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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force										Date: February 2015		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0305114F I Air Traffic Control, Approach, and Landing System (ATCALs)							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	-	31.920	26.087	21.485	-	21.485	9.867	6.349	6.378	6.557	Continuing	Continuing
673587: Air Traffic Control Systems	-	31.920	26.087	21.485	-	21.485	9.867	6.349	6.378	6.557	Continuing	Continuing
Quantity of RDT&E Articles	-	-	1	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

To support the Air Force worldwide flying mission, this program element funds research, development and management of new air traffic control communications, surveillance, positioning, and precision approach and landing systems. When applicable, this includes joint efforts with the Federal Aviation Administration (FAA) and coordination with the International Civil Aviation Organization and the North Atlantic Treaty Organization (NATO). ATCALS development funding currently focuses on the Deployable Radar Approach Control (D-RAPCON) and Next Generation (NextGen) Air Transportation System (ATS) programs as described below.

Deployable Radar Approach Control (D-RAPCON). D-RAPCON will replace the 40 year old AN/MPN-14K and AN/TPN-19 Airport Surveillance Radar (ASR) and Operations Shelter (OPS) subsystems with state of the art digital systems. Modification and overhaul of the existing systems has proven to be ineffective due to diminishing manufacturing sources. On average, no more than three of the existing 17 systems are deployable at any given time. D-RAPCON will provide aircraft surveillance/sequencing, air traffic control communications, and automation capabilities for terminal area air traffic control operations. D-RAPCON will also be deployed with a fixed base or deployable Instrument Landing System and a fixed or mobile control tower to provide a complete air traffic control capability. The D-RAPCON will support tactical military and worldwide humanitarian operations and also provide a capability to support domestic disaster relief. The primary surveillance radar coverage (non-cooperative targets) is out to 60 nautical miles (nm) and the secondary surveillance radar coverage (cooperative targets) is out to 120 nm. The D-RAPCON CDD was approved by the Air Force Requirements Oversight Council on 8 Feb 11. FY16 funds will complete contractor test and developmental testing (DT) and perform any deficiency review work necessary. In FY16, the program office will also be preparing for the MS C decision which must be approved to enter Full Rate Production (FRP). Six certifications are required prior to FRP; Air Traffic Control Radar Beacon System, Identification Friend or Foe, Mark XII/Mark XIIA Systems Certification, National Air Space Certification, Shelter/Transportability Certification, Electro-Magnetic Spectrum certification and frequency allocation and authority to radiate approvals, Information Assurance Certification, and Accreditation and Interoperability and Supportability Certification. Related OPAF funds are in the PE 0305114F Weapon System Code 833010.

Next Generation (NextGen) Air Transportation System (NextGen ATS). This is an interagency effort designed to enable the transition from a ground infrastructure dominated Air Traffic Management capability for the U.S. National Airspace System (NAS) to a capability that leverages advances in Performance Based Navigation (PBN), non-radar based surveillance services, and transition from solid-state analogue voice communications to networked digital voice and data exchange. Per Deputy Secretary of Defense direction (28 Dec 07 Memo), the Air Force is the DoD lead Service for NextGen ATS implementation and architecture development. NextGen ATS will be built on key elements from existing programs and technologies and on new systems under development. As these technologies and architectures mature, ground system upgrades will be coordinated and fielded concurrently with aircraft avionics capabilities that are acquired and integrated into Air Force aircraft (manned and unmanned). These efforts are a subset of the Communication, Navigation and Surveillance/Air Traffic Management (CNS/ATM) program in PE 0305099F and

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will involve aircraft avionics as well as fixed based and deployable air traffic control and landing systems. FY16 efforts will continue to use the newly developed Lead Service Office (LSO) Enterprise Architecture process to develop a NextGen DoD Strategic Roadmap, Integrated Master Schedule and Command and Control Core Function Support Plan, outlining DoD and Air Force equities and required requirements documentation, via in-depth analysis of FAA Next programs and timelines. Portfolio analysis will be captured in DoD NextGen ATS charters to guide Services through a broad and complex NextGen ATS environment. To minimize integration costs, the LSO and Joint Program Offices will also assist aircraft depots, program offices, and major commands in combining military (Mode-5 Identification Friend or Foe (IFF), Global Positioning System (GPS) Military (M)-Code) and civil avionics upgrades, including Automatic Dependent Surveillance Broadcast (ADS-B), Electronic Flight Bags, DataComm and Navigation. To support program office NextGen ATS decision making, the LSO will also develop supporting infrastructure tools, such as a CNS/ATM Global Mandates Database (GAIMS) and a DoD Avionics Equipage Repository (F-WAR). The LSO is also developing a Decision Support Tool to serve as a one-stop website for DoD NextGen ATS, containing all plans and material. Further proof of concept demonstrations and analysis will also be undertaken to explore transportable and fixed-base Remotely Piloted Aircraft (RPA) Ground Based Sense and Avoid (GBSAA) capability, development/test of new Instrument Procedures Development System (IPDS) software (joint effort with FAA and Services). In total, these efforts will focus on enabling DoD aircraft to take advantage of NextGen envisioned NAS efficiencies, developing policies/procedures to avoid adverse costs while ensuring airspace access, seamlessly integrating RPAs into the NAS and other non-NAS/international airspaces, improving the display of aircraft position to air traffic controllers, determining future requirements for digital communications with manned and unmanned aircraft, and enhancing flight safety.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	32.894	23.516	6.654	-	6.654
Current President's Budget	31.920	26.087	21.485	-	21.485
Total Adjustments	-0.974	2.571	14.831	-	14.831
• Congressional General Reductions	-	-0.429			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	3.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.974	-			
• Other Adjustments	-	-	14.831	-	14.831

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 673587: *Air Traffic Control Systems*

FY 2014	FY 2015

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Congressional Add Details (\$ in Millions, and Includes General Reductions)		FY 2014	FY 2015			
Congressional Add: Ground Based Sense and Avoid (GBSAA)		3.500	3.000			
Congressional Add Subtotals for Project: 673587		3.500	3.000			
Congressional Add Totals for all Projects		3.500	3.000			
Change Summary Explanation						
FY16 funding increase:						
D-RAPCON increased \$11.892M to fund program to current cost estimate and move Milestone C decsion from FY16 to FY17. The Milestone C move was result of only one pre-production unit (vice two) being funded for testing which extended the timeline for developmental and operational testing.						
NextGen ATS increased \$2.939M to support continued implementation of Remotely Piloted Aircraft (RPA) Ground Based Sense and Avoid (GBSAA) technology, Instrument Procedures Development System (IPDS) software development, Lead Service and Joint Program Office technical assessments and development of implementation schedules/priorities for NextGen aircraft/ground system capabilities jointly with new military capabilities such as Mode-5 Identification Friend or Foe (IFF) and Global Positioning System (GPS) Military (M)-Code.						
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NextGen ATS		5.569	3.346	5.203	-	5.203
Description: Includes efforts to implement NextGen efficiencies and capabilities. Focus is on Automatic Dependent Surveillance Broadcast (ADS-B) implementation, seamlessly integrating Remotely Piloted Aircraft (RPA) into civil airspace, Instrument Procedure Development System (IPDS) software development, Lead Service Office technical support/architecture development, development of aircraft performance based navigation avionics roadmaps, and surveillance radar/automation system upgrades.						
FY 2014 Accomplishments: Continued efforts to implement NextGen ATS efficiencies. Tasks included a capability assessment of ADS-B equipment at McGuire/Nellis AFBs, approval of an operational RPA GBSAA capability at Cannon AFB, the start of IPDS software development, continuation of Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) Initial Capabilities Document (ICD) preparation, capability mapping, preparation of implementation roadmaps, Concept of Operations, Implementation Plans, Performance Based Navigation (PBN)						

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
and ADS-B benefits/business case development, and engineering analysis to integrate Mode 5 Identification Friend or Foe (IFF) capability into the D-RAPCON surveillance radar and automation system. FY 2015 Plans: - Initiate development of NextGen ATS DoD Strategic Roadmap and Integrated Master Schedule through NextGen ATS charter analysis. - Develop supporting infrastructure tools, such as a CNS/ATM Global Mandates (GAIMS) Database and a DoD Avionics Equipage Repository (F-WAR). - Continue assessment of DoD GPS suitability for ADS-B out integration. - Continue GBSAA solutions for Syracuse, NY ANGB in joint development with the Army (DoD GBSAA lead). - Continue development of IPDS software and D-RAPCON Mode 5 IFF integration. FY 2016 Base Plans: - Will continue assistance to program offices to combine Mode-5 Identification Friend or Foe (IFF), Global Positioning System (GPS) Military (M)-Code) and civil avionics upgrades. - Champion ADS-B equipage solutions through demos and outreach. - Execute analysis on 2-3 additional NextGen ATS programs and capture results thru charters to further develop the NextGen ATS DoD Strategic Roadmap and Integrated Master Schedule. - Develop solutions to integrate DataComm equipage into DoD fleets, advance electronic flight bag applications and standardization, and analyze impacts to DoD of FAA radar divestiture plans. - Will complete development of IPDS software, continue GBSAA transportable/scalable development at Syracuse, NY ANGB in joint effort with the Army. - Through the Lead Service and Joint Program Offices, will also develop implementation schedules and establish priorities for NextGen ATS aircraft and ground system capabilities. Focus will be on combining military Mode-5 IFF, GPS M-Code, and civil avionics upgrades ADS-B. - Complete preparation of engineering change proposal to integrate Mode-5 IFF into D-RAPCON surveillance radar and automation system. FY 2016 OCO Plans: N/A						
Title: D-RAPCON Description: Effort supports D-RAPCON engineering, manufacturing and development (EMD) effort and government developmental and operational testing of one PPU leading to a production decision in FY17.		22.276	19.741	16.282	-	16.282

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Continued EMD effort. Tasks included completion of the Preliminary Design Review in Nov 13, completion of the Critical Design Review in Jul 14, the start of PPU fabrication, sub-contractor factory acceptance testing and preparation for contractor testing and Federal Aviation Administration certifications efforts.						
FY 2015 Plans: Complete fabrication of the PPU and government approval of contractor test plans and procedures in support of the Test Readiness Review in Apr 15 and contrator system testing through Sep 15.						
FY 2016 Base Plans: - Will complete contractor testing, developmental testing (DT) and deficiency review work as necessary. - In parallel, the program office will also prepare for the MS C decision for entry into Full Rate Production (FRP). Six certifications are required prior to FRP; Air Traffic Control Radar Beacon System, Identification Friend or Foe, Mark XII/Mark XIIA Systems Certification, National Air Space Certification, Shelter/Transportability Certification, Electro-Magnetic Spectrum certification and frequency allocation and authority to radiate approvals, Information Assurance Certification, and Accreditation and Interoperability and Supportability Certification.						
FY 2016 OCO Plans: N/A						
Title: D-ILS Description: Supports restructure of program after termination of EMD contract on 6 Nov 13. Using an updated System Requirements Document developed from the terminated EMD contract, program now based on a Foreign Comparative Test (FCT) of a production ready system.		0.575	-	-	-	-
FY 2014 Accomplishments: Effort focused on proceeding with procurement under a Foreign Comparative Test program. Tasks included update of the System Requirements Document to capture lessons learned, issuance of an industry request for information, evaluation of responses, and conduct of FCT evaluation of a production ready system.						
FY 2015 Plans: N/A						
FY 2016 Base Plans:						

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C. Accomplishments/Planned Programs (\$ in Millions)											
					FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total		
N/A											
FY 2016 OCO Plans: N/A											
Accomplishments/Planned Programs Subtotals					28.420	23.087	21.485	-	21.485		
					FY 2014	FY 2015					
Congressional Add: Ground Based Sense and Avoid (GBSAA)					3.500	3.000					
FY 2014 Accomplishments: Proceeded with procurement under a Foreign Comparative Test program. Tasks included update of the System Requirements Document to capture lessons learned, issuance of an industry request for information, evaluation of responses, and conduct of FCT evaluation of a production ready system.											
FY 2015 Plans: Continues development and procurement of a transportable GBSAA system for the ANG. Tasks include exercise of production option on Army contract for 3D radar, integration with Ground Control station software and displays, and test and evaluation of a pre-production system.											
Congressional Adds Subtotals					3.500	3.000					
D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 833010: <i>Air Traffic Control and Landing Systems</i>	32.118	28.400	31.823	-	31.823	87.329	74.479	87.089	773.553	Continuing	Continuing
• OPAF: BA03: Line Item # 833020: <i>National Airspace System</i>	4.381	4.114	3.628	-	3.628	-	-	-	-	-	12.179
• OPAF: BA 03: Line Item # 838010: <i>Comm Elect Mods</i>	13.912	14.568	3.980	-	3.980	12.889	5.380	1.218	1.239	Continuing	Continuing
• OPAF: BA 05: Line Item # 861900: <i>Spares and Repair Parts</i>	2.753	5.987	2.775	-	2.775	6.913	4.741	2.110	2.449	Continuing	Continuing
Remarks											

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E. Acquisition Strategy <p>The acquisition strategy for D-RAPCON is based on award of a competitive fixed price incentive firm contract emphasizing off-the-shelf technology and maximizing the use of non-developmental items (NDIs). The contract includes engineering, manufacturing and development and test effort with follow-on firm fixed price production options.</p> <p>Procurement of a NextGen transportable GBSAA 3D radar for ANG will be thru an existing Army contract.</p> <p>NextGen ATS Enterprise Architecture Implementation Tasks funded via MIPRs and Project Orders with various organizations (FAA, MITRE, Air Force Flight Standards Agency)</p>		
F. Performance Metrics <p>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.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force												Date: February 2015			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0305114F / Air Traffic Control, Approach, and Landing System (ATCALs)				Project (Number/Name) 673587 / Air Traffic Control Systems					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NextGen ATS Instrument Procedure Development System (IPDS)	MIPR	FAA : Washington, DC	-	1.810	Apr 2014	1.397	Mar 2015	1.000	Apr 2016	-		1.000	Continuing	Continuing	-
D-RAPCON	C/FPIF	Raytheon : Marlborough, MA	-	17.056	Feb 2014	13.290	Feb 2015	7.728	Feb 2016	-		7.728	Continuing	Continuing	-
GBSAA ANG	MIPR	Army : Various, MA	-	3.500	Feb 2015	3.000	Jul 2015	-		-		-	Continuing	Continuing	-
Subtotal			-	22.366		17.687		8.728		-		8.728	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NextGen ATS Lead Service Office Technical Support/Requirements Documentation	MIPR	FAA : Washington, DC	-	0.550	Apr 2014	1.425	Apr 2015	2.677	Apr 2016	-		2.677	Continuing	Continuing	-
NextGen ATS GPS Assessment	WR	MITRE : Hanscom AFB, MA	-	0.535	Jan 2014	-		-		-		-	Continuing	Continuing	-
NextGen AFFSA T/E	WR	MITRE : Hanscom AFB, MA	-	0.300	Jan 2014	0.307	Jan 2015	0.300	Jan 2016	-		0.300	Continuing	Continuing	-
NextGen ATS Support Cost	WR	Various : Various,	-	0.880	Dec 2013	0.217	Dec 2014	0.664	Dec 2015	-		0.664	Continuing	Continuing	-
D-RAPCON Support Cost	MIPR	Various : Various,	-	0.290	Dec 2013	0.765	Dec 2014	0.785	Dec 2015	-		0.785	Continuing	Continuing	-
Subtotal			-	2.555		2.714		4.426		-		4.426	-	-	-
Remarks Various contract types, performing activity and city/states are result of the use of Military Interdepartmental Purchase Requests, Purchase Requests, Project Orders, etc that are sent to multiple agencies in support of some tasks.															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force												Date: February 2015			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0305114F / Air Traffic Control, Approach, and Landing System (ATCALs)				Project (Number/Name) 673587 / Air Traffic Control Systems					
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NextGen ATS RPA GBSAA Demo	WR	MITRE : Bedford, MA	-	1.251	Jan 2014	-		-		-		-	Continuing	Continuing	-
NextGen ATS Surveillance Radar/Automation System Upgrades	WR	Various : Various,	-	0.243	Jun 2014	-		0.562	Jun 2016	-		0.562	Continuing	Continuing	-
D-RAPCON	WR	Various : Various,	-	0.930	Mar 2014	0.780	Mar 2015	1.316	Mar 2016	-		1.316	Continuing	Continuing	-
Subtotal			-	2.424		0.780		1.878		-		1.878	-	-	-
Remarks Various contract types, performing activity and city/states are result of the use of Military Interdepartmental Purchase Requests, Purchase Requests, Project Orders, etc that are sent to multiple agencies in support of some tasks.															
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA) - D- RAPCON	WR	AFLCMC/HBA : Bedford, MA	-	4.000	Apr 2014	4.906	Apr 2015	6.453	Mar 2016	-		6.453	Continuing	Continuing	-
Program Management Administration (PMA) - D- ILS	WR	AFLCMC/HBA : Bedford, MA	-	0.575	Oct 2013	-		-		-		-	Continuing	Continuing	-
Subtotal			-	4.575		4.906		6.453		-		6.453	-	-	-
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	31.920		26.087		21.485		-		21.485	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force

Date: February 2015

Appropriation/Budget Activity

3600 / 7

R-1 Program Element (Number/Name)

PE 0305114F / Air Traffic Control,
Approach, and Landing System (ATCALS)

Project (Number/Name)

673587 / Air Traffic Control Systems

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
NextGen ATS ADS-B McGuire/Nellis AFB																												
NextGen ATS GBSAA Cannon/AFSOC IOC																												
NextGen ATS GBSAA Cannon/AFSOC Operations/Sustainment																												
NextGen ATS GBSAA Syracuse/ANG CA																												
NextGen ATS GBSAA Syracuse/ANG Test																												
NextGen ATS GBSAA Syracuse/ANG Cert																												
NextGen ATS GBSAA Syracuse/ANG IOC																												
NextGen ATS Instrument Procedure Development System (IPDS) Software Dev																												
NextGen ATS IPDS Test																												
NextGen LSO/JPO Enterprise Architecture Implementation																												
NextGen ATS Surveillance Radar and Automation System Upgrade Mode 5 IFF Int																												
NextGen ATS Terminal Flight Data Management Sys OUE Vance/Altus																												
D-RAPCON																												
D-RAPCON PDR																												
D-RAPCON CDR																												
D-RAPCON CT																												
D-RAPCON DT																												
D-RAPCON DR																												
D-RAPCON Milestone C																												
D-RAPCON OT																												
D-RAPCON OT Quick Look Report																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force																						Date: February 2015															
Appropriation/Budget Activity 3600 / 7										R-1 Program Element (Number/Name) PE 0305114F / Air Traffic Control, Approach, and Landing System (ATCALS)								Project (Number/Name) 673587 / Air Traffic Control Systems																			
										FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
										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
D-RAPCON Prod Dec																																					
D-RAPCON IOC																																					
D-ILS Restructure																																					

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305114F / Air Traffic Control, Approach, and Landing System (ATCALs)	Project (Number/Name) 673587 / Air Traffic Control Systems	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
NextGen ATS ADS-B McGuire/Nellis AFB	1	2014	4	2014
NextGen ATS GBSAA Cannon/AFSOC IOC	1	2014	1	2014
NextGen ATS GBSAA Cannon/AFSOC Operations/Sustainment	2	2014	4	2020
NextGen ATS GBSAA Syracuse/ANG CA	2	2015	2	2015
NextGen ATS GBSAA Syracuse/ANG Test	4	2015	4	2015
NextGen ATS GBSAA Syracuse/ANG Cert	1	2016	2	2016
NextGen ATS GBSAA Syracuse/ANG IOC	3	2016	3	2016
NextGen ATS Instrument Procedure Development System (IPDS) Software Dev	2	2014	3	2015
NextGen ATS IPDS Test	3	2015	2	2016
NextGen LSO/JPO Enterprise Architecture Implementation	1	2014	4	2020
NextGen ATS Surveillance Radar and Automation System Upgrade Mode 5 IFF Int	2	2014	4	2016
NextGen ATS Terminal Flight Data Management Sys OUE Vance/Altus	1	2017	3	2018
D-RAPCON	1	2014	4	2020
D-RAPCON PDR	1	2014	1	2014
D-RAPCON CDR	2	2014	4	2014
D-RAPCON CT	3	2015	4	2015
D-RAPCON DT	1	2016	3	2016
D-RAPCON DR	4	2016	4	2016
D-RAPCON Milestone C	4	2016	4	2016
D-RAPCON OT	1	2017	2	2017
D-RAPCON OT Quick Look Report	2	2017	2	2017
D-RAPCON Prod Dec	2	2017	2	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force			Date: February 2015		
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		Start		End	
Events		Quarter	Year	Quarter	Year
D-RAPCON IOC		3	2018	3	2018
D-ILS Restructure		1	2014	3	2014