| EXHIBIT R-2, RDT&E Budget Item Justification | | | | | | DATE: | | | | |
|-----------------------------------------------------------------------------------------------------------|---------|---------|---------|-----------------------|---------|-------|----------|--|--|--|
| | | | | | | Febru | ary 2004 | | | |
| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | |
| RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY/BA-7 NAT'L SHIPBLDG RES PROG ADV SHIPBLDG ENTERPRISE/070873 | | | | | | | | | | |
| COST (\$ in Millions) | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | | | | | |
| Total PE Cost | 11.673 | 12.724 | 10.265 | 0.000 | 0.000 | 0.000 | 0.000 | | | |
| Automatic Identification Technology/T9441 | 0.000 | 2.769 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | | |
| NSRP/ASE/S2466/S2811 | 9.330 | 9.955 | 10.265 | 0.000 | 0.000 | 0.000 | 0.000 | | | |
| Maritime Tech, Ship Design & Sys Develop Init/R9121 | 2.343 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | | |

Defense Emergency Response Funds (DERF) Funds: N/A

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 2466/2811 (NSRP ASE):

The mission of the National Shipbuilding Research Program Advanced Shipbuilding Enterprise (NSRP ASE) is to manage and focus national research funding on technologies that will enhance U.S. commercial shipbuilding and ship repair competitiveness and reduce the cost of naval ships, construction, modification and repair.

Industry has developed a landmark long range Strategic Investment Plan which will guide NSRP ASE investments. This Strategic Investment Plan provides a framework to guide collaborative research and development among all segments of the U.S. ship construction and repair industry, educational and research institutions, and Government. The objective is to assist the industry in achieving significant reduction in the cost and time required for both commercial and Navy ship construction, conversion, and repair. The recommended investment portfolio includes major initiatives that tie the strategic vision to proposed industry research through collaborative R&D. The major initiatives include: Shipyard Production Process Technologies, Business Process Technologies, Product Design and Material Technologies, Systems Technologies, Facilities and Tooling. Additionally, several critical success factors were found to cut across all of the major initiatives. These "Crosscut Initiatives" include Education and Training, Technology Transfer, Organizational Change, Environmental Protection and Human Resources.

The collaboration of major shipyards that lead the program are: General Dynamics Electric Boat Corporation, General Dynamics Bath Iron Works, Northrop Grumman Newport News, Atlantic Marine, Northrop Grumman Ship Systems Ingalls, Halter Marine, Northrop Grumman Ship Systems Avondale, General Dynamics NASSCO, Todd Pacific, Cascade General and Bender Shipbuilding.

Project 9121 (Maritime Technology, Ship Design and Systems Development Initiative):

Develop a cooperative research effort to improve the quality of shipyard products, efficiency of shipyard production and introduce advanced ship system designs. Thrust areas for this effort include: 1) Lean/agile manufacturing; 2) Shipyard Production Process Automation; 3) Shipyard Production Process Improvement; 4) Ship Design and Production Simulation and Visualization; 5) Education and Training; 6) Application of Advanced Materials to Ship Design and Manufacturing; 7) Design and Application of Advanced Ship Systems. A team of Navy, University of New Orleans, and Northrop Grumman Ship Systems (Avondale) personnel will prioritize potential research projects supporting these thrust areas and oversee project execution to ensure program goals are being met.

CLASSIFICATION:

| EVUIDIT D 2 | RDT&E Budget It | om Justification | 2 | | | DATE: | |
|------------------------------------------------------|-----------------|------------------|---------|------------------|-----------------|------------------|----------------------------------------------|
| EARIDIT N-2, | KDT&E Buuget II | em Justincation | 1 | | | ' | |
| | | | | | | February 2004 | r |
| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMEN | NCLATURE | | i |
| RESEARCH DEVELOPMENT TEST & EVALUATION, I | NAV Engineering | & Manufactur | ing | 0708730N Maritin | ne Technology/T |) 441 | <u> </u> |
| COST (\$ in Millions) | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
| Total PE0708730N Cost | 0.000 | 2.769 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Automatic Identification Technology | 0.000 | 2.769 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Quantity of RDT&E Articles Not Applicable | | | | | | | |
| (U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICA | ATION: | | | | | | |

The Navy Automatic Identification Technology (AIT) Engineering Support Center (ESC) will support the Navy AIT Project Office (NAVSUP) customers comprised of 35 Navy-wide Echelon II and subordinate commands with AIT integration into supply chain business processes and automated information systems to enhance Fleet readiness and improve logistics

(U)B. JUSTIFICATION OF BUDGET ACTIVITY: This is a new Congressional Add.

CLASSIFICATION:

UNCLASSIFIED

| EXHIBIT R-2a, RDT&E Project Justification | | | | | | DATE: | |
|-------------------------------------------|---------|---------|---------|---------------|------------|---------|---------|
| | | | | | | Februa | ry 2004 |
| APPROPRIATION/BUDGET ACTIVITY | | | | PROJECT NUMBE | R AND NAME | | |
| RDT&E, N/BA-7 | | | ASE | | | | |
| COST (\$ in Millions) | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
| Project Cost | 9.330 | 9.955 | 10.265 | 0.000 | 0.000 | 0.000 | 0.000 |
| RDT&E Articles Qty | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Project 2466/2811 (NSRP ASE):

The mission of the National Shipbuilding Research Program Advanced Shipbuilding Enterprise (NSRP ASE) is to manage and focus national research funding on technologies that will enhance U.S. commercial shipbuilding and ship repair competitiveness and reduce the cost of naval ships, construction, modification and repair.

Industry has developed a landmark long range Strategic Investment Plan which will guide NSRP ASE investments. This Strategic Investment Plan provides a framework to guide collaborative research and development among all segments of the U.S. ship construction and repair industry, educational and research institutions, and Government. The objective is to assist the industry in achieving significant reduction in the cost and time required for both commercial and Navy ship construction, conversion, and repair. The recommended investment portfolio includes major initiatives that tie the strategic vision to proposed industry research through collaborative R&D. The major initiatives include: Shipyard Production Process Technologies, Business Process Technologies, Product Design and Material Technologies, Systems Technologies, Facilities and Tooling. Additionally, several critical success factors were found to cut across all of the major initiatives. These "Crosscut Initiatives" include Education and Training, Technology Transfer, Organizational Change, Environmental Protection and Human Resources.

The collaboration of major shipyards that lead the program are: General Dynamics Electric Boat Corporation, General Dynamics Bath Iron Works, Northrop Grumman Newport News, Atlantic Marine, Northrop Grumman Ship Systems Ingalls, Halter Marine, Northrop Grumman Ship Systems Avondale, General Dynamics NASSCO, Todd Pacific, Cascade General and Bender Shipbuilding.

R-1 SHOPPING LIST - Item No. 207

Exhibit R-2a, RDTEN Project Justification (Exhibit R-2a, Page 3 of 15)

CLASSIFICATION:

| EXHIBIT R-2a, RDT&E Project Justification | | | DATE: |
|-------------------------------------------|---------------------------------|----------------------|---------------|
| | | | February 2004 |
| APPROPRIATION/BUDGET ACTIVITY | PROGRAM ELEMENT NUMBER AND NAME | PROJECT NUMBER AND N | IAME |
| RDT&E, N/BA-7 | 0708730N/NSRP ASE | 2466/2811/NSRP ASE | |

B. Accomplishments/Planned Program

| | FY 03 | FY04 | FY05 | FY06 |
|--------------------------------------|-------|------|-------|------|
| Accomplishments/Effort/Subtotal Cost | | | 9.055 | |
| RDT&E Articles Quantity | | | | |

Initiate technology development projects in the six major initiate areas selected from Research Announcement 4. All projects will be performed jointly by the Executive Control Board (ECB) of the National shipbuilding Research Program (NSRP) to support current and future Navy Shipbuilding programs.

| | FY03 | FY04 | FY05 | |
|--------------------------------------|-------|------|------|--|
| Accomplishments/Effort/Subtotal Cost | 8.385 | | | |
| RDT&E Articles Quantity | N/A | N/A | | |

Complete remaining technology development projects in the six major initiative areas selection from Research Announcement Two and Two Prime: Projects to be completed include SPARS, Lean Manufacturing LASOX. All projects are being performed jointely by the Executive control board of the National Shipbuilding Research Program to support current and future Navy shipbuilding programs.

| | FY03 | FY04 | FY05 | |
|--------------------------------------|-------|-------|-------|--|
| Accomplishments/Effort/Subtotal Cost | 0.400 | 0.400 | 0.500 | |
| RDT&E Articles Quantity | N/A | N/A | N/A | |

Continue utilization of industry-led major initiative teams and NSRP panels to perform the execution and annual review of the Strategic Investment Plan, including technology projects, technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community.

CLASSIFICATION:

| EXHIBIT R-2a, RDT&E Project Justific | ation | | | DATE: February 2004 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| PROPRIATION/BUDGET ACTIVITY | PROGRAM ELEMENT NUM | BER AND NAME | PROJECT NUMBER AN | |
| OT&E, N/BA-7 | 0708730N/NSRP ASE | | 2466/2811/NSRP ASE | |
| DT&E Articles Quantity tiate technology development projects in the s PARS, SPARS-2, ISE-2, ISE-3, Lean Manufact thancements. All projects will be performed jo | | | | |
| | FY03 | FY04 | FY05 | |
| Accomplishments/Effort/Subtotal Cost | | 9.015 | | |
| RDT&E Articles Quantity | | N/A | | |
| SPARS, SPARS-2, ISE-2, ISE-3, Lean Manu | ıfacturing, Extended Lean Manufacturi | ng, Lasox, WEMACS, 0 | common Parts Catalog, Lean | nclude: Auto Generation, World Class Material Stds, Simulation Training Exercises, Second Tier Design am (NSRP) to support current and future Navy |
| SPARS, SPARS-2, ISE-2, ISE-3, Lean Manu Enhancements. All projects will be performe | ifacturing, Extended Lean Manufacturi d jointly by the Executive Control Boar | ng, Lasox, WEMACS, (d (ECB) of the National | common Parts Catalog, Lean shipbuilding Research Progra | Simulation Training Exercises, Second Tier Design |
| SPARS, SPARS-2, ISE-2, ISE-3, Lean Manu Enhancements. All projects will be performe Shipbuilding programs. | Ifacturing, Extended Lean Manufacturi d jointly by the Executive Control Boar FY 03 | ng, Lasox, WEMACS, (d (ECB) of the National | common Parts Catalog, Lean shipbuilding Research Progra | Simulation Training Exercises, Second Tier Design |
| SPARS, SPARS-2, ISE-2, ISE-3, Lean Manu Enhancements. All projects will be performe Shipbuilding programs. Accomplishments/Effort/Subtotal Cost | ifacturing, Extended Lean Manufacturi d jointly by the Executive Control Boar | ng, Lasox, WEMACS, (d (ECB) of the National | common Parts Catalog, Lean shipbuilding Research Progra | Simulation Training Exercises, Second Tier Design |
| SPARS, SPARS-2, ISE-2, ISE-3, Lean Manuenhancements. All projects will be performe Shipbuilding programs. Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity | facturing, Extended Lean Manufacturing by the Executive Control Boar FY 03 0.250 N/A | ng, Lasox, WEMACS, (d (ECB) of the National | common Parts Catalog, Lean shipbuilding Research Progra | Simulation Training Exercises, Second Tier Design |
| SPARS, SPARS-2, ISE-2, ISE-3, Lean Manu Enhancements. All projects will be performe Shipbuilding programs. Accomplishments/Effort/Subtotal Cost | facturing, Extended Lean Manufacturing by the Executive Control Boar FY 03 0.250 N/A | ng, Lasox, WEMACS, (d (ECB) of the National | common Parts Catalog, Lean shipbuilding Research Progra | Simulation Training Exercises, Second Tier Design |
| SPARS, SPARS-2, ISE-2, ISE-3, Lean Manuenhancements. All projects will be performe Shipbuilding programs. Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity Continue transition of projects to shipbuilding | facturing, Extended Lean Manufacturing dipointly by the Executive Control Boar FY 03 0.250 N/A programs. | ng, Lasox, WEMACS, (d (ECB) of the National FY 04 0.250 N/A | FY 05 FY 05 FY 05 | Simulation Training Exercises, Second Tier Design |
| SPARS, SPARS-2, ISE-2, ISE-3, Lean Manuenhancements. All projects will be performe Shipbuilding programs. Accomplishments/Effort/Subtotal Cost RDT&E Articles Quantity | sfacturing, Extended Lean Manufacturing dipointly by the Executive Control Boar FY 03 0.250 N/A programs. | ng, Lasox, WEMACS, (d (ECB) of the National FY 04 0.250 N/A | FY 05 0.250 | Simulation Training Exercises, Second Tier Design |

CLASSIFICATION:

| EXHIBIT R-2a, RDT&E Project Justification | | | | | DATE: | |
|-------------------------------------------------|--------------|---------|---------|------------------|----------|---------------|
| | | | | | | February 2004 |
| APPROPRIATION/BUDGET ACTIVITY | | | | ROJECT NUMBER | | |
| RDT&E, N/BA-7 | 0708730N/NSR | P ASE | 24 | 466/2811/NSRP AS | <u> </u> | |
| C. PROGRAM CHANGE SUMMARY: | | | | | | |
| Funding: | | FY 2003 | FY 2004 | FY 2005 | | |
| Previous President's Budget: (FY 04 Pres Contro | ols) | 9.703 | 10.068 | 0.000 | | |
| Current BES/President's Budget (FY 05 Presider | | 9.330 | 9.955 | 10.265 | | |
| Total Adjustments | | -0.373 | -0.113 | 10.265 | | |
| Summary of Adjustments | | | | | | |
| Reprogrammings | | -0.373 | | | | |
| Programmatic Adjustements | | | | 10.265 | | |
| Economic Adjustments | | | -0.113 | | | |
| Subtotal | | -0.373 | -0.113 | 10.265 | | |
| | | | | | | |
| Schedule: | | | | | | |
| Not Applicable. | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Technical: | | | | | | |
| Not Applicable. | | | | | | |
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CLASSIFICATION:

| EXHIBIT R-2a, RDT&E Project Justification | | | | | | | | DATE: | | |
|----------------------------------------------------------------------------------------------|---------------|-------------------|-----------|-------------|---------|--------------------|-----------------|-----------------|------------------|--------------|
| • | | | | | | | | | Februar | y 2004 |
| APPROPRIATION/BUDGET ACTIVITY | | PROGRAM EL | EMENT NUM | BER AND NAM | 1E | PROJECT NU | MBER AND N | AME | | |
| RDT&E, N/BA-7 | | 0708730N/NSRP ASE | | | | 2466/2811/NSRP ASE | | | | |
| D. OTHER PROGRAM FUNDING SUMMARY: | | | | | | | | | То | Total |
| Line Item No. & Name | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | Complete | Cost |
| None. | | | | | | | | | | |
| | | | | | | | | | | |
| E. ACQUISITION STRATEGY: | | | | | | | | | | |
| R&D projects have been solicited and awarded has entered into an agreement with the industry | | | | | | | National Shipbu | uilding Researd | ch Program (NSRF | P). The Navy |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| NOTE: No funding has been received through the Emer | gency Respons | e Fund, Defense | e (ERF,D) | | | | | | | |
| | | | | | | | | | | |

CLASSIFICATION:

| N/NSRP ASE | | | | | | DATE: | | Fabruary 200 | .4 | |
|------------|-----------------------------------------|-------|-------------|--------------|-------------------|-------------------|-------------------------|-------------------------|-------------------------------|--------------|
| N/NSRP ASE | PROGRAM ELEMENT | | | PROJECT NU | MRED AND NA | \ME | | February 200 | 14 | |
| | 0708730N/NSRP ASE | | | 2466/NSRP AS | | -NVIL | | | | |
| Total | ontract Performing Total | | FY 03 | | FY 04 | | FY 05 | | | |
| PY s | ethod Activity & PY's | | | | Award | | Award | Cost to | Total | Target Value |
| Cost | | Cost | Date | Cost | Date | Cost | Date | Complete | Cost | of Contract |
| | | | | | | | | | 0.000 | |
| 63.813 | OT* ECB NSRP** | 8.996 | VARIOUS | 9.665 | VARIOUS | 9.805 | | | 92.279 | |
| | ONR | 0.110 | | | | | | | 0.110 | |
| | | | | | | | | | 0.000 | |
| | | | | | | | | | 0.000 | |
| | | | | | | | | | 0.000 | |
| | | | | | | | | | 0.000 | |
| | | | | | | | | | 0.000 | |
| | | | | | | | | | 0.000 | |
| | | | | | | | | | 0.000 | |
| | | | | | | | | | 0.000 | |
| 63.813 | 1 | 9.106 | | 9.665 | | 9.805 | | 0.000 | 92.389 | |
| m | 71 nal Shipbuilding Research Program | | | | | | | | | |
| 2.533 | R/WR MARAD | 0.030 | | 0.030 | | 0.030 | | | 2.623 | |
| 0.846 | PR/WR VARIOUS | 0.169 | | 0.230 | | 0.400 | | | 1.645 | |
| | | | | | | | | | 0.000 | |
| | | | | | | | | | 0.000 | |
| | | | | | | | | | 0.000 | |
| | | | | | | | | | 0.000 | |
| | | | | | | | | | 0.000 | |
| | | | | | | | | | 0.000 | |
| | | 0.199 | | 0.260 | | 0.430 | | 0.000 | 4.268 | |
| 3.379 | | | | | | | | | | |
| | | 3.379 | 3.379 0.199 | 3.379 0.199 | 3.379 0.199 0.260 | 3.379 0.199 0.260 | 3.379 0.199 0.260 0.430 | 3.379 0.199 0.260 0.430 | 3.379 0.199 0.260 0.430 0.000 | |

CLASSIFICATION:

| Fullibit D. 2 Coot Applyaio (so | O) | | | | | | | DATE: | | Fab | 0.4 | |
|---------------------------------------|------------------------------|--------------------------------------|------------------|---------------|------------------------|---------------|------------------------|---------------|------------------------|---------------------|----------------|--------------------------|
| Exhibit R-3 Cost Analysis (pa | ge∠) //T∨ | Iр | ROGRAM ELEMENT | | | PROJECT NI | IMRER AN | ID NAME | | February 200 | 04 | |
| RDT&E, N/BA-7 | VII I | | 708730N/NSRP ASE | | | | 2466/NSRP ASE | | | | | |
| Cost Categories | Contract Method & Type | Performing Activity & Location | Total PY s Cost | FY 03 Cost | FY 03 Award Date | FY 04 Cost | FY 04 Award Date | FY 05 Cost | FY 05 Award Date | Cost to Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | | | | | | | | | | | 0.000 | |
| Operational Test & Evaluation | | | | | | | | | | | 0.000 |) |
| Live Fire Test & Evaluation | | | | | | | | | | | 0.000 |) |
| Test Assets | | | | | | | | | | | 0.000 |) |
| Tooling | | | | | | | | | | | 0.000 |) |
| GFE | | | | | | | | | | | 0.000 |) |
| Award Fees | | | | | | | | | | | 0.000 |) |
| Subtotal T&E | | | 0.000 | 0.000 | | 0.000 |) | 0.00 | 00 | 0.000 | 0.000 |) |
| Contractor Engineering Support | | | | | | | | | | | 0.000 |) |
| | | | | | | | | | | | | |
| Technology Development | Reqn* | TRW/Schafer Corp | | | | 0.000 | + | + | | | 0.810 | + |
| Technology Development | SS RC | PSU/APL NASSCO | 0.385 | | | 0.000 | 1 | | | | 0.385 0.070 | |
| PM Support NSNET | RC | University of Michi | | | 1 | 0.000 | 1 | | | | 0.400 | |
| Travel | RC | Oniversity of Michi | 0.400 0.099 | | | 0.000 | | 0.03 | 30 | | 0.400 | |
| SBIR Assessment | | | 0.593 | | | 0.000 | 1 | 0.00 | 50 | | 0.593 | |
| Subtotal Management | | | 2.357 | 1 | | 0.030 | 1 | 0.03 | 30 | 0.000 | | 1 |
| Remarks: * Procure under GSA Schedule | | | | | | , - | | | | | | |
| Total Cost | | | 69.549 | 9.330 | ı | 9.955 | 5 | 10.20 | 35 | 0.000 | 99.099 |) |
| Remarks: | | | | | | | | | | | | |

CLASSIFICATION:

UNCLASSIFIED

| EXHIBIT R-2a, RDT&E Project Justification | | | | | | DATE: | |
|-------------------------------------------|---------|---------|--------------------------------|---------|---------|---------|---------|
| | | | | | | Februa | ry 2004 |
| APPROPRIATION/BUDGET ACTIVITY | | | | | | | |
| RDT&E, N/BA-7 | | | Systems Development Initiative | | | | |
| COST (\$ in Millions) | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
| Project Cost | 2.283 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| RDT&E Articles Qty | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Develop a cooperative research effort to improve the quality of shipyard products, efficiency of shipyard production and introduce advanced ship system designs. Thrust areas for this effort include: 1) Lean/agile manufacturing; 2) Shipyard Production Process Automation; 3) Shipyard Production Process Improvement; 4) Ship Design and Production Simulation and Visualization; 5) Education and Training; 6) Application of Advanced Materials to Ship Design and Manufacturing; 7) Design and Application of Advanced Ship Systems. A team of Navy, University of New Orleans, and Northrop Grumman Ship Systems (Avondale) personnel will prioritize potential research projects supporting these thrust areas and oversee project execution to ensure program goals are being met.

CLASSIFICATION:

| EXHIBIT R-2a, RDT&E Project Justification | | | DATE: | |
|-------------------------------------------|---------------------------------|------------------------------------------------------------------|---------------|--|
| | | | February 2004 | |
| APPROPRIATION/BUDGET ACTIVITY | PROGRAM ELEMENT NUMBER AND NAME | PROJECT NUMBER AND NAME | | |
| RDT&E, N/BA-7 | 0708730N/NSRP ASE | 9121/Maritime Tech, Ship Design & Systems Development Initiative | | |
| | | | | |

B. Accomplishments/Planned Program

| | FY 03 | FY 05 |
|--------------------------------------|-------|-------|
| Accomplishments/Effort/Subtotal Cost | | |
| RDT&E Articles Quantity | | |

Project funding has been received, added to the Gulf Coast Region Maritime Technology Center Cooperative Agreement and research projects have been initiated. Projects currently underway include: Shipboard Applications of Lightweight Ship Structures; Socket Welding of Titanium Grades Using GTAW with Flux Assist; Short Robot Production Runs; Ship Works Robotics Laboratory Vision System; Lean Six Sigma in Shipbuilding; Avondale Manufacturing Process Modeling. All projects are being performed jointly by the University of New Orleans and Northrop Gurmman Ship Systems Avondale Operations to support Navy ship programs such as LPD-17.

| | FY 03 | FY 04 | FY 05 |
|--------------------------------------|-------|-------|-------|
| Accomplishments/Effort/Subtotal Cost | | | |
| RDT&E Articles Quantity | | | |

Portion of extramural program reserved for Small Business Innovation Research assessment in accordance with 15 USC 638.

| | FY 03 | FY 04 | FY 05 |
|--------------------------------------|-------|-------|-------|
| Accomplishments/Effort/Subtotal Cost | 2.253 | 1.780 | |
| RDT&E Articles Quantity | N/A | | |

Funds will be provided to the Gulf Coast Region Maritime Technology Center Cooperative Agreement for projects in the following thrust areas: 1) Lean/agile manufacturing; 2) Shipyard Production Process Automation; 3) Shipyard Production Process Improvement; 4) Ship Design and Production Simulation and Visualization; 5) Education and Training; 6) Application of Advanced Materials to Ship Design and Manufacturing; 7) Design and Application of Advanced Ship Systems. A team of Navy, University of New Orleans, and Northrop Grumman Ship Systems (Avondale) personnel will prioritize potential research projects supporting these thrust areas and oversee project execution to ensure program goals are being met.

CLASSIFICATION:

| EXHIBIT R-2a, RDT&E Project Justification | DATE: | | | | |
|-------------------------------------------|-----------------------|-------------------|---------|---------------------|----------------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY | DDOCDAM ELEMENT | T NUMBER AND NAME | Ti- | PROJECT NUMBER | February 2004 |
| | | | | | |
| RDT&E, N/BA-7 | 0708730N/NSRP ASE | | Ę | 9121/Maritime Tech, | Ship Design & Systems Development Initiative |
| C. PROGRAM CHANGE SUMMARY: | | | | | |
| Funding: | | FY 2003 | FY 2004 | FY 2005 | |
| Previous President's Budget: (FY 04 Pres | | 2.343 | 0.000 | | |
| Current BES/President's Budget (FY 05 F | President's Controls) | 2.283 | 1.780 | | |
| Total Adjustments | | -0.060 | 1.780 | | |
| Summary of Adjustments | | | | | |
| SBIR/STTR Transfer | | -0.060 | | | |
| Congressional Action | | | 1.780 | | |
| Subtotal | | -0.060 | 1.780 | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| Schedule: | | | | | |
| Not Applicable. | | | | | |
| тог трривалог | | | | | |
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| | | | | | |
| | | | | | |
| | | | | | |
| Technical: | | | | | |
| Not Applicable. | | | | | |
| | | | | | |
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| | | | | | |

CLASSIFICATION:

| EXHIBIT R-2a, RDT&E Project Justification | | | | | | | | DATE: | Februa | nry 2004 |
|--------------------------------------------------------------------------|---------------|-------------------|---------------|----------------|----------------|-------------------------|---------------|----------------|----------------|------------|
| APPROPRIATION/BUDGET ACTIVITY | | PROGRAM EL | EMENT NUM | BER AND NAM | IE | PROJECT NUMBER AND NAME | | | | ., |
| RDT&E, N/BA-7 | | 0708730N/NSRP ASE | | | | 9121/Maritime | Tech. Ship De | esian & Svsten | ns Development | Initiative |
| D. OTHER PROGRAM FUNDING SUMMARY: | | | | | | | | | То | Total |
| Line Item No. & Name | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | Complete | Cost |
| None. | | | | | | | | | | |
| E. ACQUISITION STRATEGY: R&D will be executed through the Gulf Coast Re | gion Maritim | e Technology (| Center Cooper | ative Agreemer | nt with the Un | iversity of New C | Orleans. | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| NOTE: No funding has been received through the Emerge | ency Respon | se Fund Defens | e (FRF D) | | | | | | | |
| NOTE. NO failuling has been received unough the Emerge | choy ivespoii | oc i unu, Defensi | C (LIXI ,D) | | | | | | | |

CLASSIFICATION:

| | | | | | | | | DATE: | | | | | |
|---------------------------------|------------------|----------------------------|-------------------|---------------|---------------|---------------|------------------------------------------------------------------|---------------|---------------|--------------|-------|--------------------------|--|
| Exhibit R-3 Cost Analysis (page | e 1) | | | | | | | | | February 200 | 4 | | |
| APPROPRIATION/BUDGET ACTIVI | TY | PROGRAM E | LEMENT | | | | NUMBER AND | | | | | | |
| RDT&E, N/BA-7 | | | 0708730N/NSRP ASE | | | | 9121/Maritime Tech, Ship Design & Systems Development Initiative | | | | | | |
| Cost Categories | Contract | Performing | Total | | FY 03 | | FY 04 | | FY 05 | | | | |
| | Method & Type | Activity & Location | PY s Cost | FY 03 Cost | Award Date | FY 04 Cost | Award Date | FY 05 Cost | Award Date | | | Target Value of Contract | |
| | & туре | Location | Cost | Cosi | Date | Cost | Date | Cost | Date | Complete | | | |
| Tarkardaru Davalarun art | CA | Linimanity of Navy Ouleans | 0.044 | 0.040 | | | | | | | 0.000 | | |
| Technology Development | CA | University of New Orleans | 6.344 | 2.313 | | _ | + | | | | 8.657 | | |
| | | | | | | | | | | | 0.000 | | |
| | | | | | | | | | | | 0.000 | | |
| | | | | | | | | | | | 0.000 | | |
| | | | | | | | | | | | 0.000 | | |
| | | | | | | | | | | | 0.000 | | |
| | | | | | | | | | | | 0.000 | | |
| | | | | | | | | | | | 0.000 | | |
| | | | | | | | | | | | 0.000 | | |
| Subtotal Technology Development | | | 6.344 | 2.313 | | 0.00 | 00 | 0.000 | | 0.000 | 8.657 | | |
| | | | | | | | | | | | | | |
| Development Support | | | | | | | | | | | 0.000 | | |
| Software Development | | | | | | | | | | | 0.000 | | |
| Training Development | | | | | | | | | | | 0.000 | | |
| Integrated Logistics Support | | | | | | | | | | | 0.000 | | |
| Configuration Management | | | | | | | | | | | 0.000 | | |
| Technical Data | | | | | | | | | | | 0.000 | | |
| GFE | | | | | | | | | | | 0.000 | | |
| Award Fees | | | | | | | | | | | 0.000 | | |
| Subtotal Support | | | 0.000 | 0.000 | | 0.00 | 00 | 0.000 |) | 0.000 | 0.000 | | |
| Remarks: | | | | DING LIGT | | | | | | | | | |

CLASSIFICATION:

| | | | | | | | | | DATE: | | | | |
|-----------------------------------------------|------------------------------|--------------------------------------|---|-----------------------|---------------|------------------------|-------------------|------------------------------|---------------|------------------------|------------------|---------------|--------------------------|
| Exhibit R-3 Cost Analysis (pa | | | | | | | | | | | February 200 | 04 | |
| APPROPRIATION/BUDGET ACTIVITY PROGRAM ELEMENT | | | | | PROJECT NU | | | | | | | | |
| RDT&E, N/BA-7 | 0708730N/NS | | 1 | 1 | 9121/Maritime | | p Design & Syster | stems Development Initiative | | | | | |
| Cost Categories | Contract Method & Type | Performing Activity & Location | | Total PY s Cost | FY 03 Cost | FY 03 Award Date | FY 04 Cost | FY 04 Award Date | FY 05 Cost | FY 05 Award Date | Cost to Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | | | | | | | | | | | | 0.000 | , |
| Operational Test & Evaluation | | | | | | | | | | | | 0.000 | , |
| Live Fire Test & Evaluation | | | | | | | | | | | | 0.000 | , |
| Test Assets | | | | | | | | | | | | 0.000 | , |
| Tooling | | | | | | | | | | | | 0.000 | , |
| GFE | | | | | | | | | | | | 0.000 | , |
| Award Fees | | | | | | | | | | | | 0.000 | , |
| Subtotal T&E | | | | 0.000 | 0.000 |) | 0.000 | | 0.000 |) | 0.000 | 0.000 | , |
| Contractor Engineering Support | | | | | | | | | | | | 0.000 |) |
| Government Engineering Support | | | | | | | | | | 1 | | 0.000 | |
| Program Management Support | | | | 0.170 | 0.025 | | | | | | | 0.195 | |
| Travel | | | | 0.030 | | | | | | | | 0.035 | |
| Labor (Research Personnel) | | | | 0.000 | 0.000 | | | | | | | 0.000 | |
| SBIR Assessment | | | | 0.180 | | | | | | | | 0.180 | |
| Subtotal Management | | | | 0.380 | 1 |) | 0.000 | | 0.000 |) | 0.000 | 1 | 1 |
| Remarks: | | | | | | | | | | | | | |
| Total Cost | | | | 6.724 | 2.343 | 3 | 0.000 | | 0.000 |) | 0.000 | 9.067 | |
| Remarks: | | | | | | | | | | | | | |