT: 0603261N  
PROGRAM ELEMENT TITLE: TACTICAL AIRBORNE RECONNAISSANCE

PROJECT NUMBER: A2467  
PROJECT TITLE: UAV CONOPS RESEARCH

| <u>Cost Categories:</u>                           | <u>Contract Method &amp; Type</u> | <u>Performing Activity &amp; Location</u> | <u>Total Prior Yrs Cost</u> | <u>FY 1999 Cost</u> | <u>FY 1999 Award Date</u> | <u>FY 2000 Cost</u> | <u>FY 2000 Award Date</u> | <u>FY 2001 Cost</u> | <u>FY 2001 Award Date</u> | <u>Cost to Complete</u> | <u>Total Cost</u> | <u>Target Value of Contract</u> |
|---|-----------------------------------|---|-----------------------------|---------------------|---------------------------|---------------------|---------------------------|---------------------|---------------------------|-------------------------|-------------------|---------------------------------|
| <b><u>Project Development Organizations</u></b>   |                                   |   |                             |                     |                           |                     |                           |                     |                           |                         |                   |                                 |
| NSAWC   | WR                                | NSAWC<br>Fallon,NV                        |                             | 0                   |                           | 1,387               | 12/99                     | 1,956               | 12/00                     | CONT.                   | CONT.             |                                 |
| <b>Subtotal Project Development</b>               |                                   |   |                             | <b>0</b>            |                           | <b>1,387</b>        |                           | <b>1,956</b>        |                           | <b>CONT.</b>            | <b>CONT.</b>      |                                 |
| <b>Remarks:</b>                                   |                                   |   |                             |                     |                           |                     |                           |                     |                           |                         |                   |                                 |
| <b><u>Support Organizations</u></b>               |                                   |   |                             |                     |                           |                     |                           |                     |                           |                         |                   |                                 |
| NAWCAD  | WX                                | NAWCAD Pax<br>River                       |                             |                     |                           | 148                 | 12/99                     |                     |                           |                         |                   |                                 |
| <b>Subtotal Support</b>                           |                                   |   |                             | <b>0</b>            |                           | <b>148</b>          |                           |                     |                           |                         |                   |                                 |
| <b>Remarks:</b>                                   |                                   |   |                             |                     |                           |                     |                           |                     |                           |                         |                   |                                 |
| <b><u>Test &amp; Evaluation Organizations</u></b> |                                   |   |                             |                     |                           |                     |                           |                     |                           |                         |                   |                                 |
| <b>Subtotal Test &amp; Evaluation</b>             |                                   |   |                             |                     |                           |                     |                           |                     |                           |                         |                   |                                 |
| <b>Remarks:</b>                                   |                                   |   |                             |                     |                           |                     |                           |                     |                           |                         |                   |                                 |
| <b><u>Management Organizations</u></b>            |                                   |   |                             |                     |                           |                     |                           |                     |                           |                         |                   |                                 |
| FEDSIM  | IP                                | FEDSIM, Va                                |                             |                     |                           | 207                 | 2/00                      |                     |                           |                         |                   |                                 |
| NAS, Cherry Point                                 | WX                                | Cherry Pt.,NC                             |                             |                     |                           | 89                  | 2/00                      |                     |                           |                         |                   |                                 |
| MISC.   |                                   |   |                             |                     |                           | 133                 | 4/00                      |                     |                           |                         |                   |                                 |
| <b>Subtotal Management</b>                        |                                   |   |                             | <b>0</b>            |                           | <b>429</b>          |                           |                     |                           |                         |                   |                                 |
| <b>Remarks:</b>                                   |                                   |   |                             |                     |                           |                     |                           |                     |                           |                         |                   |                                 |
| <b>Total Cost</b>                                 |                                   |   |                             | <b>0</b>            |                           | <b>1,964</b>        |                           | <b>1,956</b>        |                           | <b>CONT.</b>            | <b>CONT.</b>      |                                 |

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**EXHIBIT R-2a, FY 2001 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET**

**DATE: February 2000**

BUDGET ACTIVITY: 4

PROGRAM ELEMENT: 0603261N

PROJECT NUMBER: E0534

PROGRAM ELEMENT TITLE: Tactical Airborne Reconnaissance PROJECT TITLE: Tactical Reconnaissance System

(U) COST: (Dollars in Thousands)

| <u>Project Number &amp; Title</u>    | <u>FY 1999<br/>Actual</u> | <u>FY 2000<br/>Estimate</u> | <u>FY 2001<br/>Estimate</u> | <u>FY 2002<br/>Estimate</u> | <u>FY 2003<br/>Estimate</u> | <u>FY 2004<br/>Estimate</u> | <u>FY 2005<br/>Estimate</u> | <u>To<br/>Complete</u> | <u>Total<br/>Program</u> |
|--------------------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------|--------------------------|
| E0534 Tactical Reconnaissance System | 1,444                     | 0                           | 0                           | 0                           | 0                           | 0                           | 0                           | 0                      | 220,426                  |

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Tactical Airborne Reconnaissance Program develops systems to provide timely and accurate imagery intelligence for the U.S. Marine Corps. The F/A-18D Tactical Reconnaissance System will replace the RF-4B that was phased out in 1990. Electro-Optical, Infrared and Synthetic Aperture Radar (SAR) sensors will provide high resolution imagery in all weather conditions, day or night at low, medium or high altitude over flight or stand off ranges. Imagery data is digitally recorded and can be data linked in near real-time and/or returned to base for playback, analysis, processing, and storage.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 1999 ACCOMPLISHMENTS:

- (U) (1,444) Completed Design and Development (D&D) Phase and conducted OPEVAL

2. FY 2000 PLAN: Not Applicable

3. FY 2001 PLAN: Not Applicable

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DATE: February 2000

**BUDGET ACTIVITY: 4    PROGRAM ELEMENT: 0603261N**  
**System                    PROGRAM ELEMENT TITLE: Tactical Airborne Reconnaissance**

**PROJECT NUMBER: E0534**  
**PROJECT TITLE: Tactical Reconnaissance**

(U) B. PROGRAM CHANGE SUMMARY

|  | <u>FY 1999</u> | <u>FY 2000</u> | <u>FY 2001</u> |
|--|----------------|----------------|----------------|
| (U) FY 2000 President's Budget:          | 1,474          | 0              | 0              |
| (U) Appropriated Value:                  | 1,479          | 0              | 0              |
| (U) Adjustments from President's Budget: | -30            | 0              | 0              |
| (U) FY 2001 President's Budget Submit:   | 1,444          | 0              | 0              |

CHANGE SUMMARY EXPLANATION:

(U) Funding: The FY 1999 net decrease of 30 thousand reflects a decrease of \$7 thousand for revised economic assumptions, a decrease of \$19 thousand for Small Business Innovation Research (SBIR) assessment, and a decrease of \$4 thousand for payment of lapsed liability contracts.

(U) Schedule: Due to technical issues addressed below, the completion of software enhancements, OPEVAL, and the Full Rate Production decision have slipped.

(U) Technical: Software maturity and hardware reliability growth has not progressed at the expected rate to meet original milestones.

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**PROGRAM ELEMENT: 0603261N**

**PROJECT NUMBER: E0534**

**PROGRAM ELEMENT TITLE: Tactical Airborne Reconnaissance**

**PROJECT TITLE: Tactical Reconnaissance**

**System**

(U) C. OTHER PROGRAM FUNDING SUMMARY

| <u>Appn</u>                    | <u>FY 1999<br/>Budget</u> | <u>FY 2000<br/>Estimate</u> | <u>FY 2001<br/>Estimate</u> | <u>FY 2002<br/>Estimate</u> | <u>FY 2003<br/>Estimate</u> | <u>FY 2004<br/>Estimate</u> | <u>FY 2005<br/>Estimate</u> | <u>To<br/>Complete</u> |
|--------------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------|
| <b>APN-5(OSIP 03-97 ATARS)</b> | 41,899                    | 55,792                      | 23,793                      | 0                           | 0                           | 0                           | 0                           | 12,723                 |

Related RDT&E: Not Applicable

(U) D. ACQUISITION STRATEGY: Currently on contract for LRIP-2, which is a sole source contract with Boeing.

(U) E. SCHEDULE PROFILE:

|                            | <u>FY 1999</u>                             | <u>FY 2000</u>                               | <u>FY 2001</u> |
|----------------------------|--|--|----------------|
| (U) Program Milestones     |  | 2Q/00-FULL<br>RATE<br>PRODUCTION<br>DECISION |                |
| (U) Engineering Milestones | 3Q/99-COMplete<br>SOFTWARE<br>ENHANCEMENTS |  |                |
| (U) T&E Milestones         | 4Q/99<br>OPEVAL                            | 1Q/00<br>DT III/<br>FOT&E                    |                |
| (U) Contract Milestones    |  | 2Q/00-FRP<br>CONTRACT<br>AWARD               |                |

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