

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0305906F NCMC - TW/AA System					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	19,908	15,350	15,639	18,027	18,043	18,366	18,715	Continuing	TBD
3881 Integrated TW/AA	5,805	0	0	0	0	0	0	0	125,880
4806 N/UWSS NORAD/USSPACECOM Warfighting System	14,103	15,350	15,639	18,027	18,043	18,366	18,715	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

Note: In FY 2002, Project 3881, Integrated TW/AA, efforts transferred to Project 4806, N/UWSS, in order to consolidate projects under the ISC2 contract.

(U) **A. Mission Description**
 This program element funds the evolution of the Commander-in-Chief (CINC) North American Aerospace Defense Command (NORAD)/CINC US Space Command (USSPACECOM) Battle Management/Command, Control, Communications, Computers and Intelligence (BM/C4I) system and its supporting infrastructure into an integrated, flexible, interoperable, and more cost effective architecture. This integrated BM/C4I system includes the Integrated Tactical Warning and Attack Assessment (ITW/AA) command and control systems delivered under the completed Cheyenne Mountain Upgrade (CMU) program. The RDT&E primarily funds integration of these and other existing mission areas to provide a foundation for a fused battlespace picture for the CINC, plus required additional mission capability for the command and control of space forces so that USCINCSpace can better support theater warfighting CINCs.

This program element has two related projects: The first project, Integrated TW/AA, has been the primary source for modernization planning, integration and architecture development of modifications, upgrades and new acquisitions into the larger BM/C4I system. It provides standardization and interoperability among the integrated N/UWSS systems (e.g., ITW/AA, Space Based Infrared Systems (SBIRS) integration, Ground-based Midcourse Missile Defense (GMD), other Force Enhancements and Space Control programs). The second project, the NORAD/USSPACECOM Warfighting Support System (N/UWSS), provides the means by which the CINC's BM/C4I system of systems will evolve to meet CINC/NORAD/USCINCSpace's evolving mission requirements and achieve Defense Information Infrastructure Common Operating Environment (DII COE) compliance. This project is consistent with the Air Force Long Range Plan, Joint Vision 2010, and the Defense Planning Guidance. The Joint Requirements Oversight Council (JROC) approved the N/UWSS Mission Needs Statement (MNS) on 18 May 1998. Command and Control (C2) of Space Forces Operational Requirements Document (ORD) was completed 2nd Qtr FY00.

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BUDGET ACTIVITY 07 - Operational System Development		PE NUMBER AND TITLE 0305906F NCMC - TW/AA System			
(U) <u>B. Budget Activity Justification</u> This program element is in Budget Activity 7, Operational System Development, because the projects in this program element support development acquisition programs or upgrades in support of operational systems.					
(U) <u>C. Program Change Summary (\$ in Thousands)</u>					
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U)	Previous President's Budget	19,132	15,797	15,694	TBD
(U)	Appropriated Value	19,309	15,797		
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions	-135	-447		
	b. Small Business Innovative Research	-108			
	c. Omnibus or Other Above Threshold Reprogram	-931			
	d. Below Threshold Reprogram	1,815			
	e. Rescissions	-42			
(U)	Adjustments to Budget Years Since FY 2002 PBR			-55	
(U)	Current Budget Submit/FY 2003 PBR	19,908	15,350	15,639	TBD
(U)	<u>Significant Program Changes:</u>				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0305906F NCMC - TW/AA System				PROJECT 3881		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
3881	Integrated TW/AA	5,805	0	0	0	0	0	0	0	125,880
<p>Note: In FY 2002, Project 3881, Integrated TW/AA, efforts transferred to Project 4806, N/UWSS, in order to consolidate projects under the ISC2 contract.</p> <p>(U) <u>A. Mission Description</u> This project was established to integrate new acquisitions such as the Cheyenne Mountain Upgrade (CMU) program into the Integrated Tactical Warning and Attack Assessment (ITW/AA) network when it became apparent that such efforts could only be achieved through rigorous system-of-systems design and engineering analysis of all interfaces and relationships among the twenty-six systems of the network. The project provides interface analysis and disconnect resolution among the ITW/AA systems and future program upgrades (e.g., Space Based Infrared System (SBIRS) integration, Ground-based Midcourse Missile Defense (GMD), other Force Enhancement and Space Control programs). This project supports the high priority task of integrating modifications, upgrades and new acquisitions for the USCINCSpace fixed site Command and Control (C2) nodes (e.g., Cheyenne Mountain Operations Center & Space Operations Center), component C2 nodes (14th AF Aerospace Operations Center, 20th AF Missile Operations Center) and the mobile C2 node. As USCINCSpace moves toward common infrastructures and open system platforms, this project will integrate those systems into the ITW/AA network through pre-planned vertical release upgrades. This project has been the primary source for modernization planning, integration, and architecture development of modifications, upgrades and new acquisitions into the ITW/AA network.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$1,858 Continued developing requirements, architecture, and planning for new and upgraded fixed and mobile C2 nodes and sensors including vertical release planning, communications architecture, technology roadmap, and information operations into the ITW/AA network (e.g., SBIRS and GMD). (U) \$2,945 Continued providing systems engineering for new and upgraded fixed and mobile C2 nodes and sensors including integrated scheduling, AUTODIN-R program, SBIRS, and GMD. (U) \$1,002 Continued test planning, execution, and safety for new and upgraded fixed and mobile C2 nodes and sensors including vertical releases, AUTODIN-R program, SBIRS, and GMD. (U) \$5,805 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 No activity - This project transferred to N/UWSS project effective in FY02 (U) \$0 Total</p>										
Project 3881			Page 3 of 12 Pages				Exhibit R-2A (PE 0305906F)			

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<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$0 No activity - This project transferred to N/UWSS project effective in FY02</p> <p>(U) \$0 Total</p> <p>(U) <u>B. Project Change Summary</u> Project content and funding transfer to N/UWSS (Project 4806, this PE) effective in FY02.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;"></th> <th style="width:10%;"><u>FY 2001</u></th> <th style="width:10%;"><u>FY 2002</u></th> <th style="width:10%;"><u>FY 2003</u></th> <th style="width:10%;"><u>FY 2004</u></th> <th style="width:10%;"><u>FY 2005</u></th> <th style="width:10%;"><u>FY 2006</u></th> <th style="width:10%;"><u>FY 2007</u></th> <th style="width:10%;"><u>Cost to</u></th> <th style="width:10%;"><u>Total Cost</u></th> </tr> <tr> <td></td> <td style="text-align: center;"><u>Actual</u></td> <td style="text-align: center;"><u>Estimate</u></td> <td style="text-align: center;"><u>Complete</u></td> <td></td> </tr> </thead> <tbody> <tr> <td>(U) Other APPN See N/UWSS, Project 4806, this PE.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u> All major contracts within this program element were awarded after full and open competition.</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:45%;"></th> <th colspan="4" style="text-align: center;"><u>FY 2001</u></th> <th colspan="4" style="text-align: center;"><u>FY 2002</u></th> <th colspan="4" style="text-align: center;"><u>FY 2003</u></th> </tr> <tr> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> </tr> </thead> <tbody> <tr> <td>(U) AUTODIN Transition completed</td> <td style="text-align: center;">*</td> <td></td> </tr> <tr> <td>(U) Clear Radar Upgrade Integration completed</td> <td style="text-align: center;">*</td> <td></td> </tr> <tr> <td>(U) Continue GMD-BMC3 ITW/AA Integration (1)</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Continue ITW/AA Air Initiatives (2)</td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) HAVE STARE (FPS-129) Radar Integration completed</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>* indicates task completed/X indicates scheduled task</p> <p>(1) - GMD-BMC3 ITW/AA Integration evolving to GMD-BMC3 ITW/AA Integration spiral development under N/UWSS.</p> <p>(2) - ITW/AA Air Initiatives evolving to ITW/AA Air Initiatives spiral development under N/UWSS.</p>											<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		(U) Other APPN See N/UWSS, Project 4806, this PE.											<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>					1	2	3	4	1	2	3	4	1	2	3	4	(U) AUTODIN Transition completed	*												(U) Clear Radar Upgrade Integration completed	*												(U) Continue GMD-BMC3 ITW/AA Integration (1)					*								(U) Continue ITW/AA Air Initiatives (2)				*									(U) HAVE STARE (FPS-129) Radar Integration completed					*							
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>																																																																																																																									
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Project 3881			Page 4 of 12 Pages				Exhibit R-2A (PE 0305906F)																																																																																																																											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0305906F NCMC - TW/AA System				3881			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Systems Engineering					1,860					
(U)	SPO Support										
(U)	MITRE					3,178		0		0	
(U)	Aerospace					110		0		0	
(U)	TEMS/ITSP Contracts					496		0		0	
(U)	Program Support					161		0		0	
(U)	Total					5,805		0		0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
	<u>Product Development Organizations</u>										
	DISA	MIPR	Apr 96	1,328	1,328	1,328	0	0	0	0	1,328
	Lockheed Martin Co Springs, CO	C/PIF/AF	Jun 95	6,390	6,390	6,390	0	0	0	0	6,390
	Lockheed Martin Sunnyvale, CA	CPIF/AF	Nov 98	2,561	2,561	2,561	0	0	0	0	2,561
	SPAWAR/Navy	MIPR	Nov 98	1,132	1,132	1,132	0	0	0	0	1,132
	DTRA Dulles, VA	MIPR	Apr 99	1,300	1,300	1,300	0	0		0	1,300
	Prime Contractors (Various)	Various	Various	3,412	3,412	1,552	1,860	0	0	0	3,412

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0305906F NCMC - TW/AA System				3881		
(U) <u>Performing Organizations Continued:</u>										
<u>Support and Management Organizations</u>										
FFRDC	CPFF	Oct 95	62,239	62,239	58,951	3,288	0	0	0	62,239
TEMS/Information	C/R	Various	37,162	37,162	36,666	496	0	0	0	37,162
Technology Services Program										
Contracts										
Program Support	Various	Various	9,544	9,544	9,383	161	0	0	0	9,544
Prime Contractors	Various	Various	812	812	812	0	0	0	0	812
<u>Test and Evaluation Organizations</u>										
None										
(U) <u>Government Furnished Property:</u>										
<u>Contract</u>										
<u>Method/Type</u>										
<u>Award or</u>										
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>										
None										
<u>Support and Management Property</u>										
None										
<u>Test and Evaluation Property</u>										
None										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					14,263	1,860	0	0	0	16,123
Subtotal Support and Management					105,812	3,945	0	0	0	109,757
Subtotal Test and Evaluation										
Total Project					120,075	5,805	0	0	0	125,880

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0305906F NCMC - TW/AA System	PROJECT 4806
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4806 N/UWSS NORAD/USSPACECOM Warfighting System	14,103	15,350	15,639	18,027	18,043	18,366	18,715	Continuing	TBD

Note: In FY 2002, Project 3881, Integrated TW/AA, efforts transferred to Project 4806, N/UWSS, in order to consolidate projects under the ISC2 contract.

(U) A. Mission Description

The NORAD/USSPACECOM Warfighting Support System (N/UWSS) provides the future architecture for a NORAD/USSPACECOM Battle Management/C4I system of systems that complies with the Defense Information Infrastructure Common Operating Environment (DII COE), Joint Technical Architecture (JTA) standards and provides for DoD/Joint Command and Control (C2) interoperability. New Space C2 capability will be integrated with this new architecture along with the evolving legacy mission capability to provide a fused battlespace picture. N/UWSS addresses all Commander-in-Chief (CINC) North American Aerospace Defense Command (NORAD)/CINC US Space Command (USSPACECOM) missions including the Integrated Tactical Warning/Attack Assessment (ITW/AA) of missile, space, and air threats and Space Battle Management. N/UWSS will provide NORAD/USSPACECOM a C2 system that is flexible in responding to evolving mission needs (e.g., Space Based Infrared System (SBIRS), Ground-based Midcourse Missile Defense (GMD), Space Control, and Information Operations); is interoperable within the NORAD/USSPACECOM warfighting functions and supporting/supported CINCs; and achieves reductions in total cost of ownership.

The initial scope of N/UWSS will put into place a standards-based, interoperable architecture to support evolution of fixed and endurable C2 nodes to DII COE compliance and develop and integrate new Space C2 capability.

(U) FY 2001 (\$ in Thousands)

- (U) \$3,319** Continued Enterprise database infrastructure development
- (U) \$2,835** Continued fused battlespace picture situation monitor and assessment development
- (U) \$2,442** Continued C2 of space forces/threat warning development
- (U) \$3,936** Completed C2 of space forces/space battle manager development to provide theater situational awareness
- (U) \$1,571** Completed C2 of space forces/space operations planning and development of a Space Tasking Order (STO)
- (U) \$14,103** Total

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0305906F NCMC - TW/AA System	4806
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$4,608 Continue Enterprise database infrastructure development and evolve architecture to incorporate an integrated space, missile, and air mission Common Operating Picture (COP)</p> <p>(U) \$2,844 Continue C2 of space forces/threat warning development</p> <p>(U) \$2,843 Continue evolution of C2 space battle manager through spiral development</p> <p>(U) \$5,055 Continue preliminary N/UWSS system engineering to define the path for new and upgraded missions (e.g., SBIRS and GMD, TBMCS, IO, Intel and ITW/AA) impacting fixed and mobile C2 nodes. This will include spiral development release planning, communications architecture, new technology insertion, integrated scheduling, test planning and test safety into the N/UWSS network</p> <p>(U) \$15,350 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$4,860 Continue Enterprise database infrastructure development and evolve architecture to incorporate an integrated space, missile, and air mission Common Operating Picture (COP)</p> <p>(U) \$2,822 Continue C2 of space forces/threat warning development</p> <p>(U) \$2,821 Continue evolution of C2 space battle manager through spiral development</p> <p>(U) \$5,136 Continue preliminary N/UWSS system engineering to define the path for new and upgraded missions (e.g., SBIRS and GMD, TBMCS, IO, Intel and ITW/AA) impacting fixed and mobile C2 nodes. This will include spiral development release planning, communications architecture, new technology insertion, integrated scheduling, test planning and test safety into the N/UWSS network</p> <p>(U) \$15,639 Total</p> <p>(U) <u>B. Project Change Summary</u></p> <ul style="list-style-type: none"> - Project content and funding from Integrated TW/AA (Project 3881, this PE) transferred to this project effective in FY02. - As part of the Total System Performance Responsibility (TSPR) initiative some systems engineering effort formerly performed by FFRDC (MITRE) will be transitioned to the ISC2 contractor (Lockheed Martin). 		
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(U) C. Other Program Funding Summary (\$ in Thousands)											
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>			
(U) Other APPN											
(U) OPAF (PE 0305906F, Cheyenne Mountain Complex, P-1 Line Item #42, BA 3)	0	26,867	13,808	14,132	14,373	14,615	14,911	Continuing	TBD		
(U) OPAF (PE 0305906F, Comm Elect Mods, P-1 Line Item #75, BA 3)	16,226	0	0	0	0	0	0	0	16,226		
(U) OPAF (PE 0305906F, Spares and Repair Parts, P-1 Line Item #104, BA 5)	921	679	664	673	680	704	719	Continuing	TBD		
(U) D. Acquisition Strategy											
N/UWSS employs an evolutionary spiral development acquisition strategy which enables rapid development and fielding of capability increments in response to validated requirements. Using a spiral development acquisition strategy is critical in a hardware/software intensive C2 system where 12-24 month technology cycles are common.											
N/UWSS uses a performance-oriented contracting strategy with industry, evolving toward Total System Performance Responsibility (TSPR). Contract was awarded in FY00 after full and open competition.											
(U) E. Schedule Profile											
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>			
				1	2	3	4	1	2	3	4
(U) Continue C2 of Space Forces incremental deliveries					*				X		X
(U) GMD - BMC3 ITW/AA Integration spiral development deliveries								X		X	
(U) ITW/AA Air Initiatives spiral development deliveries									X		X
(U) System Architecture spiral development (1)						*		X	X		X
* Indicates task completion/X indicates scheduled task											
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2002																																																	
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<p>(U) <u>E. Schedule Profile Continued</u></p> <table style="width: 100%; border: none;"> <thead> <tr> <th></th> <th colspan="3" style="text-align: center;"><u>FY 2001</u></th> <th colspan="3" style="text-align: center;"><u>FY 2002</u></th> <th colspan="3" style="text-align: center;"><u>FY 2003</u></th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>1 - ISC2 will provide 6-month spirals to the system architecture.</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>2 - With the continuing slip in the SBIRS program, integration activities have been deleted until such time as final delivery of program dictates.</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>				<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>				1	2	3	4	1	2	3	4	1	2	3	4	1 - ISC2 will provide 6-month spirals to the system architecture.													2 - With the continuing slip in the SBIRS program, integration activities have been deleted until such time as final delivery of program dictates.												
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Project 4806	Page 10 of 12 Pages	Exhibit R-2A (PE 0305906F)																																																	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0305906F NCMC - TW/AA System				4806			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>			
(U)	Systems Engineering					13,263	12,329	12,575			
(U)	FFRDC					840	2,450	2,499			
(U)	A&AS					0	347	337			
(U)	Program Support					0	224	228			
(U)	Total					14,103	15,350	15,639			
In FY2001, all previous N/UWSS A&AS and Program Support activities moved to Major Contract line (ISC2 contract awarded 19 Sep 00). In FY2002, the A&AS and Program Support for Project 3881 transferred to Project 4806.											
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Lockheed Martin	CP/AF	Sep 00	TBD	TBD	929	13,263	12,329	12,575	Continuing	TBD
	Systems Engineering Development & Integration (SEDI)	MIPR	Jan 00	5,631	5,631	5,631	0	0	0	0	5,631
<u>Support and Management Organizations</u>											
	FFRDC	CP/FF	Jan 00	TBD	TBD	1,542	840	2,450	2,499	Continuing	TBD
	A&AS	CP/FF	Jan 00	TBD	TBD	917	0	347	337	Continuing	TBD
	Program Support	Various	Various	TBD	TBD	162	0	224	228	Continuing	TBD
<u>Test and Evaluation Organizations</u>											
	None										
Project 4806				Page 11 of 12 Pages				Exhibit R-3 (PE 0305906F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development				0305906F NCMC - TW/AA System			4806		
(U) Government Furnished Property:									
	<u>Contract</u>	<u>Award or</u>							
<u>Item</u>	<u>Method/Type</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
<u>Product Development Property</u>									
None									
<u>Support and Management Property</u>									
None									
<u>Test and Evaluation Property</u>									
None									
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
Subtotal Product Development					6,560	13,263	12,329	12,575	TBD
Subtotal Support and Management					2,621	840	3,021	3,064	TBD
Subtotal Test and Evaluation									
Total Project					9,181	14,103	15,350	15,639	TBD