

# UNCLASSIFIED

## CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: <b>FEBRUARY 2005</b>	
APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH DEVELOPMENT TEST &amp; EVALUATION, NAVY /   BA-4</b>					R-1 ITEM NOMENCLATURE 0603755N/SHIP SELF DEFENSE			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	13.451	9.402	9.592	10.934	11.153	11.313	11.601	11.827
2133/QRCC/RAWG	4.256	3.584	3.542	3.526	3.590	3.607	3.732	3.795
2184 Force AAW Coord. Tech. (FACT)	9.195	5.818	6.050	7.408	7.563	7.706	7.869	8.032
<b>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</b>								
<p>      This program incorporates efforts dedicated to the enhancement of ship self defense against Anti-Air Warfare (AAW) threats. Its primary focus is on the development of technologies, systems, and procedures necessary to defeat the evolving Anti-Ship Cruise Missile (ASCM) threat. These projects focus on ship defense improvements through the development of advanced concepts and capabilities that will enhance both defense in depth of ships in a force and self defense of individual ships in a littoral war-fighting environment.</p> <p>      Quick Reaction Combat Capability (QRCC), Project 2133, provides advanced concepts and technology developments for the multi-sensor integration of ship detection equipment, integration and coordination of ship self defense weapons, and coordination of hardkill and softkill assets to improve individual ship self defense capabilities against the ASCM threat. The Requirements and Analysis Working Group (RAWG) provides independent analysis for a variety of combat system trade-offs, ship class performance studies, and force protection strategic plan development.</p> <p>      Force Anti-Air Warfare Coordination Technology (FACT), Project 2184, demonstrates AAW concepts and capabilities that will enhance the AAW warfighting ability of ships and aircraft and enable the coupling of the Force into a single, distributed AAW weapon system through more effective use of tactical data, and force sensors and weapons.</p>								

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME 0603755N/SHIP SELF DEFENSE				PROJECT NUMBER AND NAME 2133/Quick Reaction Combat Capability/Req and Analysis W/G			
COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	4.256	3.584	3.542	3.526	3.590	3.607	3.732	3.795
RDT&E Articles Qty								

### A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Quick Reaction Combat Capability (QRCC) provides advanced concepts and technology developments for the multi-sensor integration of ship detection equipment, integration and coordination of ship self defense weapons, and coordination of hardkill and softkill assets to improve individual ship self defense capabilities against the Anti-Ship Cruise Missile (ASCM) threat. The funding for the Self Defense Test Ship is for the dry-docking and overhaul of the Self Defense Test Ship to extend the service life for another 4 years. The Requirements and Analysis Working Group (RAWG) provides independent analysis for a variety of combat system trade-offs, ship class performance studies, and force protection strategic plan development.

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Exhibit R-2, RD TEN Budget Item Justification  
(Exhibit R-2, page 2 of 14)

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<b>B. Accomplishments/Planned Program</b>																			
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<div style="border: 1px solid black; padding: 5px; min-height: 60px;"> RAWG will assume leadership and management of the Common Anti Ship Cruise Missile (ASCM) Threat Characterization process for PEO Integrated Warfare Systems (IWS). The RAWG will provide support and analyze threats and their impact on the various ship combat systems. </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">FY 04</th> <th style="width: 15%;">FY 05</th> <th style="width: 15%;">FY 06</th> <th style="width: 15%;">FY 07</th> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">3.584</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY 04	FY 05	FY 06	FY 07	Accomplishments/Effort/Subtotal Cost	0.000	3.584	0.000	0.000	RDT&E Articles Quantity				
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<div style="border: 1px solid black; padding: 5px; min-height: 60px;"> The RAWG will analyze Ship Self Defense Probability of Raid Annihilation (PRA) capabilities. Analysis will include baseline PRA requirements, excursions based on raid size, environment, and other operational considerations. </div>																			

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<p><b>C. PROGRAM CHANGE SUMMARY:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 35%;"></th> <th style="text-align: right; width: 12.5%;">FY 2004</th> <th style="text-align: right; width: 12.5%;">FY 2005</th> <th style="text-align: right; width: 12.5%;">FY 2006</th> <th style="text-align: right; width: 12.5%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget: (FY 05 Pres Baseline Controls)</td> <td style="text-align: right;">4.315</td> <td style="text-align: right;">3.619</td> <td style="text-align: right;">3.580</td> <td style="text-align: right;">3.545</td> </tr> <tr> <td>Current BES/President's Budget: (FY06/07 Pres Controls)</td> <td style="text-align: right;">4.256</td> <td style="text-align: right;">3.584</td> <td style="text-align: right;">3.542</td> <td style="text-align: right;">3.526</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.059</td> <td style="text-align: right; border-top: 1px solid black;">-0.035</td> <td style="text-align: right; border-top: 1px solid black;">-0.038</td> <td style="text-align: right; border-top: 1px solid black;">-0.019</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>Programmatic/Other Adjustments</td> <td></td> <td></td> <td style="text-align: right;">-0.038</td> <td style="text-align: right;">-0.019</td> </tr> <tr> <td>Undistributed Congressional Reductions</td> <td style="text-align: right;">-0.048</td> <td style="text-align: right;">-0.035</td> <td></td> <td></td> </tr> <tr> <td>Cancelled Account</td> <td style="text-align: right;">-0.011</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.059</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.035</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.038</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.019</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule: N/A</p> <p style="margin-top: 20px;">Technical: N/A</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					Previous President's Budget: (FY 05 Pres Baseline Controls)	4.315	3.619	3.580	3.545	Current BES/President's Budget: (FY06/07 Pres Controls)	4.256	3.584	3.542	3.526	Total Adjustments	-0.059	-0.035	-0.038	-0.019	Summary of Adjustments					Programmatic/Other Adjustments			-0.038	-0.019	Undistributed Congressional Reductions	-0.048	-0.035			Cancelled Account	-0.011				Subtotal	-0.059	-0.035	-0.038	-0.019
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<p><b>D. OTHER PROGRAM FUNDING SUMMARY:</b> N/A</p> <p><b>E. ACQUISITION STRATEGY:</b> N/A</p> <p><b>F. MAJOR PERFORMERS:</b> Dahlgren/ NSWCDD - Responsible for overall combat systems performance analysis for Navy ship classes.</p>		

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Exhibit R-3 Cost Analysis (page 1)			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
APPROPRIATION/BUDGET ACTIVITY			0603755N/SHIP SELF DEFENSE			2133 Quick Reaction Combat Capability/Requirements and Analysis Working Group								
RDT&E, N / BA-4														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development													0.000	
Ancillary Hardware Development													0.000	
Component Development													0.000	
Ship Integration													0.000	
Ship Suitability													0.000	
Systems Engineering	WX	Dahlgren, NSWC DD	6.875	4.256	10/03	3.584	10/04	3.542	10/05	3.526	10/06	Continuing	Continuing	
Training Development													0.000	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			6.875	4.256		3.584		3.542		3.526		Continuing	Continuing	
Remarks:														
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		0.000		0.000		0.000		0.000	0.000	
Remarks:														

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Exhibit R-3 Cost Analysis (page 2)				APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME			
<b>RDT&amp;E, N / BA-4</b>				0603755N/SHIP SELF DEFENSE				2133 Quick Reaction Combat Capability/Requirements and Analysis Working Group							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation	WR	Dahlgren NSWC DD	9.725										9.725		
Live Fire Test & Evaluation													0.000		
Test Assets													0.000		
Tooling													0.000		
GFE													0.000		
Award Fees													0.000		
Subtotal T&E			9.725	0.000		0.000		0.000		0.000		0.000	9.725		
Remarks:															
Contractor Engineering Support													0.000		
Government Engineering Support													0.000		
Program Management Support													0.000		
Travel													0.000		
Labor (Research Personnel)													0.000		
SBIR Assessment													0.000		
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000		
Remarks:															
Total Cost			16.600	4.256		3.584		3.542		3.526		Continuing	31.508		
Remarks:															

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COST (\$ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	9.195	5.818	6.050	7.408	7.563	7.706	7.869	8.032
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:

The Force Anti-Air Warfare Technology (FACT) Program is an advanced development effort designed to demonstrate Force Anti-Air Warfare (AAW) concepts and capabilities that will significantly improve our Force defense in depth, including both local area and self defense capabilities against current and future AAW threats. FACT improvements are designed to enhance the AAW warfighting ability of ships and aircraft and to enable coupling of the Force into a single, distributed AAW weapon system and towards more effective use of tactical data and the cooperative use of all the force sensors and weapons. These capabilities will provide the ship defense flexibility needed to meet the threat brought about by increasing numbers of highly sophisticated weapons held by potentially hostile Third World countries. FACT defines requirements and develops prototype systems or modifications to existing systems to test new concepts for the coordination of Force AAW operations. FACT is a model Sea Enterprise effort that consistently delivers advanced war-fighting capability that addresses current Fleet shortfalls and needs quickly and cost effectively. Some examples of prototype systems now in production are AN/SPS-48C Detection Data Converter, AN/SPS-48E Environmental Control Feature, Shipboard Gridlock System Automatic Correlation (SGS/AC) and Dial-a-Track Quality (Link-11 Quality Selection). Other FACT developments nearing production stages are the Automatic Identification System (Auto-ID) and the Multi-Frequency Link-11 capability; Dual Net Multi-Frequency Link-11 (DNMFL); Force Threat Evaluation Weapons Assignment (FTEWA); and the prototype Area Air Defense Commander (AADC) capability. Short and long term objectives will be phased in to produce higher degrees of ship defense and battle coordination and effectiveness.

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<div style="border: 1px solid black; min-height: 60px; margin-top: 5px;"> <p>On going development of Joint Targeting Attack &amp; Assessment Capability (JTAAC)/demonstrations at sea and ashore, and support Navy's transition of JTAAC to a production program.</p> </div>																			
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<div style="border: 1px solid black; min-height: 60px; margin-top: 5px;"> <p>Support land based and at sea experiments of Advanced Command and Control Systems, conduct analysis to evaluate air defense concepts and capabilities including Multi-TADIL operations and air defense operations.</p> </div>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"></td> <td style="width: 15%;">FY04</td> <td style="width: 15%;">FY05</td> <td style="width: 15%;">FY06</td> <td style="width: 15%;">FY07</td> </tr> <tr> <td>Accomplishments/Effort/Subtotal Cost</td> <td>0.150</td> <td>0.150</td> <td>0.150</td> <td>0.150</td> </tr> <tr> <td>RDT&amp;E Articles Quantity</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						FY04	FY05	FY06	FY07	Accomplishments/Effort/Subtotal Cost	0.150	0.150	0.150	0.150	RDT&E Articles Quantity				
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<div style="border: 1px solid black; min-height: 60px; margin-top: 5px;"> <p>Provide top level programmatic support, technical analysis and assist in the development processes, procedures and documentation that impact the execution of the FACT program requirements.</p> </div>																			

R-1 SHOPPING LIST - Item No. 70

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EXHIBIT R-2, RDT&E Budget Item Justification			DATE: <b>FEBRUARY 2005</b>																																																													
APPROPRIATION/BUDGET ACTIVITY <b>RDTE, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME 0603755N/SHIP SELF DEFENSE	PROJECT NUMBER AND NAME K2184 Force AAW Coordination Technology																																																														
<p><b>C. PROGRAM CHANGE SUMMARY:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;"></th> <th style="text-align: right; width: 10%;">FY 2004</th> <th style="text-align: right; width: 10%;">FY 2005</th> <th style="text-align: right; width: 10%;">FY 2006</th> <th style="text-align: right; width: 10%;">FY 2007</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Previous President's Budget: (FY 05 Pres Controls)</td> <td style="text-align: right;">5.418</td> <td style="text-align: right;">5.874</td> <td style="text-align: right;">6.015</td> <td style="text-align: right;">7.329</td> </tr> <tr> <td>Current President's Budget: (FY 06 Pres Controls)</td> <td style="text-align: right;">9.195</td> <td style="text-align: right;">5.818</td> <td style="text-align: right;">6.050</td> <td style="text-align: right;">7.408</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">3.777</td> <td style="text-align: right; border-top: 1px solid black;">-0.056</td> <td style="text-align: right; border-top: 1px solid black;">0.035</td> <td style="text-align: right; border-top: 1px solid black;">0.079</td> </tr> <tr> <td colspan="5" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>Undistributed Congressional Reductions</td> <td style="text-align: right;">-0.060</td> <td style="text-align: right;">-0.056</td> <td></td> <td></td> </tr> <tr> <td>FY04 SBIR (9 Apr 04)</td> <td style="text-align: right;">-0.149</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Execution Realignment</td> <td style="text-align: right;">4.000</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cancelled Accounts Liabilities</td> <td style="text-align: right;">-0.014</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Programmatic/Other Adjustments</td> <td></td> <td></td> <td style="text-align: right;">0.035</td> <td style="text-align: right;">0.079</td> </tr> <tr> <td style="padding-top: 20px;">Subtotal</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">3.777</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">-0.056</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.035</td> <td style="text-align: right; border-top: 1px solid black; border-bottom: 1px solid black;">0.079</td> </tr> </tbody> </table> <p style="margin-top: 20px;">Schedule: Not Applicable.</p> <p style="margin-top: 20px;">Technical: Not Applicable.</p>						FY 2004	FY 2005	FY 2006	FY 2007	Funding:					Previous President's Budget: (FY 05 Pres Controls)	5.418	5.874	6.015	7.329	Current President's Budget: (FY 06 Pres Controls)	9.195	5.818	6.050	7.408	Total Adjustments	3.777	-0.056	0.035	0.079	Summary of Adjustments					Undistributed Congressional Reductions	-0.060	-0.056			FY04 SBIR (9 Apr 04)	-0.149				Execution Realignment	4.000				Cancelled Accounts Liabilities	-0.014				Programmatic/Other Adjustments			0.035	0.079	Subtotal	3.777	-0.056	0.035	0.079
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CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: <b>FEBRUARY 2005</b>
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N / BA-4</b>	PROGRAM ELEMENT NUMBER AND NAME 0603755N/SHIP SELF DEFENSE	PROJECT NUMBER AND NAME K2184 Force AAW Coordination Technology
<p>D. OTHER PROGRAM FUNDING SUMMARY: Not Applicable</p> <p>E. ACQUISITION STRATEGY: Not Applicable</p> <p>F. MAJOR PERFORMERS: APL/Laurel, MD</p>		

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## CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification										DATE: <b>FEBRUARY 2005</b>				
Exhibit R-3 Cost Analysis (page 1)			APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME					
<b>RDT&amp;E, N / BA-4</b>			0603755N/SHIP SELF DEFENSE			K2184 Force AAW Coordination Technology								
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development	CPFF	APL/Laurel, MD	80.678	8.480	11/03	5.333	11/04	5.582	11/05	6.940	11/06	CONT	CONT	
Systems Engineering		SPAWAR, S.D.	0.150										0.150	
Systems Engineering		SPAWAR NORFOLK	0.417										0.417	
Systems Engineering		PUGET SOUND BOSTON	0.029										0.029	
Systems Engineering	GSA	GRCI	0.204										0.204	
Miscellaneous		Unknown	0.187										0.187	
Pontoon Barrier		Unknown	0.961										0.961	
Licenses													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal Product Development			82.626	8.480		5.333		5.582		6.940		CONT	CONT	
Remarks:														
Development Support													0.000	
Software Development													0.000	
Integrated Logistics Support		NSWC/PHD	0.175										0.175	
Integrated Logistics Support		NSLC Mech, PA	0.005										0.005	
Integrated Logistics Support	GSA	AMERIND	0.111										0.111	
Technical Data		NSWC/DD/ Dahlgren, VA	0.150										0.150	
GFE													0.000	
Award Fees													0.000	
Subtotal Support			0.441	0.000		0.000		0.000		0.000		0.000	0.441	
Remarks:														

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Exhibit R-2, RDTEN Budget Item Justification  
(Exhibit R-2, page 13 of 14)

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## CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification										DATE: <b>FEBRUARY 2005</b>				
Exhibit R-3 Cost Analysis (page 2)			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
APPROPRIATION/BUDGET ACTIVITY			0603755N/SHIP SELF DEFENSE			K2184 Force AAW Coordination Technology								
RDT&E, N / BA-4														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation													0.000	
Operational Test & Evaluation	CPFF	APL/Laurel, MD	2.175	0.454	11/03	0.335	11/04	0.318	11/05	0.318	11/06	CONT	CONT	
Live Fire Test & Evaluation													0.000	
Test Assets													0.000	
Tooling													0.000	
GFE													0.000	
Award Fees													0.000	
Subtotal T&E			2.175	0.454		0.335		0.318		0.318		CONT	CONT	
Remarks:														
Contractor Engineering Support	CPAF	RGE, SPRINGFIELD, VA	0.006										0.006	
Contractor Engineering Support	CPFF	SPA,FAIRFAX, VA	0.100										0.100	
Contractor Engineering Support	CPFF	LOGICON, FALLS CHUR, VA	0.060											
Contractor Engineering Support	GSA	STRATEGIC INSIGHT, VA	0.189											
Program Management Support	GSA	DSR, FAIRFAX, VA	0.590										0.590	
Program Management Support	GSA	DELTA ARLINGTON VA	0.000	0.261	11/03	0.150	11/04	0.150	11/05	0.150	11/06	CONT	CONT	
Travel													0.000	
Labor (Research Personnel)													0.000	
Subtotal Management			0.945	0.261		0.150		0.150		0.150		CONT	CONT	
Remarks:														
Total Cost			86.187	9.195		5.818		6.050		7.408		CONT	CONT	
Remarks:														

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