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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force **Date:** February 2018

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>
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COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	40.099	48.841	99.088	0.000	99.088	65.839	91.814	51.466	9.643	Continuing	Continuing
672832: <i>MEECN System Improvements</i>	-	13.572	0.923	25.942	0.000	25.942	0.948	0.966	0.987	1.005	Continuing	Continuing
672835: <i>Common VLF/LF Receiver Inc 2</i>	-	4.310	22.526	9.559	0.000	9.559	29.683	82.499	50.463	8.628	Continuing	Continuing
676029: <i>Global Aircrew Strategic Network Terminal</i>	-	18.463	10.026	14.692	0.000	14.692	0.000	0.001	0.000	0.000	Continuing	Continuing
676030: <i>Global ASNT Inc 2</i>	-	3.754	15.366	48.895	0.000	48.895	35.208	8.348	0.016	0.010	Continuing	Continuing

Note
 Nuclear Command, Control, and Communications (NC3) Dem/Val, is an FY19 new start (\$25.012M), to be executed in the MEECN System Improvements (MSI) Program 0303131F, Project 672832. In FY20, NC3 Dem/Val efforts will be transferred to Program 0604001F, Project 646020, in order to provide greater transparency.

A. Mission Description and Budget Item Justification

Nuclear Deterrence Operations (NDO) is an Air Force Core Function. Within this core function, Nuclear Command and Control (NC2) is the exercise of authority and direction by the President, as Commander in Chief, through established command lines, over nuclear weapon operations of military forces. The President's authority and direction are exercised through the Nuclear Command and Control System (NCCS). The NCCS is the designated combination of flexible and enduring elements including facilities, equipment, communications, procedures, personnel, and the structure in which these elements are integrated, all of which are essential for planning, directing, and controlling nuclear weapon operations.

The MEECN portfolio modernizes the systems necessary to effectively provide assured communications connectivity between the President and the strategic deterrence forces in stressed environments.

MSI is a long-range planning process with users (Air Force Global Strike Command (AFGSC), Air Combat Command (ACC), Air Force Space Command (AFSPC), Air Mobility Command (AMC), Air Force Special Operations Command (AFSOC), US Strategic Command (USSTRATCOM), and the Navy) to monitor and assess the performance of NC3 systems and develop recommendations for current and future strategic and tactical architectures, requirements, and issues based on available and emerging technologies. MSI is used to conduct technology testing; analyze technology strategies; conduct requirement trade space analysis, technology maturation and risk reduction efforts, and mission analysis; and build technology Roadmaps as proactive support to the NC3 community. MSI performs analysis, integration, and testing activities for the NC3 Weapon System.

NC3 Dem/Val is required for advanced concept development and prototyping of next generation NC3 systems. This program ensures a responsive design and development engineering infrastructure to address evolving Nuclear Deterrence Operations mission requirements, emerging issues and technology insertion/technology

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<p>application on the NC3 Weapon System, future strategic systems/capability, and other common strategic areas where appropriate, and develop enhanced multi-use capabilities. The NC3 Dem/Val Program will provide technology maturation and risk reduction activities to support the NC3 Weapon System (AN/USQ-225). Activity will reduce life cycle costs, inform technology maturation & risk reduction efforts, improve system performance, mitigate evolving threats, and ensure both viability and durability of the NC3 Weapon System.</p> <p>Common Very Low Frequency/Low Frequency (VLF/LF) Receiver (CVR) Increment 2 (CVR Inc. 2) will deliver a survivable, beyond-line-of-sight path for Emergency Action Message (EAM) reception. The intent of CVR Inc. 2 is to develop and produce a common VLF/LF receiver, capable of implementing an interoperable waveform, to integrate into current and future airborne and ground based platforms, improve system performance, and reduce supportability costs through commonality. The program will also lead the development of the Uniform MEECN Mode (UMM) waveform expected to be used by the United States' Air Force and Navy.</p> <p>Global Aircrew Strategic Network Terminal (Global ASNT) replaces inadequate, unsustainable strategic communications equipment at bomber, tanker and reconnaissance Wing Command Posts (WCPs), Nuclear Task Forces, Munitions Support Squadrons (MUNSS), and for Mobile Support Teams (MSTs). Global ASNT is a ground-based system that will provide survivable, secure communication paths to receive Emergency Action Messages (EAMs), Force Management messages, and Force Direction messages and disseminate them to bomber, tanker, and reconnaissance aircrews.</p> <p>Global ASNT is being fielded in separate capability increments. Global ASNT Increment 1 (Inc. 1) includes early system engineering support for the planning and development for the future Global ASNT Increments.</p> <p>Global ASNT Inc. 1 fields required Extremely High Frequency/Advanced Extremely High Frequency (EHF/AEHF) capabilities and replaces inadequate, unsustainable strategic mobile and fixed-site Single Channel Anti-jam Man-Portable (SCAMP) terminals and Secure, Mobile, Anti-Jam, Reliable, Tactical - Terminal (SMART-T) equipment.</p> <p>Global ASNT Increment 2 delivers a replacement Aircrew Alerting System (AAS) consisting of personal and general alerting equipment, and High Frequency (HF) and Ultra High Frequency (UHF) capabilities. Increment 2 replaces inadequate, unsustainable Electromagnetic Pulse Hardened Dispersal Communication (EHDC) systems and Aircrew Alerting Communications Electromagnetic Pulse (AACE) systems.</p> <p>This program element may include necessary civilian pay expenses required to manage, execute, and deliver nuclear weapon support capabilities. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, 0605898F, and 0605833F.</p> <p>This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal years.</p>		

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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>
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B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	47.471	48.841	82.603	0.000	82.603
Current President's Budget	40.099	48.841	99.088	0.000	99.088
Total Adjustments	-7.372	0.000	16.485	0.000	16.485
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	-9.372	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	2.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	16.485	0.000	16.485

Change Summary Explanation

FY 2017 PB Congressional Mark (-\$7.3M) Excess funds; FFRDC Reductions (Section 8024(f))(-\$0.714M); Below Threshold Reprogramming (+\$2.0M); Small Business Innovation Adjustment (\$-1.358M)
 FY 2019 PB MSI NC3 Dem/Val increase (+\$25.012M); CVRi2 Rephase to align with program execution(-\$55.143M); ASNTi1 increase to mitigate CCD Re-Validation issues(+\$14.530M); ASNTi2 increase for continuation of EMD phase(+32.093M)

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>					Project (Number/Name) 672832 / <i>MEECN System Improvements</i>		
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
672832: <i>MEECN System Improvements</i>	-	13.572	0.923	25.942	0.000	25.942	0.948	0.966	0.987	1.005	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Nuclear Command, Control, and Communications (NC3) Dem/Val, is an FY19 new start (\$25.2M), to be executed in the MEECN System Improvements (MSI) line Program 0303131F, Project 672832. In FY20, NC3 Dem/ Val efforts will be transferred to Program 0604001F, Project 646020, in order to provide greater transparency.

A. Mission Description and Budget Item Justification

MSI is a long-range planning process with users (Air Force Global Strike Command (AFGSC), Air Combat Command (ACC), Air Force Space Command (AFSPC), Air Mobility Command (AMC), Air Force Special Operations Command (AFSOC), US Strategic Command (USSTRATCOM), and the Navy) to monitor and assess the performance of NC3 systems and develop recommendations for current and future strategic and tactical architectures, requirements, and issues based on available and emerging technologies. MSI is used to conduct technology testing; analyze technology strategies; conduct requirement trade space analysis, technology maturation and risk reduction efforts, and mission analysis; and build technology roadmaps as proactive support to the NC3 enterprise. MSI performs analysis, integration, and testing activities for the NC3 Weapon System.

NC3 Dem/Val is required for advanced concept development and prototyping of next generation NC3 systems. This program ensures a responsive design and development engineering infrastructure to address evolving NDO mission requirements, emerging issues and technology insertion/technology application on the NC3 Weapon System, future strategic systems/capability, and other common strategic areas where appropriate, and develop enhanced multi-use capabilities. The NC3 Dem/Val Program will provide technology maturation and risk reduction activities to support the NC3 Weapon System (AN/USQ-225). Activity will reduce life cycle costs, inform technology maturation & risk reduction efforts, improve system performance, mitigate evolving threats, and ensure both viability and durability of the NC3 Weapon System.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2017	FY 2018	FY 2019
Title: MEECN System Improvements	13.572	0.923	25.942
Description: Conduct NC3 technology testing, integrate the NC3 Weapon System, build comprehensive technology strategies and roadmaps. Conduct VLF/LF tradeoff analysis. Deliver results of analytic tasks in an annual NC3 report.			
NC3 Dem/Val activities will include but not limited to; conducting studies, analysis, and prototyping; test bed activities; exercise participation; developing modeling and simulation of identified NC3 WS architecture; integrated NC3 WS testing, validation, and certification; and direct mission support contracts in support of the above.			

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 672832 / <i>MEECN System Improvements</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2017	FY 2018	FY 2019
<p><i>FY 2018 Plans:</i> Continue to refresh NC3 Architecture Roadmap Complete NC3 Annual Report - FY18</p> <p><i>FY 2019 Plans:</i> Continue to refresh NC3 Architecture Roadmap Complete NC3 Annual Report - FY19 Begin design and development engineering Perform analysis of engineering issues and technology insertion Develop enhanced multiuse capabilities Conduct technology maturation and risk reduction activities Evaluate integrated technology, representative modes, and prototype systems</p> <p><i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> FY19 increase of \$25.012M for NC3 Dem/Val</p>			
Accomplishments/Planned Programs Subtotals	13.572	0.923	25.942

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

MSI will continue to evaluate the performance of the NC3 Weapon System, by assessing performance and technology areas for improvement with the assistance of expert technical support from FFRDCs, UARCs, and may include competitively awarded technical support contracts with industry. Johns Hopkins University/Applied Physics Laboratory will support NC3 Weapon System Architecture Roadmap updates.

To conduct NC3 Dem/Val essential activities a combination of competitively awarded contracts, as well as sole source contracts, may be used to augment AF organic capabilities with technical skill sets from FFRDCs, UARCs, and industry Advisory and Assistance Services (A&AS) providers.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force											Date: February 2018				
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>					Project (Number/Name) 672832 / <i>MEECN System Improvements</i>				

Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MSI - NC3 Roadmap	MIPR	JHU APL : Laurel, MD	-	0.594	Oct 2017	0.690	Oct 2018	0.460	Oct 2019	-		0.460	Continuing	Continuing	-
NC3 Dem/Val	TBD	Various : Various	-	-		-		25.012	Feb 2019	-		25.012	Continuing	Continuing	-
NC3 Integration (FFRDC)	TBD	Various : Various	-	8.000	Apr 2018	-		-		-		-	Continuing	Continuing	-
Global Assured Comm	MIPR	Various : Various	-	2.000	Apr 2018	-		-		-		-	Continuing	Continuing	-
Subtotal			-	10.594		0.690		25.472		-		25.472	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NC3 Stand-up	Various	Various : Various	-	-		-		-		-		-	Continuing	Continuing	-
Subtotal			-	-		-		-		-		-	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MSI PSC (Eng/Acq Spt/Travel/IMPAC)	Various	Various : Various	-	0.978	Oct 2016	0.233	Oct 2017	0.470	Oct 2018	0.000		0.470	Continuing	Continuing	-
NC3 PEO Standup	Various	Various : Various	-	-		-		-		-		-	Continuing	Continuing	-
NC3 Integration (A&AS)	Various	Various : Various	-	2.000	Feb 2018	-		-		-		-	Continuing	Continuing	-
Subtotal			-	2.978		0.233		0.470		0.000		0.470	Continuing	Continuing	N/A

			Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	13.572	0.923	25.942	0.000	25.942	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force **Date:** February 2018

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 672832 / <i>MEECN System Improvements</i>
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	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MEECN System Improvement																												
NC3 Integration																												
MEECN System Improvement																												
NC3 Annual Report - FY18																												
NC3 Annual Report - FY19																												
NC3 Annual Report - FY20																												
NC3 Annual Report - FY21																												
NC3 Annual Report - FY22																												
NC3 Annual Report - FY23																												
NC3 Dem/Val																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 672832 / <i>MEECN System Improvements</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>MEECN System Improvement</i>				
NC3 Integration	1	2017	4	2017
MEECN System Improvement	1	2017	4	2023
NC3 Annual Report - FY18	4	2018	4	2018
NC3 Annual Report - FY19	4	2019	4	2019
NC3 Annual Report - FY20	4	2020	4	2020
NC3 Annual Report - FY21	4	2021	4	2021
NC3 Annual Report - FY22	4	2022	4	2022
NC3 Annual Report - FY23	4	2023	4	2023
NC3 Dem/Val	1	2019	4	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>					Project (Number/Name) 672835 / <i>Common VLF/LF Receiver Inc 2</i>		
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
672835: <i>Common VLF/LF Receiver Inc 2</i>	-	4.310	22.526	9.559	0.000	9.559	29.683	82.499	50.463	8.628	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note
This program, BA 07 PE 0303131F, project 672835, CVR Inc. 2, is an FY17 new start (\$15.545M).

A. Mission Description and Budget Item Justification

Common Very Low Frequency/Low Frequency (VLF/LF) Receiver (CVR) Increment 2 (CVR Inc 2) will deliver a survivable, beyond-line-of-sight path for Emergency Action Message (EAM) reception. The intent of CVR Inc 2 is to develop and produce a common VLF/LF receiver, capable of implementing an interoperable waveform, for future platform integration to include airborne and ground based nodes, improve system performance, and reduce supportability costs through commonality. The program will also lead development of the Unified MEECN Mode (UMM) waveform.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2017	FY 2018	FY 2019
Title: CVR Inc 2	4.310	22.526	9.559
Description: Pre-Milestone B Activities			
FY 2018 Plans:			
Continue pre-development and upfront system engineering activities			
Continue requirements and technology analysis and market research			
Continue inspection/modification of Waveguide Integrated Series of Programs (WISP)model			
Continue VLF/LF antenna characterization performance assessment			
Continue Validated Online Lifecycle Threat (VOLT) Assessment			
Continue VLF/LF and UMM Working Groups			
Complete Materiel Development Decision (MDD) and obtain Acquisition Decision Memorandum (ADM)			
Develop UMM Waveform Reference Architecture			
Develop acquisition strategy, requirements trades, mission analysis, and Government reference architecture in preparation for Milestone B			
Draft system requirements documentation and validate requirements			
Continue work on UMM VLF/LF Waveform Standard			
Develop Modeling and Simulation on UMM VLF/LF Waveform Standard			
Conduct Platform Interface Assessments			

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 672835 / <i>Common VLF/LF Receiver Inc 2</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2017	FY 2018	FY 2019
Plan for and participate in AFGSC High Performance Team (HPT) Complete Broad Agency Announcement (BAA) Continue to develop RFP and Milestone B documentation			
<i>FY 2019 Plans:</i> Complete inspection/modification of Waveguide Integrated Series of Programs (WISP)model Complete VLF/LF antenna characterization performance assessment Continue VLF/LF and UMM Working Groups Complete UMM Waveform Reference Architecture Complete UMM VLF/LF waveform standard Complete Platform Interface Assessments Complete RFP Complete Milestone B documentation Conduct Competitive Source Selection			
<i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> Decrease of budget from FY2018 to FY2019 due to rephasing of program.			
Accomplishments/Planned Programs Subtotals	4.310	22.526	9.559

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019 Base</u>	<u>FY 2019 OCO</u>	<u>FY 2019 Total</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APAF 03 PE 0303131F: <i>CVR Inc 2</i>	-	-	-	-	-	-	-	6.378	49.202	Continuing	Continuing

D. Acquisition Strategy
CVR Inc 2 will use a full and open competitive source selection to award an EMD contract for increment 2. CVR Inc 2 will use a competitive approach to fulfill the overall requirements of the program.

E. Performance Metrics
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force **Date:** February 2018

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 672835 / <i>Common VLF/LF Receiver Inc 2</i>
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Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CVR Inc 2 - Early Development	Various	Various : TBD	-	1.052	Jul 2017	17.882	Mar 2018	3.463	Jan 2019	-		3.463	Continuing	Continuing	-
DMS (MITRE)	Various	Various : TBD	-	1.212	Apr 2017	0.475	Feb 2018	0.758	Oct 2018	-		0.758	Continuing	Continuing	-
DMS (Lincoln Lab)	Various	Various : TBD	-	-		0.314	Jan 2018	0.160	Oct 2018	-		0.160	Continuing	Continuing	-
Subtotal			-	2.264		18.671		4.381		-		4.381	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
GFE	Various	Various : TBD	-	0.007	Sep 2017	-		-		-		-	Continuing	Continuing	-
Subtotal			-	0.007		-		-		-		-	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PSC (Eng/Acq Spt/Travel/IMPAC)	Various	Various : TBD	-	1.671	Jun 2017	3.227	Oct 2017	2.905	Nov 2018	-		2.905	Continuing	Continuing	-
PSC - MITRE	Various	Various : TBD	-	0.368	May 2017	0.628	Nov 2017	2.273	Oct 2018	-		2.273	Continuing	Continuing	-
Subtotal			-	2.039		3.855		5.178		-		5.178	Continuing	Continuing	N/A

	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		-	4.310	22.526	9.559	-	9.559	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 672835 / <i>Common VLF/LF Receiver Inc 2</i>

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CVR Inc. 2																												
Early Systems Engineering																												
Requirements Development																												
Matériel Development Decision (MDD)																												
RFP Release																												
Milestone B Decision																												
Contract Award																												
Engineering and Manufacturing Development (EMD)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 672835 / <i>Common VLF/LF Receiver Inc 2</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CVR Inc. 2				
Early Systems Engineering	1	2017	4	2019
Requirements Development	1	2017	4	2019
Material Development Decision (MDD)	3	2018	3	2018
RFP Release	1	2020	1	2020
Milestone B Decision	2	2021	2	2021
Contract Award	3	2021	3	2021
Engineering and Manufacturing Development (EMD)	3	2021	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>					Project (Number/Name) 676029 / <i>Global Aircrew Strategic Network Terminal</i>		
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
676029: <i>Global Aircrew Strategic Network Terminal</i>	-	18.463	10.026	14.692	0.000	14.692	0.000	0.001	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Global ASNT replaces inadequate, unsustainable strategic communications equipment at bomber, tanker and reconnaissance Wing Command Posts (WCPs), Nuclear Task Forces, Munitions Support Squadrons (MUNSS), and for Mobile Support Teams (MSTs). Global ASNT is a ground-based system that will provide survivable, secure communication paths to receive Emergency Action Messages (EAMs), Force Management messages, and Force Direction messages and disseminate them to bomber, tanker, and reconnaissance aircrews.

Global ASNT is being fielded in separate capability increments. Global ASNT Increment 1 (Inc 1) includes early system engineering support for the planning and development for the future Global ASNT Increments.

Global ASNT Inc 1 fields required Extremely High Frequency/Advanced Extremely High Frequency (EHF/AEHF) capabilities and replaces inadequate, unsustainable strategic mobile and fixed-site Single Channel Anti-jam Man-Portable (SCAMP) terminals and Secure, Mobile, Anti-Jam, Reliable, Tactical - Terminal (SMART-T) equipment.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2017	FY 2018	FY 2019
Title: Global ASNT Inc 1	18.463	10.026	14.692
Description: Engineering & Manufacturing Development (EMD)			
FY 2018 Plans:			
Complete Government Developmental Testing (DT) and start conduct of Operational Testing (OT) in preparation for Milestone C.			
Resolve any Deficiency Reports (DRs) identified in integration and test of system level hardware and software.			
Resolve any Deficiency Reports (DRs) identified in DT			
Develop MS C documentation and Engineering Change Orders (ECOs)			
Conduct satellite network simulations and associated MITRE lab analytic activities through DMS/PSC			
FY 2019 Plans:			
Complete Operational Testing (OT) in preparation for Milestone C			
Resolve any Deficiency Reports (DRs) identified in DT/OT testing.			
Resolve any outstanding Deficiency Reports (DRs) identified in integration and test of system level hardware and software.			

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 676029 / <i>Global Aircrew Strategic Network Terminal</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2017	FY 2018	FY 2019
Complete satellite network simulations and associate MITRE lab analytic activities through DMS/PSC Complete Milestone C documentation and Engineering Change Orders (ECOs).			
<i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> Increase due to cost increases of delayed operational testing activities and engineering change order processing in preparation for Milestone C documentation.			
Accomplishments/Planned Programs Subtotals	18.463	10.026	14.692

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• OPAF 03 PE 0303131F: <i>Global ASNT Inc. 1 (834210)</i>	198.925	0.292	140.875	-	140.875	159.360	48.127	67.424	51.006	Continuing	Continuing
• OPAF 05 PE 0303131F: <i>Global ASNT Inc. 1 (861900)</i>	0.000	0.000	73.470	-	73.470	68.795	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

Global ASNT used a full and open competitive approach to award an EMD contract for Increment 1. Global ASNT will continue to use a competitive incremental approach to fulfill the overall requirements for Increments 2 and 3.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force											Date: February 2018				
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>					Project (Number/Name) 676029 / <i>Global Aircrew Strategic Network Terminal</i>						

Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Global ASNT Inc 1 - Engineering & Manufacturing Development	C/FPIF	Raytheon : Marlborough, MA	-	9.896	Nov 2017	4.567	Feb 2018	11.630	Oct 2018	-		11.630	Continuing	Continuing	-
Global ASNT Inc 1 - Satellite Simulations	SS/FFP	MIT/Lincoln Laboratory : Lexington, MA	-	1.855	Mar 2018	-		1.143	Mar 2019	-		1.143	Continuing	Continuing	-
Subtotal			-	11.751		4.567		12.773		-		12.773	Continuing	Continuing	N/A

Remarks

- Raytheon Global ASNT Inc 1 EMD contract is an incrementally funded continuing effort on the existing contract.

Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Global ASNT Inc 1 - MITRE Lab	SS/CPFF	MITRE : Bedford, MA	-	0.358	Oct 2017	0.380	Oct 2018	-		-		-	Continuing	Continuing	-
Global ASNT Inc 1 - Software Support	Various	Various : NV	-	0.611	Feb 2018	-		0.371	Feb 2019	-		0.371	Continuing	Continuing	-
Global ASNT Inc 1 - GFE	Various	Various : NV	-	0.003	Feb 2017	-		-		-		-	Continuing	Continuing	-
Subtotal			-	0.972		0.380		0.371		-		0.371	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Global ASNT Inc 1 - Government Test and Evaluation	Various	Various : NV	-	0.926	Nov 2017	0.830	Apr 2018	0.540	Oct 2018	-		0.540	Continuing	Continuing	-
Global ASNT Inc 1 - NSA	MIPR	NSA, Maryland : NV	-	0.017	Feb 2017	0.011	Feb 2018	0.007	Nov 2018	-		0.007	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force Date: February 2018

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 676029 / <i>Global Aircrew Strategic Network Terminal</i>
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Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal				-	0.943	-	0.841	-	0.547	-	-	0.547	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Global ASNT Inc 1 - PSC (Eng/Acq Support, Travel)	Various	Various : NV	-	2.022	Jul 2017	2.166	Feb 2018	1.001	Oct 2018	-	-	1.001	Continuing	Continuing	-
Global ASNT Inc 1 - PSC (MITRE)	SS/CPFF	MITRE : Bedford, MA	-	2.775	Oct 2017	2.072	Oct 2018	-	-	-	-	-	Continuing	Continuing	-
Subtotal				-	4.797	-	4.238	1.001	-	-	-	1.001	Continuing	Continuing	N/A

	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract		
	Project Cost Totals		-	18.463	10.026	14.692	-	-	14.692	Continuing	Continuing

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 676029 / <i>Global Aircrew Strategic Network Terminal</i>

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Global ASNT Inc. 1																												
Global ASNT Inc 1 - Engineering and Manufacturing Development																												
Global ASNT Inc 1 - Test																												
Global ASNT Inc 1 - Milestone C Decision																												
Global ASNT Inc 1 - Production and Deployment																												
Global ASNT Inc 1 - IOC																												
Global ASNT Inc 1 - Interim Contractor Support																												
Global ASNT Inc 1 - FOC																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 676029 / <i>Global Aircrew Strategic Network Terminal</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Global ASNT Inc. 1				
Global ASNT Inc 1 - Engineering and Manufacturing Development	1	2017	2	2019
Global ASNT Inc 1 - Test	4	2017	1	2019
Global ASNT Inc 1 - Milestone C Decision	2	2019	2	2019
Global ASNT Inc 1 - Production and Deployment	2	2019	4	2023
Global ASNT Inc 1 - IOC	4	2020	4	2020
Global ASNT Inc 1 - Interim Contractor Support	2	2020	4	2023
Global ASNT Inc 1 - FOC	4	2023	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force **Date:** February 2018

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 676030 / <i>Global ASNT Inc 2</i>
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COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
676030: <i>Global ASNT Inc 2</i>	-	3.754	15.366	48.895	0.000	48.895	35.208	8.348	0.016	0.010	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Global ASNT replaces inadequate, unsustainable strategic communications equipment at bomber, tanker and reconnaissance Wing Command Posts (WCPs), Nuclear Task Forces, Munitions Support Squadrons (MUNSS), and for Mobile Support Teams (MSTs). Global ASNT is a ground-based system that will provide survivable, secure communication paths to receive Emergency Action Messages (EAMs), Force Management messages, and Force Direction messages and disseminate them to bomber, tanker, and reconnaissance aircrews.

Global ASNT is being fielded in separate capability increments.

Global ASNT Increment 2 delivers a replacement Aircrew Alerting System (AAS) consisting of personal and general alerting equipment, and High Frequency (HF) and Ultra High Frequency (UHF) capabilities. Increment 2 replaces inadequate, unsustainable Electromagnetic Pulse Hardened Dispersal Communication (EHDC) systems and Aircrew Alerting Communications Electromagnetic Pulse (AACE) systems.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2017	FY 2018	FY 2019
Title: Global ASNT Inc 2	3.754	15.366	48.895
Description: Pre-Milestone B Activities			
FY 2018 Plans: Conduct MDD/ASP Review CDD and Modify it for HF Survivability Finalize documentation for Request for Proposal (RFP) Continue preparation for Milestone B and Contract Award			
FY 2019 Plans: Release Request for Proposal (RFP) Review proposal submissions and engage in Source Selection/Technical Evaluation Activities Complete preparation for Milestone B and Contract Award			
FY 2018 to FY 2019 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 676030 / <i>Global ASNT Inc 2</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2017	FY 2018	FY 2019
Increase due to ramp towards Milestone B and Contract award			
Accomplishments/Planned Programs Subtotals	3.754	15.366	48.895

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Global ASNT used a full and open competitive approach to award an EMD contract for Increment 1. Global ASNT will continue to use a competitive incremental approach to fulfill the overall requirements for Increments 2 and 3.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force **Date:** February 2018

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 676030 / <i>Global ASNT Inc 2</i>
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Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Global ASNT Inc 2 - Pre Milestone B Activities	TBD	Not specified. : TBD	-	3.146	Nov 2017	13.492	Mar 2018	4.192	Oct 2018	-		4.192	Continuing	Continuing	-
Prime Contract	TBD	Not specified. : TBD	-	-		-		42.567	Aug 2019	-		42.567	Continuing	Continuing	-
Subtotal			-	3.146		13.492		46.759		-		46.759	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Global ASNT Inc 2 - MITRE Lab	Various	MITRE : Bedford, MA	-	-		-		-		-		-	Continuing	Continuing	-
Global ASNT Inc 2 - Information Assurance	TBD	Not specified. : TBD	-	0.089	Jul 2017	0.256	Jul 2018	0.131	Jul 2019	-		0.131	Continuing	Continuing	-
Subtotal			-	0.089		0.256		0.131		-		0.131	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Global ASNT Inc 2 - Test Planning	Various	Various : NV	-	0.075	Jul 2017	1.118	Jul 2018	1.018	Jul 2019	-		1.018	Continuing	Continuing	-
Subtotal			-	0.075		1.118		1.018		-		1.018	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Global ASNT Inc 2 - PSC (Eng/Acq Support, Travel)	Various	Various : NV	-	0.444	Jun 2017	0.500	Feb 2018	0.987	Oct 2019	-		0.987	Continuing	Continuing	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 676030 / <i>Global ASNT Inc 2</i>

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Global ASNT Inc. 2																												
Global ASNT Inc 2 Pre-Milestone B Activities																												
Global ASNT Inc 2 - Release Request for Proposal																												
Global ASNT Inc 2 - Milestone B Decision																												
Global ASNT Inc 2 - Contract Award																												
Global ASNT Inc 2 - Engineering and Manufacturing Development																												
Global ASNT Inc 2 - Preliminary Design Review (PDR)																												
Global ASNT Inc 2 - Critical Design Review (CDR)																												
Global ASNT Inc 2 - Test																												
Global ASNT Inc 2 - Milestone C Decision																												
Global ASNT Inc 2 - Production & Deployment																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / <i>Minimum Essential Emergency Communications Network (MEECN)</i>	Project (Number/Name) 676030 / <i>Global ASNT Inc 2</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Global ASNT Inc. 2				
Global ASNT Inc 2 Pre-Milestone B Activities	1	2017	4	2018
Global ASNT Inc 2 - Release Request for Proposal	1	2019	1	2019
Global ASNT Inc 2 - Milestone B Decision	3	2019	3	2019
Global ASNT Inc 2 - Contract Award	4	2019	4	2019
Global ASNT Inc 2 - Engineering and Manufacturing Development	4	2019	4	2021
Global ASNT Inc 2 - Preliminary Design Review (PDR)	2	2020	2	2020
Global ASNT Inc 2 - Critical Design Review (CDR)	3	2020	3	2020
Global ASNT Inc 2 - Test	4	2021	3	2023
Global ASNT Inc 2 - Milestone C Decision	4	2023	4	2023
Global ASNT Inc 2 - Production & Deployment	4	2023	4	2023