Federal Aviation
Administration

NextGen

Fiscal Year 2013 Business Plan

HQ-121501

FY2013 ANG-NextGen Business Plan

December 10, 2012 08:22 AM

To realize the future vision of aviation by providing integrated strategies and solutions that achieve national and international goals, the Next Generation Air Transportation System (NextGen) Organization champions the evolution of the National Airspace System (NAS) through technical and integration expertise, NAS-wide change stewardship, and an operating model that drives collaboration and accountability across FAA staff office and lines of business.

Next Level of Safety

NextGen supports Destination 2025 Next Level of Safety initiatives through the development of human factors methods and the transfer of technology to understand and mitigate the causes of human error in the operation and maintenance of the National Airspace System. The WJHTC provides an aviation research and development, and test and evaluation facility. Technical Center programs include testing and evaluation in air traffic control, communications, navigation, airports, aircraft safety, and security. Continued coordination with our customers, our industry partners, and other airspace users will ensure the success of both aviation and operational performance standards, which is critical to the safe deployment of new technology.

Strategic Measure: Commercial Air Carrier Fatality Rate

Reduce the commercial air carrier fatalities per 100 million persons on board by 24 percent over 9-year period (2010-2018). No more than 6.2 in 2018 FY13 Target: 7.4

Strategic Initiative: Hazardous Materials Safety

Improve the safety of transporting hazardous materials by air.

Strategic Activity: Hazardous Materials Safety Support

Support the Office of Hazardous Materials Safety by conducting lithium battery fire tests.

Activity Target 1:
Define fire safety design criteria for optimal lithium battery bulk shipping containers. Due September 30, 2013

Activity Target 2:
Evaluate the efficacy of non-halon fire suppression agents/systems to suppress lithium primary battery bulk shipment fires. Due September 30, 2013

Strategic Initiative: Human Factors

Continue research to identify human factors that may contribute to accidents. Develop and implement strategies, methods, and technologies that reduce safety risk.

Strategic Activity: METRIC Human Factors

Develop guidance for Aircraft Certification and Flight Standards to be folded into their regulatory and guidance material to evaluate human factors/pilot interface issues with ADS-B display symbology, to enhance safety by ensuring human factors/pilot interface issues are identified early in the approval process.

Activity Target 1:
Complete a report including Human Factors ADS-B guidance for Aircraft Certification and Flight Standards. Due September 30, 2013

Strategic Initiative: Aeronautical Information Dissemination

Provide pilots with safe access to the NAS by analyzing and disseminating aeronautical and meteorological information to pilots and controllers through innovative systems.

Strategic Activity: Standards for Weather Products

Establish standards for weather products to be data linked to the cockpit.

Activity Target 1:
Implement selected elements of the aviation weather data service mobile application roadmap. Due May 31, 2013

Strategic Measure: General Aviation Fatal Accident Rate

Reduce the general aviation fatal accident rate to no more than 1 fatal accident per 100,000 flight hours by 2018. FY13 Target: 1.06

Strategic Initiative: Human Factors

Continue research to identify human factors that may contribute to accidents. Develop and implement

strategies, methods, and technologies that reduce safety risk.

Strategic Activity: Human Factors Guidelines for Design and Evaluation of Surface Moving Map Displays

Provided human factors evaluation checklist of human factors display issues for aircraft certification engineers, test pilots, and human factors specialists to ensure human factors display issues with multi-function displays are identified during the certification approval process supporting compliance to Technical Standard Order (TSO) C113 and Advisory Circular 25-11A.

Activity Target 1:
Draft revised report of general guidance document that compiles human factors regulatory and guidance material and research results for all flight deck displays and controls. Due March 30, 2013

Activity Target 2:
Draft revised appendices for general guidance document. Due September 30, 2013

Strategic Measure: IT Risk Management and Information Systems Security

Ensure no cyber security event significantly degrades or disables a mission-critical FAA system. FY13 Target: 0 events

Strategic Initiative: Prevent Cyber Security Disruptions (CIP#:M31.00-00)

Support FAA Strategic Performance Measure to ensure no cyber security event significantly disables or degrades FAA mission-critical systems through implementation of effective Information Security System protocols and controls and ensuring compliance with Federal Information System Management requirements.

Relationship to Measure: N/A

Strategic Activity: Protect Mission Critical Systems

AIO, with support from other organizations, protects against cyber security events against the FAA systems each year. To "significantly" disrupt operations, a system would have to be impacted by a cyber security event beyond the Maximum Tolerable Downtime (MTD) identified in their contingency/disaster recovery plans. Failure to meet recovery objectives beyond the MTD would be considered a significant disruption of that system. All FISMA reportable systems categorized as "high" impact will be tracked against this target.

Activity Target 1:
Complete review of agency FISMA reportable systems list and crosswalk all moderate and high impact systems to essential functions defined in FAA Order 1910.1J. Due June 30, 2013

Activity Target 2:
100% of high impact FISMA reportable systems shall be recovered in accordance with the Maximum Tolerable Downtime (MTD) in their approved Contingency/Disaster Recovery Plans (CDRPs). Due September 30, 2013

Strategic Activity: Meet Information Systems Security Authorization and Compliance Reporting

Meet all FISMA requirements for authorization, reauthorization, and/or self-assessments for FAA FISMA reportable systems.

Activity Target 1:
100% of all systems to be authorized, reauthorized, or self-assessed in FY-13 will be complete. Reauthorizations must be completed on or before their 3-year anniversary date. Due September 30, 2013

Activity Target 2:
All systems in the FISMA inventory must test their Contingency Plans and provide documentation showing such. Due September 30, 2013

Strategic Initiative: NAS Enterprise Information System Security (NEISS) Architecture (CIP#:M31.03-01)

Provide system engineering support services to achieve zero cyber security events by defining and implementing NAS Information System Security (NEISS) Architecture capabilities.

Strategic Activity: ANG-B Engineering Services Office Support Services for ISS

Provide systems engineering support services to achieve zero cyber security events by defining and managing the Enterprise Information System Security (EISS) project, developing ISS architecture, requirements, standards and guidance to support acquisition decisions in development of NextGen programs.

Activity Target 1:
Complete final Incident Detection Response architecture plan including NAS and Non-NAS sensors deployment recommendations. Due September 30, 2013

Activity Target 2:
Complete update of final NAS Enterprise Architecture Information System Security view and overlays. Due September 30, 2013

Core Measure: Runway Incursions Cat. A & B

Reduce Category A & B (most serious) runway incursions to a rate of no more than .395 per million operations, and maintain or improve through FY 2013.

Core Initiative: Runway Incursion Reduction Program (RIRP) - ATDP - (S09.02-00) (CIP#:S09.02-00)

The Runway Incursion Reduction Program (RIRP) will continue to develop and mature technology solutions to reduce the likelihood of runway incidents and accidents. All research, development and test activity will be aligned to support the FAA's National Runway Safety Plan. Operational evaluation test beds will be established, sustained or enhanced to support continued data recording and analysis to facilitate capital investment decisions. When appropriate, runway incursion prevention devices and systems will be tested and qualified with the objective of facilitating airport operator acquisition through the Airport Improvement Program.

Relationship to Measure: In FY 2002 FAA changed the focus of measurement for runway incursions from all incursions to those incursions with measurable risk of collision, Categories A and B. Since Category C and D incursions were not likely to lead to an accident or a significant risk of an accident, their inclusion in the previous total tended to mask true safety risk. The new measure reflects the focus of FAA's runway safety effort to reduce the rate of the incursions with demonstrable risk.

Core Activity: Research and Development of Runway Incursion Prevention Technologies

Sustain or enhance the prototype operational evaluation test beds to support continued data recording and analysis facilitating capital investment decisions. Continue to assess and develop Runway Status Lights functionality for application at small to medium sized airports utilizing low-cost, commercially available radar surveillance systems and efficient "green' technologies.

Activity Target 1:
Complete the development of the interface required for the activation of direct to pilot indications using a low cost Surface Movement Radar as the surveillance sensor. Due March 31, 2013

Activity Target 2:
Complete HITL/Simulation scenario coordination meeting with Tech Center Surface Lighting Team. Due March 31, 2013

Activity Target 3:
Complete final luminosity and operational evaluation report on SAN LED RWSL system. Due March 31, 2013

Activity Target 4:
Initiate the installation, implementation, and coordination for Shadow operations evaluation of the prototype eFAROS units at a Second prototype location. Due June 30, 2013

Activity Target 5:
Commence the coordination of a final Preliminary Requirements Document (PRD) and Cost Benefits Analysis (CBA) document for Runway Intersection Lights (RIL). Due September 30, 2013

Activity Target 6:
Develop an annual technical and operational evaluation report of the existing prototype systems. Due September 1, 2013

Activity Target 7:
Publish an initial Cost-Benefit Analysis (CBA) for eFAROS. Due September 30, 2013

Activity Target 8:
Develop an annual technical and operational evaluation report of the existing eFAROS prototype system. Due September 30, 2013

Activity Target 9:
Preliminary test report and quick look briefing of HITL/Simulation results testing enhancements to direct to pilot indicators. Due September 30, 2013

Core Activity: Low Cost Ground Surveillance (LCGS) Systems

Support Federal Aviation Administration's procurement decision of low cost ground surveillance (LCGS) systems. The Federal Aviation Administration is considering procurement of low-cost, commercially

available radar surveillance systems that would reduce the risk of runway incursions at certain small and medium-sized airports. A low-cost system will reduce the risk of ground incidents or accidents, especially during periods of low visibility. We will install these systems at airports that do not have Airport Surface Detection Equipment (either ASDE-3 or ASDE-X).

Activity Target 1:
Commence development of LCGS Business Case Analysis (BCAR). Due February 28, 2013

Activity Target 2:
Prepare and/or revise documentation for LCGS Investment Analysis Readiness Decision (IARD):(LCGS CONOPS, Preliminary Requirements Document (pRD), Enterprise Architecture Documents (AV-1, OV-2, OV-3)). Due May 31, 2013

Activity Target 3:
Develop annual technical and operational evaluation report of four LCGS Pilot systems. Due September 30, 2013

Core Measure: Safety Management Systems

Develop FAA SMS Communication Plan by February 28, 2013.

Core Initiative: Safety Management and System Oversight

Lead the agency effort to improve and manage SMS within AVS and FAA.

Core Activity: FAA Safety Management System (SMS)

Support AVP in the development of an agency-wide plan to manage communications and facilitate common understanding of safety management principles to agency stakeholders and external audiences, and update and publish ARP SMS guidance.

Activity Target 1:
Provide ANG input to AVP for final agency-wide SMS Communications Plan. Due January 31, 2013

Activity Target 2:
Provide ANG input into AVP final FAA Order 8000.369, SMS Guidance. Due January 31, 2013

Core Initiative: Safety & Information Security Division, ANG-B3 (LEGACY) (WAG5610000) (CIP#:X01.00-00)

Promotes safety culture within ANG, implements SMS into all ANG products and provides integrated safety strategies to support strategic investments and development of NAS systems.

Relationship to Measure: PCB&T/Other

Core Activity: Safety Information & Security Division, ANG-B3: Support Services for SMS

Define and manage Safety Management System (SMS) for NextGen (ANG); provide support and guidance for ANG Safety Risk Management and assist with developing requirements, standards, processes, and Enterprise Architecture (EA) safety views.

Activity Target 1:
Develop ANG implementation of SMS by providing ANG safety Risk Management (SRM) policy guidance and processes. Due September 30, 2013

Core Activity: Information Security Branch, ANG-B31: Support Services for Information Systems Security (ISS)

Provide Information System Security (ISS) services and develop ISS architecture; including requirements, standards, guidance, and mid-(2018) and far-term (2025) Enterprise Architecture views to support acquisition decisions in the development of NextGen programs.

Activity Target 1:
Update the draft ISS views and overlays. Due September 30, 2013

Activity Target 2:
Review and provide security guidance for Preliminary Program Requirements (pPR) for NAS systems in support of Concept & Requirements Definition (CRD) engineering activity. Due September 30, 2013

Core Measure: Commercial Air Carrier Fatality Rate

Reduce the commercial air carrier fatalities per 100 million persons on board by 24 percent over 9-year period (2010-2018). No more than 6.2 in 2018

Core Initiative: Commercial Research

Conduct research and development to investigate new methods, processes and materials that can increase safety.

Core Activity: Automated Tools for ASIAS

Support the ASIAS initiative by coordinating integration of internal FAA databases into ASIAS.

Activity Target 1:
Incorporate new Digital sources, such as ADS-B and ATC Voice Data. Due September 30, 2013

Core Initiative: CATM Flight & State Data Mgmt - AIM Segment 2 (G05A.02-05) (CIP#:G05A.02-05)

The AIM Modernization program will provide aviation users with digital aeronautical information that conforms to international standards and supports Next Generation Air Transportation System (NextGen) objectives. Digital aeronautical data enables near real-time processing of data to improve access to and quality of airport and special activity airspace information supporting better decision-making by NAS operators. AIM Modernization improves the delivery of the National Airspace System (NAS) status information.

Relationship to Measure: AIM Modernization Segment 2 will target enhancements and new functionality to improve and expand AIM services. The program will improve the accuracy and timeliness of information regarding Special Activity Airspace and Airport data. Analyses will be conducted to compare this data to the legacy systems baseline to determine the actual amount of improvement provided. Standardizing and centralizing aeronautical data within the NAS will contribute to meeting the FAA's safetyperformance goals and will enhance the safety of FAA air traffic control systems. NAS safety depends upon the timely and accurate exchange of information between internal and external users.

Core Activity: CATM Flight & State Data Mgmt - AIM Segment 2 (G05A.02-05)

The AIM Modernization program will provide aviation users with digital aeronautical information that conforms to international standards and supports Next Generation Air Transportation System (NextGen) objectives. Digital aeronautical data enables near real-time processing of data to improve access to and quality of airport and special activity airspace information supporting better decision-making by NAS operators. AIM Modernization improves the delivery of the National Airspace System (NAS) status information.

Activity Target 1:
Monitor and report monthly on established PLA milestones. Due September 30, 2013

Core Initiative: SSE SD - Systems Safety Mgmt Transformation (G07M.02-01) (CIP#:G07M.02-01)

This program provides research leading to a comprehensive and proactive approach to aviation safety in conjunction with implementation of NextGen capacity and efficiency capabilities. The implementation of these capabilities will require changes in the process of safety management, the definition and implementation of risk management systems, and management of the overall transformation process to ensure that safety is not only maintained but improved.

Relationship to Measure: The planned significant growth and complexity in the air transportation system requires a fundamental change in the way the air transportation community manages safety. Introduction of system safety management research provides a shared, proactive approach to cooperatively identifying, assessing and mitigating risk that make all stakeholders more effective in their approach to managing safety. Processes will be re-engineered, safety cultures will change and new technologies that prevent and mitigate incidents and accidents will be deployed within the air transportation system. This effort develops prototype systems, functioning models, safety tools, sharing environments and safety management analyses that are integrated with the on-going safety efforts by the FAA and air transportation stakeholders at home and abroad. The results will be integrated using multiple data sources and shared across the aviation community to identify precursors and contributing factors to accidents, allowing interventions to be developed and implemented before safety issues manifest as accidents.

Core Activity: SSE SD - Systems Safety Mgmt Transformation (G07M.02-01)

This program provides research leading to a comprehensive and proactive approach to aviation safety in conjunction with implementation of NextGen capacity and efficiency capabilities. The implementation of these capabilities will require changes in the process of safety management, the definition and implementation of risk management systems, and management of the overall transformation process to ensure that safety is not only maintained but improved.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: SSE ASIAS G07A.02-01 (CIP#:G07A.02-01)

The ASIAS program is an information safety analysis and data sharing collaboration involving industry and government to proactively analyze broad and extensive data to advance aviation safety. The primary objective of ASIAS is to provide a national resource for use in discovering common, systemic safety problems that span multiple airlines, fleets and regions of the global air transportation system. ASIAS leverages internal FAA data sets, airline proprietary safety data, publicly available data, manufacturer's data and other data. ASIAS fuses these data sources in order to identify safety trends in the National Airspace System (NAS), leading to a comprehensive and proactive approach to aviation safety in conjunction with implementation of NextGen capacity and efficiency capabilities. ASIAS has initiated the process of proactively analyzing, identifying and monitoring the data for potential high risk safety issues that might otherwise remain hidden until uncovered in post-incident investigations. New automated processes will facilitate advanced analysis of comprehensive data which will provide new insights about potential safety risks in both the current NAS and as the NAS evolves to NextGen. Analyses, using these advanced safety analytical capabilities, can be performed that would not be available to individual stakeholders performing similar analysis. Safety information discovered through ASIAS analytic activities will be used across the FAA and industry to drive improvements and support Safety Management Systems (SMS). ASIAS supports both the safety risk management and safety assurance functions of SMS by providing the data, technology and actionable results to enable the FAA and ASIAS users to optimize SMS safety risk management performance. The activities in the program include: 1. The research will develop ASIAS capabilities that build upon and extend existing capabilities for managing and processing aviation performance data, 2. The development of tools that convert both textural and numeric data into information, and 3. The creation of visualization capabilities that aid causal/contributing factor analyses and risk assessment.

Relationship to Measure: ASIAS is a vital component needed to achieve this goal. The initiative supports promotion and expansion of safety information efforts, particularly as a FAA-industry partnership and data-driven safety program to identify, prioritize and address risks and/or vulnerabilities before they lead to accidents. Data will be shared and aggregated among ASIAS users to more clearly see precursors to accidents. ASIAS will aggregate disparate aviation safety data sources in a central repository, increasing its potential value for analysis-based insight and providing insights that would not be available if data is not shared. Analyses, using advanced safety analytical capabilities, can be performed that would not be available to individual stakeholders performing similar analysis. These advanced safety capabilities will support analysis of comprehensive data which will unlock new insight about potential safety risks in both the current NAS and as the NAS evolves to NextGen. Safety insights from ASIAS analysis will be communicated to the ASIAS users. Stakeholders will leverage insight to identify risk-reducing alternatives or changes to operations or processes. Implemented changes will prevent accidents.

Core Activity: SSE ASIAS G07A.02-01

The ASIAS program is an information safety analysis and data sharing collaboration involving industry and government to proactively analyze broad and extensive data to advance aviation safety. The primary objective of ASIAS is to provide a national resource for use in discovering common, systemic safety problems that span multiple airlines, fleets and regions of the global air transportation system. ASIAS leverages internal FAA data sets, airline proprietary safety data, publicly available data, manufacturer's data and other data. ASIAS fuses these data sources in order to identify safety trends in the National Airspace System (NAS), leading to a comprehensive and proactive approach to aviation safety in conjunction with implementation of NextGen capacity and efficiency capabilities. ASIAS has initiated the process of proactively analyzing, identifying and monitoring the data for potential high risk safety issues that might otherwise remain hidden until uncovered in post-incident investigations. New automated processes will facilitate advanced analysis of comprehensive data which will provide new insights about potential safety risks in both the current NAS and as the NAS evolves to NextGen. Analyses, using these advanced safety analytical capabilities, can be performed that would not be available to individual stakeholders performing similar analysis. Safety information discovered through ASIAS analytic activities will be used across the FAA and industry to drive improvements and support Safety Management Systems (SMS). ASIAS supports both the safety risk management and safety assurance functions of SMS by providing the data, technology and actionable results to enable the FAA and ASIAS users to optimize SMS safety risk management performance. The activities in the program include: 1. The research will develop ASIAS capabilities that build upon and extend existing capabilities for managing and processing aviation performance data, 2. The development of tools that convert both textural and numeric data into information, and 3. The creation of visualization capabilities that aid causal/contributing factor analyses and risk assessment.

Activity Target 1:
Monitor and report monthly on established milestones. Due September 30, 2013

Core Measure: NARP ANG Core Work

Meet 85% annual NARP major accomplishments (as reflected in Appendix A of the NARP) on schedule and within program budget.

Core Initiative: NextGen-Alternative Fuels for General Aviation (111-160)

Address the use of alternative and renewable fuels for GA to lessen aviation environmental impacts to air and water quality.

Core Activity: Conduct Alternative Fuels for General Aviation Research

Investigate alternative fuels for general aviation aircraft that lower or eliminate lead while maintaining the airworthiness of aircraft engines and airframe fuel management systems.

Activity Target 1:
Establish capability to measure lead emissions from piston aircraft engines operating on ultra-low lead and low-lead fuels Due September 30, 2013

Activity Target 2:
Conduct comparison of industry and FAA TC referee detonation methods. Due September 30, 2013

Core Initiative: Propulsion and Fuel Systems Safety (063-110)

Reduce the number of accidents associated with the failure of aircraft engines, components, and fuel systems.

Core Activity: Conduct Propulsion and Fuel Systems Research

Develop technologies, procedures, test methods, and criteria to enhance the airworthiness, reliability, and performance of civil turbine and piston engines, propellers, fuels, and fuel management systems.

Activity Target 1:
Release an enhanced version of DARWIN (Design Assessment of Reliability with Inspection), the probabilistic rotor design and life management code. Due September 30, 2013

Core Initiative: Advanced Materials (062-111)/ Structural Safety (062-110)

Prevent accidents due to structural failure by assessing the safety implications of new and present day composites, alloys, and other materials, and associated structures and fabrication techniques.

Core Activity: Conduct Advanced Materials Research

Assess the safety implications of advanced and present-day composites, alloys, and other materials, and associated structures and fabrication techniques including: composite control surface degradation on transport airplanes, impact damage threats (in-flight hail or ground vehicle collisions), quality control procedures for adhesive joints, bonded and bolted repairs, and safety awareness training in structural engineering.

Activity Target 1:
Characterize and quantify the threats to composite aircraft structures while at the service gate and on the flight line. Due September 30, 2013

Activity Target 2:
Develop training and conduct workshops to review progress in damage tolerance, adhesive joints, and maintenance. Due September 30, 2013

Core Activity: Conduct Structural Safety Research

Develop human tolerance injury criteria and alternative methods to streamline the certification process (i.e., certification by analysis and component tests in lieu of full-scale tests) for overhead stowage bins, auxiliary fuel tanks and fuel systems, and seat and restraint systems.

Activity Target 1:
Support new rule-making and guidance development for Part 25 composite and metallic aircraft crashworthiness for structural substantiation certification. Due September 30, 2013

Core Initiative: Hazards Aircraft Icing (064-111)/Digital Systems Safety (064-110)

Reduce the number of accidents or potential accidents associated with aircraft icing and failures to software-based digital flight controls and avionics systems.

Core Activity: Conduct Aircraft Icing Research

Develop and test technologies that detect frozen contamination, predict anti-icing fluid failure, and technical data on the icing envelope that includes supercooled large droplet and ice crystal icing conditions.

Activity Target 1:
Complete data and information package needed to update annual winter notice providing guidance for formulation of ground de-icing plans as required by airlines in CFR 121.629 Due September 30, 2013

Activity Target 2:
Identify candidate minimum required icing instrumentation requirements, flight and wind tunnel test points required for verification of ice protection systems on rotorcraft. Due September 30, 2013

Core Activity: Conduct Digital Systems Safety Research

Test and evaluate software development techniques and tools, onboard network security and integrity, airborne electronic hardware, and commercial-off-the-shelf technology in Complex and Safety-Critical Systems.

Activity Target 1:
Perform additional work in the development of the airborne network security simulation capability through collaboration with industry and government agencies to assess and identify network security threats in an airborne network environment. Due September 30, 2013

Activity Target 2:
Investigate airborne electronic hardware (AEH) design assurance in the initial category of commercial off-the-shelf (COTS) electronic hardware. Due May 20, 2013

Core Initiative: Continued Airworthiness (065-110)

Prevent, reduce, or mitigate accidents associated with failure of aircraft structure, engines, and systems as a function of their continued operation and usage.

Core Activity: Conduct Continued Airworthiness Research

Promote and develop technologies, procedures, technical data, and performance models for long-term maintenance of the structural integrity of fixed-wing aircraft and rotorcraft; continued safety of aircraft engines; development of inspection technologies; and safety of electrical wiring interconnect systems (EWIS), flight control systems, and mechanical systems, and, develop methods to counter the effects of age and usage on the airworthiness of an aircraft over its lifetime, including potential effects of modifications and repairs.

Activity Target 1:
Develop methods with direct and indirect evidence approaches guided by Advisory Circular 29-2 MG 15 for the certification of HUMS for rotorcraft usage credits. Due September 30, 2013

Activity Target 2:
Lead the Metallic Materials Properties Development and Standardization (MMPDS) steering group in updating the metallic materials properties handbook. Due September 30, 2013

Activity Target 3:
Continue survey and testing to assess application of advanced aluminum-lithium alloys for aircraft primary structure. Due September 30, 2013

Activity Target 4:
Continue testing and analysis to assess environmental durability of bonded repair technology. Due September 30, 2013

Core Initiative: Aircraft Catastrophic Failure Prevention Research (066-110)

Reduce the number of fatal accidents from uncontained engine failures and propulsion system malfunctions.

Core Activity: Conduct Aircraft Catastrophic Failure Prevention Research

Develop technologies and methods to assess risk and prevent occurrence of potentially catastrophic defects, failures, and malfunctions in aircraft, aircraft components, and aircraft systems by evaluating material models for aircraft engine failures in LS-DYNA and developing a generalized damage and failure model with regularization for titanium materials impacted during engine failure events.

Activity Target 1:
Develop and verify an update to a new material model for the LS-DYNA finite element model for aluminum (MAT224). Due September 30, 2013

Activity Target 2:
Continue development of a new generalized damage and failure model with regularization for titanium materials impacted during engine failure events. Due September 30, 2013

Core Initiative: Fire Research and Safety (061-110)

Reduce the number of accidents associated with aircraft fires and mitigate the effects of a post-crash ground fire.

Core Activity: Conduct Fire Research and Safety Research

Develop technologies, procedures, test methods, and fire performance criteria that can prevent accidents caused by hidden cabin or cargo compartment in-flight fires and fuel tank explosions. Fire safety focuses on near-term improvements in fire test methods and materials performance criteria, fire detection and suppression systems, and aircraft fuel tank explosion protection. Improve survivability during a post-crash fire by researching fundamental issues of combustion toxicity, the impact of flame retardant chemicals on the fire and health hazards of cabin materials, and the impact of materials flammability on the initiation of in-flight fires.

Activity Target 1:
Evaluate the effectiveness of FAA certification criteria to prevent cockpit smoke build-up during an in-flight fire. Due September 30, 2013

Activity Target 2:
Develop new/updated flammability tests for Aircraft Materials Fire Test Handbook in support of rulemaking to revamp FAA flammability regulations. Due September 30, 2013

Core Initiative: William J. Hughes Technical Center Laboratory Facility (011-140)

Provide an integrated laboratory platform for the purpose of demonstrating operational procedures, defining human and system performance requirements, full-mission demonstrations integrating NextGen air and ground capabilities for pilot separations responsibilities and controller efficiencies, and analysis, evaluation, and validation of R&D milestones. The WJHTC will continue to sustain and support the Human Factors Research and Development Laboratory and the Flight Program's Airborne Laboratories supporting R&D Programs

Core Activity: Research and Development Human Factors Laboratory

Provide an RE & D integrated laboratory platform for demonstration purposes for operational procedures, human and system performance requirements meeting RE & D milestones.

Activity Target 1:
Identify modifications to the RDHFL required to support research and development, human-in-the-loop simulations, systems integration, and rapid prototyping including hardware and software procurements and infrastructure upgrades. Due April 30, 2013

Activity Target 2:
Implement at least 70% of the items identified for modifications in the RDHFL by the end of FY 2013. Due September 30, 2013

Core Activity: Flight Program's Airborne Laboratories

Provide flying laboratory aircraft to support R&D programs

Activity Target 1:
Maintain licensure of the pilots supporting R&D flight missions by providing on-going pilot training. Complete 75% of pilot training Due August 31, 2013

Activity Target 2:
Provide repairs, preventive maintenance, and fuel for aircraft supporting R&D flight missions. Maintain 80% availability of the N47 Bombardier Global 5000 as scheduled during FY 2013. Due September 30, 2013

Core Initiative: System Planning and Resource Management (011-130)

Formulates, manages, and coordinates the FAA's research and development programs to include strategic planning and direction, , program assessments, collaborations and coordination with external and internal research organizations to support joint research and development projects and provides specialized research facilities to demonstrate operational procedures and performance requirements.

Core Activity: Systems Planning and Resource Management

Formulate, manage and complete all Congressionally mandated research deliverables for FY13 within budget and schedule as reflected in Appendix A of the NARP

Activity Target 1:
90% of deliverables for System Planning and Resource Management Budget Line items as reflected in Appendix A of the NARP. Due September 30, 2013

Core Activity: Research Collaboration with External Partners

Conduct the 10th USA/Europe Air Traffic management Research and Development Seminar.

Activity Target 1:
Manage call for papers, final paper selection

process and the hosting of the seminar in Chicago, IL. Due August 30, 2013

Core Initiative: NextGen-Air Ground Integration □Human Factors (111-110)

Conduct research and deliver human factors products that support FAA strategic goals and AVS mission needs, mitigate identified threats to aviation safety, and support introduction or application of new technologies for NextGen.

Core Activity: NextGen Flight Deck Human Factors Research and Development Plan - NextGen Air Ground Integration

Formulate a NextGen Flight Deck Human Factors R&D Plan. Primary focus areas are data communication, risk and error management, flight crew roles and procedures, flight deck automation and controls, and decision making/decision support.

Activity Target 1:
Develop FY2013 NextGen Flight Deck Human Factors R&D plan in coordination with NAS Lifecycle Planning Division (ANG-D2), sponsor (AVS), and REDAC Subcommittee on Human Factors. Due April 30, 2013

Core Initiative: NextGen-Self Separation Human Factors (111-120)

Conduct research and deliver human factors products that support FAA strategic goals and AVS mission needs, mitigate identified threats to aviation safety, and support introduction or application of new technologies for NextGen.

Core Activity: NextGen Flight Deck Human Factors Research and Development Plan - NextGen Self Separation

Formulate a NextGen Flight Deck Human Factors Research and Development Plan. Primary focus areas are visual and instrument procedures, separation assurance and collision avoidance, and low visibility operations.

Activity Target 1:
Develop FY2013 NextGen Flight Deck Human Factors R&D plan in coordination with NAS Lifecycle Planning Division (ANG-D2), sponsor (AVS), and REDAC Subcommittee on Human Factors. Due April 30, 2013

Core Initiative: NextGen-Weather Technology in the Cockpit (111-140)

Provide pilots with safe access to the NAS by analyzing and disseminating aeronautical and meteorological information to pilots and controllers through innovative systems.

Core Activity: Standards for Weather Products

Establish standards for weather products to be data linked to the cockpit.

Activity Target 1:
Demonstrate a mobile application prototype for dissemination to select cockpits. Due April 30, 2013

Activity Target 2:
Evaluate the utility of mobile applications disseminated to select cockpits. Due August 31, 2013

Core Initiative: Weather Program (041-110)

Demonstrate the scientific advances required for advanced weather forecast products required by NextGen.

Core Activity: Scientific Advances

Demonstrate the scientific advances required for the advanced weather forecast products required by NextGen

Activity Target 1:
Complete testing of initial in-flight icing forecast capability for Alaska. Due August 31, 2013

Activity Target 2:
Complete development of mountain-wave turbulence forecast capability including flight levels surface to FL450. Due August 31, 2013

Core Initiative: Air Traffic Control/Technical Operations Human Factors (082-110)

Conduct human factors research and deliver human factors research and development (R&D) products that support FAA strategic goals and assure that the human centered perspective and the human roles, responsibilities and capabilities are included in all concepts, designs, procedures and policies

Core Activity: Air Traffic Control/Technical Operations Human Factors Research and Development Plan

Formulate an Air Traffic Control and Technical Operations Human Factors Research and Development Plan.

Activity Target 1:
Develop 2013 Air Traffic Control/Technical Operations Human Factors Research and Development Plan. Due April 30, 2013

Core Initiative: Flightdeck/Maintenance/System Integration Human Factors (081-110)

Conduct research and deliver human factors products that support FAA strategic goals and AVS mission needs, mitigate identified threats to aviation safety, and support introduction or application of new technologies.

Core Activity: Flightdeck Human Factors Research and Development Plan

Formulate the Flightdeck Human Factors Research and Development Plan

Activity Target 1:
Develop FY2013 Flightdeck Human Factors R&D plan in coordination with AVS and REDAC Subcommittee on Human Factors. Due April 30, 2013

Core Initiative: Unmanned Aircraft System Research (069-110)

Support establishment of regulatory standards on UAS design and performance characteristics while operating in the NAS.

Core Activity: Conduct Unmanned Aircraft Systems Research

Develop and evaluate methodologies, technologies, tools, laboratory and field tests, analysis and simulations, and generate data to support certification and airworthiness standards, operational requirements, inspection and maintenance processes, and safety oversight responsibilities for UAS operating in the National Airspace System (NAS).

Activity Target 1:
Report on progress on the safety implications of system performance impediments to C2 indifferent classes of airspace and operational environments. Due September 30, 2013

Core Initiative: System Safety Management (060-110)

Increase system safety through the use of safety information; apply operational research analysis techniques and develop/enhance aircraft simulation models to improve safety and efficiency in the terminal area.

Core Activity: Conduct System Safety Management Research

Develop an infrastructure that enables the free sharing and analysis of de-identified safety information; methodologies, research studies, and guidance material that provide aviation safety inspectors, aircraft certification engineers, analysts, and managers the capabilities of systematically assessing potential safety risks and applying proactive solutions to reduce aviation accidents and incidents; and apply operational research analysis techniques and develop/enhance aircraft simulation models to improve safety and efficiency in the terminal area.

Activity Target 1:
Expand ASIAS to new aviation communities (e.g. general aviation, rotorcraft, corporate, and military. Due July 31, 2013

Activity Target 2:
Further development of a quantitative risk analysis methodology for transport airplane continued operational safety (COS) and the data necessary to perform such analyses. Due June 30, 2013

Activity Target 3:
Determine data requirements to improve the mathematical models of stalls, and conduct research on damping values and control effectiveness in the roll and yaw axis to match the in-flight values. Due June 30, 2013

Activity Target 4:
Evaluate methods to determine the runway friction level or runway slipperiness condition by using data obtained from an airplane's flight data or quick access recorder. Due August 31, 2013

Aviation Access

NextGen supports Destination 2025 Aviation Access initiatives by establishing enterprise-level requirements, managing the NAS Concept of Operations, the Enterprise Architecture, and the NAS Operational Portfolios, and by implementing technologies identified in the NextGen Implementation Plan to transition the NAS to meet forecasted demand.

Strategic Measure: Performance Based Navigation

Optimize airspace and Performance Based Navigation (PBN) procedures to improve efficiency an average of 10 percent across core airports by 2018. FY13 Target: 0.05%

Strategic Initiative: Collaborative ATM (CATM) - NextGen Performance Based Navigation - Metroplex RNAV/Required Navigation Performance (RNP) G05N (CIP#:G05N.01-01)

Develop performance based navigation in metroplex airspace, allowing more efficient use of the airspace and increased capacity for affected airports' arrival and departure flows.

Relationship to Measure: Developing performance based navigation in metroplex airspace will allow more efficient use of the airspace and increases in arrival and departure flows. Using the airspace more efficiently increases the capacity for the affected airports.

Strategic Activity: Monitor, HD Performance Based Navigation (PBN) - RNAV/RNP, G05N.01-01

The Airspace Optimization Group will begin integrated airspace design and associated activities, including traffic flow analysis, arrival and departure route design and procedures optimization. This will lay the framework for accelerating PBN initiatives. Airspace and procedure integration allows a systems view that: examines using additional transition access/egress points not tied to ground-based navigation aids; considers concurrent development and implementation of arrival and departure procedures; ensures an integrated approach to optimizing procedures; decouples conflicting operations to and from primary and secondary/satellite airports serviced by the same complex terminal airspace; and develops high altitude routes through congested airspace to create more efficient routes between major metropolitan areas. Implementation of RNAV and RNP routes and procedures will address the RTCA Task Force 5 recommendations, maximize benefits, and accelerate NextGen concepts. Airspace Redesign and procedure development will target specific Metroplex areas that have been designated as high priority by criteria established by FAA with input from RTCA, through the use of quantitative and qualitative metrics. The current plan will address 13 metroplex efforts (study team through implementation) either as unique metroplex locations (e.g. North Texas with Dallas/Fort Worth (DFW), Dallas Love Field Airport (DAL), and other regional airports) or as consolidated metroplex locations (e.g. Central and Southern Florida Metroplexes (Orlando (MCO), Miami (MIA), Tampa (TPA), Palm Beach (PBI), Fort Lauderdale (FLL) and other regional airports) combined into a single effort to take advantage of overlapping areas of concern. This approach will address these metroplex locations beginning in FY 2010 and will complete implementation by FY 2017, with each location being completed in 2-3 years from the start date. Results from Study Teams will be used to guide the implementation of those improvements that have the highest benefits. Design work will include analyses and simulations, assessments of alternatives, and modeling of projected airspace and procedures benefits. All changes to the NAS require safety analyses and documentation. Funding will be used to obtain support services from the Aviation Safety organization to review and approve the implementation of these new flight procedures. Safety inspectors, engineers and other safety staff will be needed to support RNAV and RNP approvals and the associated surveillance techniques to ensure pilots follow the procedures. Safety personnel will also update standards to be consistent with modern aircraft capabilities. A contract will fund technical support and training material including course development, video production, maintenance of training equipment, and course implementation. The Navigation Procedures Implementation Plan (NAV Lean) was published in June, 2011, in response to the Navigation (NAV) Procedures Project Final Report, September 2010, containing 21 recommendations to streamline the Instrument Flight Procedures (IFP) development process. Funding will facilitate implementation of the recommendations to include a streamlined version of the current core process (request, design and development, approval, implementation, and maintenance). It will also explain the intersection of auxiliary processes, such as Safety Management System (SMS), environmental, and operational approval. The process will be better managed by having all IFP requests submitted through an authorized Web-based portal established as the entry point into a system for processing, tracking, and managing the IFP development life cycle.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Strategic Measure: Average Daily Capacity

Maintain an average daily airport capacity for Core Airports of 86,835 arrivals and departures per day through FY 2016. FY13 Target: 86,835

Strategic Initiative: HD Arrivals/Departures - Integrated Enterprise Solution (IES) (G02A.01-06) (CIP#:G02A.01-06)

Determine requirements for Integrated Enterprise Solution (IES)

Relationship to Measure: The TBFM Work Package 3 will begin to provide complete time based metering solutions across all phases of flight. This will increase daily airport capacity by reducing the last minute maneuvering of aircraft as they approach their destination airport in organizing the arrival stream for maximum use of that airport capacity.

Strategic Activity: HD Arrivals/Departures - Integrated Enterprise Solution (IES) (G02A.01-06)

Determine requirements for Integrated Enterprise Solution (IES)

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Strategic Initiative: CATM Flight & State Data Mgmt - Integrated NAS (G05A.02-04) (CIP#:G05A.02-04)

The program objective is to establish a systematic approach for NAS wide airspace procedure development to support NextGen's best equipped best serve concept of operations that provides enhanced services to those aircraft equipped with the avionics compatible with NextGen capabilities.

Relationship to Measure: This program will contribute to the average daily airport capacity metric by providing the modeling and analysis needed to modify airspace and procedures. This will result in more efficient use of airspace thereby increasing capacity.

Strategic Activity: CATM Flight & State Data Mgmt - Integrated NAS (G05A.02-04)

The program objective is to establish a systematic approach for NAS wide airspace procedure development to support NextGen's best equipped best serve concept of operations that provides enhanced services to those aircraft equipped with the avionics compatible with NextGen capabilities.

Activity Target 1:
Develop initial data tool used in analysis of avionics equipage in commercial aircraft Due October 31, 2012

Activity Target 2:
ANG-3 to submit the Final List of enhancements to initial tool, updates will be incorporated to equipage data Due March 30, 2013

Activity Target 3:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Strategic Initiative: FLEX Separation Mgmt - WTMD (G06A.01-01) (CIP#:G06A.01-01)

The Wake Turbulence Mitigation for Departures (WTMD) Program captures the outcome of NASA research, applied to aviation needs to provide greater capacity.

Relationship to Measure: This project implements a technology based solution that will allow reduction of the required wake mitigation separation for aircraft departing on an airport□s closely spaced parallel runways. This solution will allow, when the runway crosswind is favorable, the lifting or reduction of the wake turbulence separation time constraint. This translates to 2 to 8 more departures per hour for an airport that uses its closely spaced parallel runways for departures and has a significant percentage of Boeing 757 and heavier aircraft traffic. The project will allow airports to have an incremental increased departure capacity without having to invest in runway or taxiway expansions. FAA and air carrier analyses have projected that even 2 more departures per hour at an airport will have a beneficial cascading effect during periods of heavy demand at the airport by reducing the time aircraft spend (and passengers) in the runway departure queue and by reducing the missed connections at the next airport. WTMD is also one of the first steps by NextGen in using weather information (in this case airport winds □ actual and predicted) to provide enhanced capacity efficient air traffic control services. Results from the WTMD development can be used in subsequent NextGen era air traffic control decision support tools to service more flights into and out of capacity constrained airports and associated airspace.

Strategic Activity: FLEX Separation Mgmt - WTMD (G06A.01-01)

The Wake Turbulence Mitigation for Departures (WTMD) Program captures the outcome of NASA research, applied to aviation needs to provide greater capacity.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Strategic Initiative: FLEX Separation Mgmt - WTMA (G06A.01-02) (CIP#:G06A.01-02)

This program will evaluate air traffic control decision support tool concept feasibility prototypes as possible enablers to safely meet the predicted NextGen demand for additional flights in the nation's air transportation system.

Relationship to Measure: The decision support tools evaluated by this project will reduce the gap between an airport?s visual operations landing capacity and its instrument operations landing capacity. The WTMA decision support tool capability would allow controllers to use diagonal dependent wake separations during instrument approach operations to an airport?s closely spaced parallel runways in all wind conditions at some airports and at many other airports when the decision support tool is enhanced to factor in favorable crosswinds. ? resulting in 8 to 10 more CSPR landings (depending on fleet mix) per hour than the airports can currently achieve during instrument operating conditions. The WTMA incremental capacity improvement can be achieved without any changes to the aircraft fleet?s equipage and has a compounding beneficial flight delay reduction effect when weather conditions would otherwise have more severely cut an airport?s capacity to accept flights.

Strategic Activity: FLEX Separation Mgmt - WTMA (G06A.01-02)

This program will evaluate air traffic control decision support tool capabilities and associated prototypes as possible enablers to safely meet the predicted NextGen demand for additional flights in the nation's air transportation system.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Strategic Initiative: FLEX SD - Wake Turbulence Re-Categorization (G06M.02-02) (CIP#:G06M.02-02)

This research and development program focuses on satisfying the capacity demands of future aviation growth. The 20 year old wake separation standards still provide safe separation of aircraft from each other's wakes but it no longer provides the most capacity efficient spacing and sequencing of aircraft in approach and en-route operations.

Relationship to Measure: This program is addressing one of the major constraints in implementing processes and procedures that will allow more aircraft flights into and out of airports and through congested air corridors. In the near term, it is rebalancing the wake turbulence separation standards to address today?s mix of aircraft utilizing the nation?s busiest airports. The Wake Turbulence Re-Categorization program is expected to yield more arrival and departure slots per airport which will directly increase the average daily airport arrival and departure capacity. The farther term program work will more generally address how to obtain more ?wake safe? flights in capacity constrained NextGen era airspace.

Strategic Activity: FLEX SD - Wake Turbulence Re-Categorization (G06M.02-02)

This research and development program focuses on satisfying the capacity demands of future aviation growth. The 20 year old wake separation standards still provide safe separation of aircraft from each other's wakes but it no longer provides the most capacity efficient spacing and sequencing of aircraft in approach and en-route operations.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Strategic Initiative: FLEX Separation Mgmt - Closely Spaced Parallel Rwy (G06N.01-02) (CIP#:G06N.01-02)

Enhance procedures to allow dependent operations to closely spaced parallel runways closer than 2500 feet.

Relationship to Measure: CSPO research is focused on finding safe ways to recover lost capacity induced by the current aircraft-to-aircraft separation procedures required for simultaneous Instrument Meteorological Conditions (IMC) operations to closely spaced parallel runways.

Strategic Activity: G06N.01-02 FLEX Separation Mgmt - Closely Spaced Parallel Rwy

The Separation Management - Closely Spaced Parallel Runway Operations (CSPO) initiative will accelerate activities to provide increased arrival, departure, and taxi operations to airports with closely spaced parallel runways in all weather conditions. This initiative will enhance procedures that allow dependent operations to closely spaced parallel runways or converging approaches to runways closer than 2,500 feet, as well as support independent

operations to parallel runways between 2,500 and 4,300 feet.

Activity Target 1:
Deliver Chicago site-specific evaluation final report. Due September 30, 2013

Strategic Activity: FLEX Separation Mgmt - Closely Spaced Parallel Rwy (G06N.01-02)

The Separation Management - Closely Spaced Parallel Runway Operations (CSPO) initiative will accelerate activities to provide increased arrival, departure, and taxi operations to airports with closely spaced parallel runways in all weather conditions. This initiative will enhance procedures that allow dependent operations to closely spaced parallel runways or converging approaches to runways closer than 2,500 feet, as well as support independent operations to parallel runways between 2,500 and 4,300 feet.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Strategic Initiative: FLEX Trajectory Mgmt - Reduced RVR Minima (G06N.02-02) (CIP#:G06N.02-02)

Ensure safe and efficient transition of aircraft from en route to terminal airspace with appropriate sequencing and spacing.

Relationship to Measure: Enhanced low visibility operations support the increased capacity metric by enabling an: - Increased number of arrivals and/or departures at high density towered airports during IMC conditions; - Increased access to the airport during IFR. - Decreased number of flight delays, cancellations, and/or diversions that occur during IMC conditions; - Increased capacity for airlines to schedule flights in marginal weather conditions (since both the primary and alternate routes must be approved within the flight plan); and - Increased flexibility within the NAS for traffic flow resulting in increased capacity. The number of operations at some focus airports support the need for CAT II level of service. This need can be met through SA CAT II vice Standard CAT II more cost effectively. It can be more rapidly deployed and avoid the higher initial investment and life-cycle costs of Standard CAT II. Also, these additional CAT II capable airports will aid in traffic flow, especially in congested areas such as the NY/NJ airspace, and will also help in decreasing fuel costs for airlines with qualifying alternates closer to the primary destination.

Strategic Activity: FLEX Trajectory Mgmt - Reduced RVR Minima (G06N.02-02)

Ensure safe and efficient transition of aircraft from en route to terminal airspace with appropriate sequencing and spacing.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Strategic Initiative: HD Trajectory Mgmt - Surface Tactical Flow (G02A.01-01) (CIP#:G02A.01-01)

Demonstrate surface collaborative decision making at NAS airports.

Relationship to Measure: Aircraft will move to and from the runway in a more efficient, predictable, and coordinated manner (complying with Traffic Management Initiatives and supporting user preferences), increasing efficiency and capacity while reducing controller workload through the automated assignment of runways, taxi routes, and departure queues. Street: Provide any available data on the potential increased capacity to be gained as a result of this capability.

Strategic Activity: HD Trajectory Mgmt - Surface Tactical Flow (G02A.01-01)

Complete preliminary tactical flow evaluations.

Activity Target 1:
Update Concept of Use for Airport Configuration Decision Support Tool Due June 30, 2013

Activity Target 2:
Develop Collaborative Departure Scheduling and Tactical Surface Data Exchange technical transfer artifacts Due May 31, 2013

Activity Target 3:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Strategic Measure: Major System Investments

90% of major baselined acquisition programs must be maintained within 10% of their current cost and schedule acquisition performance baseline as of the end of each fiscal year. FY13 Target: 90% within 10% variance of current baseline

Strategic Initiative: NextGen Implementation Plan (CIP#:X01.00-00)

Expand FAA's NextGen Implementation Plan to incorporate critical path decisions and milestones necessary to accomplish the Mid-Term commitments.

Strategic Activity: ANG-D NextGen Implementation Plan

Publish the Next Generation Implementation Plan reflecting the agency and aviation community priorities.

Activity Target 1:
Working through the cross-agency workgroup, develop key messages and annotated outline for incorporation into the NextGen Implementation Plan for approval by FAA executives. Due October 12, 2012

Activity Target 2:
Working through the cross-agency workgroup, develop, review, and provide comments on draft 1 NextGen Implementation Plan. Due December 14, 2012

Activity Target 3:
Working through the cross-agency workgroup, develop, review, provide comments, and resolve comments on draft 2 NextGen Implementation Plan. Due February 8, 2013

Activity Target 4:
Provide all final comments and clearances necessary for the NextGen Organization to Publish the NextGen Implementation Plan on FAA website thirty days after the President's budget submission. Due March 11, 2013

Strategic Activity: ANG-F NextGen Implementation Plan

Publish the Next Generation Implementation Plan reflecting the agency and aviation community priorities.

Activity Target 1:
Working through the cross-agency workgroup, develop key messages and annotated outline for incorporation into the NextGen Implementation Plan for approval by FAA executives. Due October 12, 2012

Activity Target 2:
Working through the cross-agency workgroup, develop, review and provide comments on draft 1 NextGen Implementation Plan. Due December 14, 2012

Activity Target 3:
Working through the cross-agency workgroup, develop, review, provide comments and resolve comments on draft 2 NextGen Implementation Plan. Due February 8, 2013

Activity Target 4:
Provide all final comments and clearances necessary for the NextGen Organization to Publish the NextGen Implementation Plan on FAA website thirty days after the President's budget submission. Due March 11, 2013

Strategic Activity: METRIC NextGen Implementation Plan

NextGen Implementation Plan published on web in March 2013. The NGIP is the annual encapsulation of the agency's position, planning and progress for one of the FAA's top priorities. It is the primary reference point for industry, oversight organizations, and the public. The March milestone is the marker for the success of a year-long effort to arrive at this data set.

Activity Target 1:
NextGen Implementation Plan published on web in March 2013. The NGIP is the annual encapsulation of the agency's position, planning and progress for one of the FAA's top priorities. It is the primary reference point for industry, oversight organizations, and the public. The March milestone is the marker for the success of a year-long effort to arrive at this data set. Due September 30, 2013

Strategic Initiative: NextGen Segment Implementation Plan

Identify NextGen critical decisions and supporting research, capital and implementation activities required to fulfill FAA NextGen commitments and meet 90 percent of commitments.

Strategic Activity: NextGen Milestones

Provide the management discipline and infrastructure for tracking, monitoring, and reporting milestone completions across Lines of Business.

Activity Target 1:
Establish FY13 list of Initiatives including, Research Demos and selected milestones. Due January 31, 2013

Activity Target 2:
Monitor and report monthly on established

program schedule activities and dates. Due September 30, 2013

Strategic Activity: ANG-B Support for NextGen Implementation Plan Milestones

Engineering Services Office provides annual updates to Enterprise Architecture (EA) roadmaps which includes identification of critical NextGen decisions that are incorporated into the NextGen Implementation Plan.

Activity Target 1:
Complete draft EA roadmaps. Due November 30, 2012

Activity Target 2:
EA roadmap approval. Due January 31, 2013

Strategic Activity: METRIC NextGen Segment Implementation Plan Milestone Selection

Identify key NextGen milestones in January 2013 and meet 90% of the these milestones by 09/30/2013.

Activity Target 1:
Identify key NextGen milestones in January 2013 and meet 90% of the these milestones by 09/30/2013. Due September 30, 2013

Strategic Initiative: Continue Building a Strong Acquisition Workforce

Ensure FAA has the staffing and skill mix to successfully manage NextGen and other major acquisitions by implementing and annually updating FAA's Acquisition Workforce Plan and training, developing and certifying personnel in key acquisition professions.

Strategic Activity: Implement and Annually Update FAA's Acquisition Workforce Plan

Implement and annually update FAA's Acquisition Workforce Plan, to ensure FAA has sufficient numbers of skilled acquisition professionals (current and pipeline) to successfully manage acquisitions.

Activity Target 1:
Fill at least 80% of targeted critical positions. Due September 30, 2013

Activity Target 2:
Publish annual update of FAA's Acquisition Workforce Plan. Due September 30, 2013

Strategic Activity: Train and Certify FAA□s Acquisition Workforce

Train, develop, and certify agency personnel in key acquisition professions.

Activity Target 1:
90% of PMs managing ACAT programs meet/maintain certification requirements for their positions, and at least 15 program/project management professionals achieve or advance their certification levels. Due September 30, 2013

Activity Target 2:
Increase by 5% the number of CORs who have a level 2 or higher certification. Due September 30, 2013

Core Measure: Average Daily Capacity

Maintain an average daily airport capacity for Core Airports of 86,835 arrivals and departures per day through FY 2016.

Core Initiative: TBO Separation Mgmt - Modern Procedures (G01A.01-01) (CIP#:G01A.01-01)

Separation Management automation enhancements include concepts and technologies, performance enhancements to existing automation functions identified through development, deployment, and operational use of ERAM and predecessor systems. Pre-implementation activities include operational and technical risk reduction, and acquisition artifact development. Separation Management includes ATC automation capabilities that assist controllers in maintaining safe aircraft separation while optimizing use of airspace capacity.

Relationship to Measure: Enhancements to ATC automation will allow controllers to make fuller use of available airspace, TBO requires this capability to increase airspace capacity and provide more efficient routes and altitudes to accommodate demand.

Core Activity: TBO Separation Mgmt - Modern Procedures (G01A.01-01) (13C.4A)

Separation Management automation enhancements include concepts and technologies, performance enhancements to existing automation functions identified through development, deployment, and operational use of ERAM and predecessor systems. Pre-implementation activities include operational and technical risk reduction, and acquisition artifact

development. Separation Management includes ATC automation capabilities that assist controllers in maintaining safe aircraft separation while optimizing use of airspace capacity.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: TBO Trajectory Mgmt-Oceanic Tactical Traj. Mgmt (G01A.02-02) (CIP#:G01A.02-02)

The Oceanic Tactical Trajectory Management program is a critical NextGen capability that addresses current performance gaps in the areas of capacity, productivity, efficiency, safety, and environmental impacts in the oceanic environment. Separation in oceanic airspace is handled by controllers using aircraft display screens to visualize trajectories and make prudent operational judgments. ATC is aware of overall air traffic and flight conditions, but currently lacks the tools to identify more efficient flight trajectories. In contrast, pilots and airlines have these tools to optimize individual flight trajectories, but lack the big picture showing potential conflicting traffic.

Relationship to Measure: Aircraft will be able to fly more efficient, user-preferred oceanic routes. Increased system precision and enhanced automation allow the more efficient use of flight levels so that aircraft can more closely fly routes that realize the airlines goals for fuel efficiency and schedule reliability. Reduced separation standards for aircraft that rely on shared state and intent data will lead to fewer predicted problems, and as a result, fewer diversions from the preferred routing. Reduced separation standards will also result in increased capacity within flow-constrained airspace, allowing more aircraft to fly through those areas, rather than being re-routed or delayed to avoid them.

Core Activity: TBO Trajectory Mgmt-Oceanic Tactical Traj. Mgmt (G01A.02-02)

Complete automation plan for Trajectory Optimization (Vertical, speed, lateral)

Activity Target 1:
Final Trial Readiness Review for OCAT Trial Due June 30, 2013

Activity Target 2:
Enhanced Maintenance Manual for OCAT Due November 30, 2012

Activity Target 3:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: TBO SD - New ATM Requirements (G01M.02-02) (CIP#:G01M.02-02)

Develop requirements for existing technology to transition into the NAS for NextGen

Core Activity: TBO SD - New ATM Requirements (G01M.02-02)

Develop requirements for existing technology to transition into the NAS for NextGen

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Activity: New ATM Requirements-Trajectory Modeling

Develop requirements for existing technology to transition into the NAS for NextGen

Activity Target 1:
Develop evaluation model to assess common trajectory. Due September 30, 2013

Activity Target 2:
Develop trajectory schema air-ground and ground-ground exchange. Due September 30, 2013

Core Initiative: HD Trajectory Mgmt - Surface Conformance Monitor (G02A.01-02) (CIP#:G02A.01-02)

Demonstrate and validate procedures for taxi conformance monitoring at airports.

Relationship to Measure: An automated means to monitor surface conformance and alert controllers to deviations from the expected taxi route will reduce controller workload, thereby freeing up controllers to manage more aircraft on the surface environment, resulting in improved capacity and efficiency. It can also reduce taxi times reducing surface delays at congested airports.

Core Activity: HD Trajectory Mgmt - Surface Conformance Monitor (G02A.01-02)

Demonstrate and validate procedures for taxi conformance monitoring at airports.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Activity Target 2:
Conduct Human-in-the-Loop (HITL) simulation of Time-Based Surface Conformance Monitoring to support updating ConUse, Requirements, and Air Traffic Control (ATC) Procedures documents. Due September 30, 2013

Activity Target 3:
Conduct field evaluation of Surface Conformance Monitoring (2D) at Orlando to support updating ConUse, Requirements, and ATC Procedures documents. Due September 30, 2013

Core Initiative: FAC Future Facilities Investment Planning (G03F.01-01) (CIP#:G03F.01-01)

The Next Generation Air Transportation System (NextGen) program delivers redesigned air traffic control systems that are flexible, scalable, and easily maintained. FAA?s infrastructure, automation, equipage, procedures, and regulations must evolve from a geographical focus to support the seamless operational and broader air traffic management. Air traffic control facilities are a critical component of the NextGen and must be redesigned to accommodate new technologies and facilitate new operational approaches. The Future Facilities program office is chartered with planning, developing, and designing air traffic control facilities of the future. Since its launch in September 2010, the program has defined a long-term strategy and approach to facilities transformation. The program is focused on defining criteria, soliciting requirements, and developing and implementing plans for transforming the FAA's air traffic facilities. These facilities will optimally deploy NextGen technologies to capitalize on benefits and new operational concepts. The program will deliver integrated, fit-for-purpose air traffic control facilities. These new and upgraded facilities will feature a full range of required air traffic management services, provide enhanced amenities and improved infrastructure for air traffic operations, and enable the FAA to better meet current and future operational needs. By combining Terminal and En Route operations in the same facilities, FAA will integrate formerly separate lines of business and facilitate cultural and workforce integration. Thanks to the net-centric capabilities and geo- independence afforded by NextGen technologies, facilities will not require proximity to the air traffic being managed. Facilities will be sited and staffed to address employee, fiscal, operational, safety, and security requirements. The Future Facilities Program will address the highest priority areas first, and will manage the air traffic control facilities transformation in segments. A segment is defined as a geographic area with its associated airspace and air traffic facilities. Several projects (new facilities) are planned within each segment. A project is defined as the construction of a fit-for-purpose facility that will house the technologies and personnel required to manage a specific area of the NAS. Currently, the Future Facilities Program has identified six segments in the NAS. Segment delineation is an iterative, data-driven process shaped by operational demands, evolving FAA and industry requirements, and budget availability. By approaching the transformation in segments, the FAA will mitigate operational, budgetary, technical, political, and economic risks, as lessons learned from implementation of earlier segments will be applied to later segments. The Future Facilities Program has a comprehensive process for planning, designing and implementing facility transformation. The projects within each segment will go through an individual final investment analysis decision. The multi-year transformation of FAA air traffic control facilities runs between 2012 (now) through 2025 and beyond. The Future Facilities Program received approval from the JRC (IARD) to move to initial investment analysis for Segment 1 on September 15, 2010. Segment 1 Initial Investment Decision (IID) was received on November 16, 2011. The program is currently developing a business case for its first project, also known as Liberty Integrated Control Facility (ICF), and Final Investment Decision (FID) is expected in Q1 FY 2013. Liberty ICF will focus on the NY/NJ/PHL airspace and will address up to nine existing facilities by collocating operations in a single location. This new facility will deliver benefits that cannot be achieved within the FAA's current infrastructure. Liberty ICF will afford delay reductions in this critical congested metropolitan area while enabling reductions in aviation fuel consumption and noise, and capitalizing on operational efficiencies. FAA employees working in this facility will benefit from an improved work environment. The Future Facilities Program will continue to develop its Portfolio Level Agreements (PfLAs) with FAA's inter-dependent programs, such as En Route Automation (ERAM), ATOP, terminal automation (TAMR), NAS Voice System, Power Systems, and other efforts to ensure that critical equipment is available for installation and testing at the new Liberty ICF. The program will develop a detailed transition plan to transfer surveillance and communication inputs/equipment to the new facility. Transition risk management will be a paramount concern in the development of this approach.

Relationship to Measure: The Future Facilities Program focuses on delivering an infrastructure that supports the transformation of air navigation service delivery unencumbered by legacy constraints. The program will provide for expanded services; service continuity; and optimal deployment and training of the workforce all supported by cost-effective and flexible systems for information sharing and back-up. Traffic will

be assigned to facilities on both a long-term and daily basis with service continuity a foremost requirement. Business continuity will be built into the system to provide for a more resilient infrastructure, better contingency operations, and a higher degree of service. With these new infrastructure capabilities, the ability to efficiently handle current and future demand will be improved resulting in increased system capacity.

Core Activity: FAC Future Facilities Investment Planning (G03F.01-01)

Determine requirements for future Facilities Investment Planning.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: FAC SD Staffed NextGen Towers (G03M.04-01) (CIP#:G03M.04-01)

With the expected increase in air traffic in the United States over the next several decades, there is a need for new, innovative ways to provide tower services. In response to this challenge, the Staffed NextGen Tower (SNT) concept provides for a shift from using the out-the-window (OTW) view as the primary means for providing tower control services to using surface surveillance approved for operational use. SNT is planned for high density airports as these airports are likely to have the surveillance infrastructure and most aircraft equipped with avionics that will support SNT operations. In the near-term, this project will provide the necessary requirements, operational procedures, and supporting documentation leading to a surface surveillance system approved for operational use. This will provide for improved safety and increased capacity at night and during periods of inclement weather when impaired visual observation from an air traffic control tower results in delays or a reduced level of access to the airport. The application of SNT for small and medium airports (SNT-SMA) is under concept exploration and development. The development of both SNT and SNT-SMA is planned as part of this project. In addition, solutions for non-towered airports may also be examined. In future years, operationally approved surface surveillance may be leveraged to provide contingency operations in cse ATC services at a staffed terminal facility are interrupted for a limited time.

Relationship to Measure: Air Traffic Control Tower (ATCT) operations are projected to increase and SNT will provide surface surveillance approved for operational use, future technologies, standards and procedures to accommodate the forecasted demand in airport services. SNTs will improve Instrument Flight Rules (IFR) throughput in low visibility and night conditions to be comparable with capacity in Visual Flight Rules (VFR), and SNTs will allow the FAA to cost effectively expand its service to meet capacity demand. SNT will also allow for delivering aviation services when a local air traffic control facility is experiencing a limited duration loss of service by allowing a contingency facility to provide those services. This will allow continued access to the airport instead of having to temporarily close the airport.

Core Activity: FAC SD Staffed NextGen Towers (G03M.04-01)

With the expected increase in air traffic in the United States over the next several decades, there is a need for new, innovative ways to provide tower services. In response to this challenge, the Staffed NextGen Tower (SNT) concept provides for a shift from using the out-the-window (OTW) view as the primary means for providing tower control services to using surface surveillance approved for operational use. SNT is planned for high density airports as these airports are likely to have the surveillance infrastructure and most aircraft equipped with avionics that will support SNT operations. In the near-term, this project will provide the necessary requirements, operational procedures, and supporting documentation leading to a surface surveillance system approved for operational use. This will provide for improved safety and increased capacity at night and during periods of inclement weather when impaired visual observation from an air traffic control tower results in delays or a reduced level of access to the airport. The application of SNT for small and medium airports (SNT-SMA) is under concept exploration and development. The development of both SNT and SNT-SMA is planned as part of this project. In addition, solutions for non-towered airports may also be examined. In future years, operationally approved surface surveillance may be leveraged to provide contingency operations in case ATC services at a staffed terminal facility are interrupted for a limited time.

Activity Target 1:
Build Safety Simulation Framework/ Model for Monte Carlo Simulation for SNT Requirements Development Due March 31, 2013

Activity Target 2:
Conduct Monte Carlo Simulation Analysis in support of Performance Requirements Development Due September 30, 2013

Activity Target 3:
Monitor and report monthly on established milestones. Due September 30, 2013

Core Initiative: RWI Weather Observation Improvements (G04W.02-01) (CIP#:G04W.02-01)

Conduct coordination with service units and external agencies to ensure weather information development efforts are consistent with the NextGen Concept of Operations

Relationship to Measure: Reduce Weather Impact provides the analysis and engineering to improve weather observations and forecasts and to tailor weather data for integration into decision support tools for collaborative and dynamic NAS decision making. It will enhance capacity by allowing fuller use of weather information for operational decision-making. This supports the optimal selection of aircraft routes and precise spacing for arriving and departing aircraft. The increased accuracy of forecasts and improved observations will enable the capability to provide individual trajectory-based profiles, which optimize the usage of available airspace.

Core Activity: RWI Weather Observation Improvements (G04W.02-01)

RWI WOI will identify alternatives for a NextGen NAS weather sensing network that provides weather observations of greater temporal and spatial resolution and supports both legacy and NextGen requirements related to ATC decision support tools and advanced forecast algorithms. The NextGen weather sensing network alternatives will explore service oriented architectures with the goal of lower operations costs, improved access to weather observations, and improved common situational awareness of terminal weather conditions.

Activity Target 1:
Complete the FY2013 phase of the Flexible Terminal Sensor Network combined processing functionality (FTSN) concept maturity and risk mitigation demonstration. Due September 30, 2013

Activity Target 2:
I2I-Compliant Briefing on the FTSN Concept to the Concept Steering Group Due August 31, 2013

Activity Target 3:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: RWI Weather Forecast Improvements (G04W.03-01) (CIP#:G04W.03-01)

Work with interagency groups to achieve an agreed upon plan for integrated weather activities

Relationship to Measure: Reduce Weather Impact provides the analysis and engineering to improve weather observations and forecasts and to tailor weather data for integration into decision support tools for collaborative and dynamic NAS decision making. It will enhance capacity by allowing fuller use of weather information for operational decision-making. This supports the optimal selection of aircraft routes and precise spacing for arriving and departing aircraft. The increased accuracy of forecasts and improved observations will enable the capability to provide individual trajectory-based profiles, which optimize the usage of available airspace.

Core Activity: RWI Weather Forecast Improvements (G04W.03-01)

A system-wide approach to assuring better weather information that is tailored for the individual user.

Activity Target 1:
Deliver quarterly QMS Management Reports summarizing weather product performance as well as QMS status and issues. Due September 30, 2013

Activity Target 2:
Deliver QMS documentation to include TAF audit plan Due July 22, 2013

Activity Target 3:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Activity Target 4:
Complete CORE Airport Impact Analysis Due March 31, 2013

Core Initiative: CATM Flow Control - Strategic Flow Integration (G05A.01-01) (CIP#:G05A.01-01)

Strategic Flow Management Integration (Execution of Flow Strategies into Controller Tools) provides funding for the implementation of the En Route Automation Modernization (ERAM) modifications needed to receive/process the Traffic Management Initiatives (TMI) in the ERAM baseline timeframe (releases 2 and 3)

Relationship to Measure: Supporting the CATM performance objectives of Execution of Flow Strategies by making the strategy execution timelier efficient, accurate and targeted will create an increase in the average daily capacity.

Core Activity: CATM Flow Control - Strategic Flow Integration (G05A.01-01)

Strategic Flow Management Integration (Execution of Flow Strategies into Controller Tools) provides funding for the implementation of the En Route Automation Modernization (ERAM) modifications needed to receive/process the Traffic Management Initiatives (TMI) in the ERAM baseline timeframe (releases 2 and 3)

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: CATM Flow Control - Strategic Flow Enhancement (G05A.01-02) (CIP#:G05A.01-02)

This program will analyze the mid-term (FY2012-2018) ATM building blocks needed for the transition to the future NextGen system and the capability to improve the predictions for both capacity and demand.

Relationship to Measure: Automating the process for implementing Traffic Management Initiatives would result in more efficient use of congested airspace and reduce delays and operational restrictions. Imposing fewer and shorter ground delays and stops would effectively increase airport capacity.

Core Activity: CATM Flow Control - Strategic Flow Enhancement (G05A.01-02)

This program will analyze the mid-term (FY2012-2018) ATM building blocks needed for the transition to the future NextGen system and the capability to improve the predictions for both capacity and demand.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: CATM Flight & State Data Mgmt - Common Status (G05A.02-01) (CIP#:G05A.02-01)

The Common Status and Structure program provides the information and service foundation for the FAA to deliver NextGen operational capabilities

Relationship to Measure: Common Status and Structure Data (CSSD) provides the information, systems and tools necessary to implement comprehensive NAS safety and capacity management. CSSD will achieve this by establishing the requirements and information flows for the collection, management, and maintenance of aeronautical information in a digital format for machine to machine exchange. When fully realized the FAA will have the ability to model how new procedures, new regulations and new airspace changes affect current and future NAS capacity. Identifying the requirements and benefits of integrated flight planning and briefing (including flight constraint information) will lead to better flight planning and arrival/departure capacity plans by supporting preflight, during flight and post-operational aeronautical information for exchange and use by NAS automation systems. The resulting efficiency gains will enable the FAA to maximize use of NAS capacity. A comprehensive NAS data warehouse along with new benchmarking and forecasting capabilities will enable the FAA to intelligently manage the NAS resources to optimize capacity in the face of changing conditions.

Core Activity: CATM Flight & State Data Mgmt - Common Status (G05A.02-01)

The Common Status and Structure program provides the information and service foundation for the FAA to deliver NextGen operational capabilities

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: CATM Flight & State Data Mgmt - Advanced Methods (G05A.02-02) (CIP#:G05A.02-02)

The project objective is to provide well defined and well understood methodologies to enhance Traffic Flow Management (TFM) capabilities. This activity is structured into three parts -- probabilistic TFM, integration of weather, and the TFM flow object as an extension to the Flight Object.

Relationship to Measure: Advanced methods for TFM will leverage different technologies, infrastructure enhancements, and procedural changes that will improve airport capacity, increase sector throughput, and reduce sector delays by providing the NAS Users and ATM with a common understanding of the NAS Constraints.

Core Activity: Flight & State Data Mgmt - Advanced Methods

The project objective is to provide well defined and well understood methodologies to enhance Traffic Flow Management (TFM) capabilities. This activity is structured into three parts -- probabilistic TFM, integration of weather, and the TFM flow object as an extension to the Flight Object.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: CATM Flight & State Data Mgmt - Flight Object (G05A.02-03) (CIP#:G05A.02-03)

The flight object is intended to be the future medium for capturing and sharing the most up-to-date information on any flight.

Relationship to Measure: Both the users and the ATM service providers can benefit from the increased efficiency of well-coordinated capabilities that share common flight information elements. Greater visibility of all aircraft in the NAS will improve strategic planning and improve capacity by having a more complete picture of system demand.

Core Activity: CATM Flight & State Data Mgmt - Flight Object (G05A.02-03)

The flight object is intended to be the future medium for capturing and sharing the most up-to-date information on any flight.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: FLEX Surface/Tower/Terminal Systems Engine - TFDM (G06A.02-01) (CIP#:G06A.02-01)

This project will provide engineering analyses, evaluations and assessments to develop concepts for using integrated electronic flight data management, clearance delivery, coded taxi instructions, conformance monitoring, and automated transfer of flight information between air navigation service providers and airspace users to enable more efficient and safer movement and control of air traffic in the terminal airport arena.

Relationship to Measure: The Surface/Tower/Terminal Systems Engineering project supports greater capacity by analyzing and evaluating concepts and methodologies that will provide more efficient and safer movement on the surface and improve control of air traffic in the terminal airport arena. This project will ensure smoother transition into and out of the NAS terminal airspace in support of the Surface Traffic Management Initiative and NextGen goals. It will enable improved surface movement efficiency, reduce carbon footprint by reducing or eliminating taxi-way queuing, and consolidate tower displays to reduce controller workload. In conjunction with decision support tools, it enables flow managers to work collaboratively with flight operators and with flow contingency managers to effectively manage high-capacity arrival and departure flows in the presence of various weather conditions. This project supports CDM by enhancing exchange of information between the FAA and the user community.

Core Activity: FLEX Surface/Tower/Terminal Systems Engine - TFDM (G06A.02-01)

This project will provide engineering analyses, evaluations and assessments to develop concepts for using integrated electronic flight data management, clearance delivery, coded taxi instructions, conformance monitoring, and automated transfer of flight information between air navigation service providers and airspace users to enable more efficient and safer movement and control of air traffic in the terminal airport arena.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: FLEX Flight & State Data Mgmt - Future Comm Infra (G06C.01-01) (CIP#:G06C.01-01)

This project will provide engineering analyses, evaluations and assessments to develop concepts for using integrated electronic flight data management, clearance delivery, coded taxi instructions, conformance monitoring, and automated transfer of flight information between air navigation service providers and airspace users to enable more efficient and safer movement and control of air traffic in the terminal airport arena.

Relationship to Measure: Improving the speed and reliability of ground communications would increase airport□s capacity for ground operations which would improve overall system capacity and reduce aircraft delays.

Core Activity: FLEX Flight & State Data Mgmt - Future Comm Infra (G06C.01-01)

The current voice-oriented air/ground communications capabilities, and the safety critical air/ground data communications capabilities of Segments 1 and 2 of the Data Communications Program will not provide access foe the larger NextGen data needs of users in the airport surface environment. These larger NextGen data needs can be met by globally harmonized standards based communications of the Aeronautical Mobile Airport Communications System (AeroMACS). AeroMACS will support future increases in capacity by allowing faster, larger volume and more reliable

communication with aircraft and ground vehicles on the airport surface. NextGen solution set capabilities are highly dependent on technologies that accurately predict and monitor the location and intent of aircraft and provide this information to other pilots, controllers, and other stakeholders. Some of the aspects of the NextGen Concept of Operations depend upon the aircraft as a participant in efficient, safe air traffic management both in flight and on the airport surface. These capabilities also rely on procedures that keep traffic flowing smoothly in all weather and visibility conditions both in flight and on the airport surface. It is expected that the future NextGen communications needs could be met by a globally harmonized standard based on the C-band AeroMACS system. This project will address both fixed and mobile communications dealing with Safety and Regularity of Flight applications which are data intensive and will not be supported by the Data Comm system including Digital Operational Terminal Information Services (D-OTIS), Data Link Taxi Instructions (DTaxi: Graphical), and Weather in the Cockpit. This program work will specifically support the development and validation activities taking place in RTCA and EUROCAE to develop a Profile Standards document and a Minimum Operational Standards (MOPS) document which can be used for the procurement of a globally harmonized wideband communications system on the airport surface.

Activity Target 1:
Monitor and report quarterly on established milestones. Due September 30, 2013 Due September 30, 2013

Core Initiative: FLEX Separation Mgmt - Ground Based Augmentation (G06N.01-01) (CIP#:G06N.01-01)

The FAA identified GBAS as an "Enabler" for the NextGen. The FAA plans to replace legacy navigation systems with satellite based navigation technology.

Relationship to Measure: GBAS will allow for increased flexibility in the Terminal Area by eliminating the capacity constraint due to ILS critical area limitations and thus reducing arrival and taxi delays. Future enhancements to GBAS when combined with surveillance, may allow for reduced aircraft separation in all weather conditions. Similarly, once the capability has been validated, GBAS will eventually be able to provide the capability to use continuous descent approaches and curved-segmented approaches in extremely low visibility conditions.

Core Activity: FLEX Separation Mgmt - Ground Based Augmentation (G06N.01-01)

The Local Area Augmentation System (LAAS) is the United States system that meets internationally accepted standards for a Ground Based Augmentation System (GBAS). GBAS augments the current Global Positioning System (GPS) service for terminal, non-precision, and precision approaches in the National Airspace System (NAS). GBAS is the only cost effective alternative to Instrument Landing System (ILS) for Category II/III operations because a single facility can serve an entire airport versus multiple ILS facilities (one at each runway end). The FAA identified GBAS as an "Enabler" for NextGen.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Activity Target 2:
Airborne RFI Mitigation Decision for CAT III Avionics Prototype Due March 13, 2013

Activity Target 3:
RFI Detection System Phase II Feasibility Report Due September 30, 2013

Activity Target 4:
Initial Requirements Database for GAST-D (CAT III) Non-Fed System Design Approval Due June 13, 2013

Core Initiative: FLEX Separation Mgmt - NextGen Nav Initiatives (G06N.01-03) (CIP#:G06N.01-03)

This program supports NextGen goals related to maintaining/improving capacity during instrument meteorological conditions (IMC), and focuses on improvements supporting both the terminal and approach phases of flight as well as improving situational awareness on the airport surface.

Relationship to Measure: This program supports the increased capacity goal by enabling an: ? Increased number of arrivals and/or departures at high density airports; ? Decreased number of flight delays, cancellations, and/or diversions under IMC; ? Increased capacity and fuel savings for airlines to schedule flights in marginal weather conditions (since both the primary and alternate routes must be approved within the flight plan); ? Increased ability to utilize alternate airports (airlines have indicated this would be useful if more of the alternates had increased capability); ? Capability for airports to more efficiently use infrastructure to aid in maintaining VFR-like capacity during IFR conditions,

increasing the throughput of the NAS; ? Greater number of users to utilize Performance Based Navigation; and ? Greater throughput through increased surface navigation capability and situational awareness.

Core Activity: FLEX Separation Mgmt - NextGen Nav Initiatives (G06N.01-03)

This program supports NextGen goals related to maintaining/improving capacity during instrument meteorological conditions (IMC), and focuses on improvements supporting both the terminal and approach phases of flight as well as improving situational awareness on the airport surface.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: FLEX Trajectory Mgmt - Arrivals (G06N.02-01) (CIP#:G06N.02-01)

Ensure safe and efficient transition of aircraft from en route to terminal airspace with appropriate sequencing and spacing.

Relationship to Measure: Using RNAV/RNP with 3D and RTA procedures provides for energy managed arrivals with a lower vertical restraint than Continuous Descent Approach (CDA). RTA supports effective management of low altitude airspace and results in a more efficient flow of aircraft to arrival runways.

Core Activity: FLEX Trajectory Mgmt - Arrivals (G06N.02-01)

Evaluate ground merging and sequencing tools that will employ control by time of arrival

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Activity Target 2:
Complete evaluating the ability of aircraft to accurately meet vertical constraints and required time of arrival. Due September 30, 2013

Activity Target 3:
Complete evaluating the advantages and disadvantages associated with imposing vertical constraints and required time of arrival in different congestion scenarios from the aircraft operator and ATM perspectives. Due September 30, 2013

Core Initiative: TBO SD - ATC/Tech Ops Human Factors (G01M.02-01) (CIP#:G01M.02-01)

Conduct human factors research and deliver human factors research and development (R&D) products that support NextGen development, and assure that the human centered perspective and the human roles, responsibilities and capabilities are included in all concepts, designs, procedures and policies.

Relationship to Measure: By 2016, improvements in human factors will result in sufficient improvement in air traffic controller efficiency (e.g. greater number of aircraft handled) to meet the forecast traffic demand and effectiveness through automation and standardization of operations, procedures, and information. In addition, this program enables NextGen by defining the human factor guidance and requirements to support the changes in roles and responsibilities between pilots and controllers and between humans and automation required to implement NextGen.

Core Activity: TBO SD - ATC/Tech Ops Human Factors (G01M.02-01)

Formulate an Air Traffic Control and Technical Operations Human Factors Research and Development Plan.

Activity Target 1:
Conceptual High-Level Job Analysis for NextGen Midterm Air Traffic Controllers: Activities, Tools and Equipment. Due December 30, 2012

Activity Target 2:
Initial Segment Bravo Human Hazard Assessment Report. Due September 30, 2013

Activity Target 3:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: TBO SD - Ops Concept Validation Modeling (G01M.02-03) (CIP#:G01M.02-03)

Deliver NextGen Operational Concepts and Requirements.

Relationship to Measure: The goal is to ensure that the NextGen transformation, as identified in the NextGen concept, is supported by detailed and validated operational concepts that ensure concept feasibility, ensure that the proposed benefits can be achieved,and help us understand the human factors implications of the concepts.

Core Activity: TBO SD - Ops Concept Validation Modeling (G01M.02-03)

Deliver NextGen Ops Concepts and Requirements for NAS.

Activity Target 1:
Report on 3D Pam research: Nominal / off-nominal events for EDA Evolution analysis to support interval management. Due February 28, 2013

Activity Target 2:
Deliver Initial Concept of Operations for Optimized Route Coordination for Optimized Route Coordinator Concept Exploration. Due September 30, 2013

Activity Target 3:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: FAC Test Bed Demo (G03M.03-01) (CIP#:G03M.03-01)

Provide environment to rapidly integrate prototype technologies and demonstrations of NextGen concepts.

Relationship to Measure: The NextGen Test Bed provides a platform for new NextGen demonstrations to be quickly and efficiently conducted at an early stage without affecting NAS operations. This reduces risk and overall costs by enabling the FAA to evaluate the viability of these new technologies and concepts before making further investments and decisions on potential implementation in operations. In addition, the NextGen Test Bed approach of establishing partnerships with industry promotes contributions and R&D investment from industry, and leverages industry?s capabilities, which provides cost avoidance to the FAA and helps to accelerate NextGen development.

Core Activity: FAC Test Bed Demo (G03M.03-01)

Continue to expand NextGen test bed capabilities in Florida to support future demonstrations

Activity Target 1:
FTB Segment 1 Systems HW/SW Report Due January 31, 2013

Activity Target 2:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: Joint Collaborative Information Management (CIM) G05M.02-01 (CIP#:G05M.02-01)

Collaborate R&D activities focusing on NetCentric interagency information sharing.

Relationship to Measure: With collaborative situational awareness tools available to the FAA, DoD and DHS, decision making for flights will be done efficiently and with more precise timing. This will greatly enhance the communication needed to handle future Unmanned Aircraft flights and the projected increase in air travel.

Core Activity: Joint Collaborative Information Management (CIM)

Leverage existing net-centric information sharing capabilities and extend to support Unmanned Aircraft Systems

Activity Target 1:
Develop and validate mobile applications for SWIM to support non safety-critical ATM functions Due September 30, 2013

Activity Target 2:
Develop and validate SOA-to-SOA interchange for interagency network and information exchange Due September 30, 2013

Core Activity: Joint Collaborative Information Management (CIM) G05M.02-01

Collaborate R&D activities focusing on NetCentric interagency information sharing.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: Demonstration and Infra. Dev. - Future Planning (G08M.01-01) (CIP#:G08M.01-01)

Conduct research activities and demonstrations to test emerging technologies in order to meet NextGen Concept of Operations goals and objectives.

Relationship to Measure: FY 2013-2017 demonstration activities are planned to show a reduction in air traffic delays due to more efficient metering and spacing, increased capacity of the airspace, more efficient traffic flow management, and integrated arrival/departure routes. International Air Traffic Interoperability, Airborne Access to SWIM, Airborne Execution of Flow Strategies, GBAS Demonstration, and

Future Planning will identify key implementation issues, assist the FAA in developing its operational improvement plans to meet NextGen goals and objectives, and assist with implementing initiatives in FY 2013 and beyond.

Core Activity: Demonstration and Infra. Dev Future Planning

Complete demonstration and evaluation of selected technology solution candidates.

Activity Target 1:
Airborne Execution of Flow Strategies: Research Management Plan (RMP). Due February 28, 2013

Activity Target 2:
Automation Convergence: Flight Information Service (FIS) Demonstration - FIS Demonstration at FTB. Due July 31, 2013

Activity Target 3:
Mini Global: Initial Demonstration Plan. Due June 30, 2013

Activity Target 4:
Airborne Access to SWIM: Formal agreement and document with partners for participation in demonstration. Due July 31, 2013

Activity Target 5:
Automation Convergence - Flight Information Service (FIS) Demonstration: System Design and Final report. Due September 3, 2013

Core Activity: Demonstration and Infra. Dev. - Future Planning (G08M.01-01)

Conduct research activities and demonstrations to test emerging technologies in order to meet NextGen Concept of Operations goals and objectives.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: Alternative, Positioning, and Navigation, and Timing (APNT) (G06N.01-06) (CIP#:G06N.01-06)

This program supports research and development work for alternative, positioning, and navigation, and timing (APNT).

Relationship to Measure: This program supports maintaining operational availability of the NAS by ensuring PNT services remain available during GNSS outages and for aircraft not equipped to use GNSS.

Core Activity: Alternative, Positioning, and Navigation, and Timing (APNT) (G06N.01-06)

The Separation Management Alternative Positioning, Navigation, and Timing (APNT) project will investigate three alternatives for providing a back-up for Global Positioning System (GPS)-based position, navigation, and timing (PNT) services. It will investigate Enhanced Distance Measuring Equipment (DME), Wide Area Multilateration, and Pseudolites. Many of the NextGen Operational Improvements depend on position, navigation, and timing (PNT) services to enable area navigation (RNAV) and required navigation performance (RNP). This means there is a significantly greater dependence on GPS-based PNT. National Policy (HSPD-7/NSPD-39) requires the FAA to provide a backup in the event of a GPS interference event or outage to maintain safety and security and preclude significant economic impact. NextGen APNT will provide a means to continue RNAV and RNP operations to a safe landing during periods when Global Navigation Satellite Systems (GNSS) services are unavailable. GNSS PNT services utilizing the global positioning system (GPS) along with satellite-based augmentation systems (SBAS) are expected to be the primary enablers of performance-based navigation (PBN) and automatic dependent surveillance (ADS-B) services that in turn enable trajectory-based operations, area navigation (RNAV), required navigation performance (RNP), precision approach, closely spaced parallel operations (CSPO), and other operational improvements. The FAA currently relies on aging legacy systems for GNSS alternative navigation. Existing systems, consisting of VOR, DME and TACAN, do not fully support RNAV and RNP or Trajectory Based Operation. The NextGen APNT will explore the full range of alternatives to provide the NAS with a GPS independent backup to support performance based navigation and as a secondary benefit provide PBN to aircraft not equipped with GNSS services.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: CATM System Development-Information Management (GO5M.03-01) (CIP#:G05M.03-01)

The research on information management will fully identify the shortfalls in the moving from data sharing to

information management, including governance and evaluation techniques and criteria for standard management, performance monitoring techniques and policies, methods for compliance monitoring.

Relationship to Measure: The goal is to ensure that in the transformation to NextGen, the necessary and required information sharing to improve situational awareness are provided with guaranteed performance. Implementation of Information Management will allow Information to be shared at a level of service that will enable the NAS to more efficiently manage NAS resources to optimize capacity in the system.

Core Activity: CATM System Development-Information Management (GO5M.03-01)

The research on information management will fully identify the shortfalls in the moving from data sharing to information management, including governance and evaluation techniques and criteria for standard management, performance monitoring techniques and policies, methods for compliance monitoring.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Activity Target 2:
Complete information sharing requirements document. Due September 30, 2013

Activity Target 3:
Complete an initial shortfall document ? with respect to information management based on this analysis. Due September 30, 2013

Activity Target 4:
Develop initial draft of the Information Management Functional Description Document. Due September 30, 2013

Core Initiative: Strategy and Evaluation - ATDP, M46.01-01 (CIP#:M46.01-01)

The FAA's Office of Systems Analysis is responsible for developing and maintaining mathematical models of the National Airspace System (NAS), and using these models to help guide NextGen investments. FAA's modeling suite includes models of varying scope, from systems dynamics models of the entire air transportation system to detailed airport surface models. Several of these models are obsolete and cannot support the analysis of advanced Air Traffic Management (ATM) concepts. The Strategy and Evaluation program will develop two new computer models to rectify these shortfalls and better support other organizations within FAA that perform capacity-related studies: 1. An Airport Capacity Model will be developed for use in analyzing new airport capacity-related projects. The proposed model will facilitate rapid analysis of airport improvements, the impact of air travel demand changes, and ATM technology insertions. The model will be used by the Office of Performance Analysis and Strategy for runway capacity studies, ATO Finance for investment analyses, the Joint Planning and Development Office (JPDO) for NextGen analyses, and the FAA's Office of Airports for evaluating infrastructure changes. The model will also be used by aviation consultants and the academic community, and provide a de facto standard for airport capacity analyses. A Beta version of this model has been delivered to the FAA. 2. A System-Wide NAS Model will be developed to replace the existing National Airspace System Performance Analysis Capability (NASPAC) model. A new system-wide model is required to analyze advanced ATM concepts and aid with NextGen program trade-off studies, investment analyses, and NAS performance analyses. The new model will support the Office of NextGen Implementation and Integration, Office of Performance Analysis and Strategy, Office of Research and Technology Development (concept validation), ATO Finance (investment analysis), and the JPDO. Additionally, FAA and National Aeronautics and Space Administration (NASA) contractors and the academic community will use the model. The model is being developed in a "spiral" fashion, which adds enhancements to the initial model as they are completed. Components of the new model are currently being used by FAA and contractors to support ongoing analyses.

Relationship to Measure: In order to achieve this and other capacity metrics, the FAA is undertaking a considerable investment in NextGen, a wide-ranging transformation of the air transportation system. Numerous cost-benefit and engineering trade studies are required to support this massive undertaking. Previously, the FAA relied on a suite of outdated models for analyzing the impact of proposed changes to ATM procedures, equipment, and airport infrastructure, as well as anticipated changes in the quantity, composition, and distribution of air traffic. These legacy models were not capable of analyzing the new technologies and procedures of NextGen, the Next Generation Air Transportation System. New models will be used for evaluating proposed operational improvements such as optimized profile descents, oceanic en trail procedures, trajectory-based operations, surface traffic management, collaborative ATM, etc. New and improved models are needed to provide the analytical capabilities required to support these NAS improvements and help us realize our capacity objectives.

Core Activity: NAS Model Modernization

Enhance simulation capabilities of the NAS-wide model to support the impact study of NextGen programs.

Activity Target 1:
Fully implement Monte Carlo capability in system-wide model. Due September 30, 2013

Core Initiative: TBO SD - New ATM Requirements (G01M.02-02) (CIP#:G01M.02-02)

This project conducts research to develop systems that support the capacity enhancements for the seven solution sets of NextGen. It will develop requirements for new air traffic management systems and air traffic control processes to achieve the capacity target. Research supports operational implementation by 2025. Specifically the project will identify and develop the operational requirements for the following programs: - Weather Transition: Manage appropriate Concept Maturity Technology Development (CMTD) activities to include the creation, testing and evaluation of prototypes and operational demonstrations for the purpose of defining and refining an appropriate operational use concept. Ensure that any risk inherent in the introduction of a new weather product to the NAS is done so in accordance with ATO Safety Risk Management guidelines. - Traffic Alert and Collision Avoidance System (TCAS) 8.0: Analyze the requirements and pseudo-codesupports needed to provide effective collision risk avoidance when flying closely spaced parallel Required Navigation Performance (RNP) routes from beginning of the descent to the runway; - Airborne SWIM: Identify information distribution requirements for non-command and control information transmitted by airborne System-Wide Information Management (SWIM). - Trajectory Modeling: Analyze trajectory requirements to determine differences between different automation systems and decision support tools. Define what trajectory information and exchange methods are required, which trajectory prediction types are required and what is required to achieve trajectory interoperability across multiple domains. - New Radar Requirements (Surveillance and Weather): Determine technology and requirements for Weather Radar Replacement (WRR).

Relationship to Measure: The analysis and demonstration projects support operational improvements that will increase the number of arrivals and departures at major airports.

Core Activity: TBO SD - New ATM Requirements (G01M.02-02)

This project conducts research to develop systems that support the capacity enhancements for the seven solution sets of NextGen. It will develop requirements for new air traffic management systems and air traffic control processes to achieve the capacity target. Research supports operational implementation by 2025. Specifically the project will identify and develop the operational requirements for the following programs: - Weather Transition - Manage appropriate Concept Maturity Technology Development (CMTD) activities to include the creation, testing and evaluation of prototypes and operational demonstrations for the purpose of defining and refining an appropriate operational use concept. Ensure that any risk inherent in the introduction of a new weather product to the NAS is done so in accordance with ATO Safety Risk Management guidelines. - Traffic Alert and Collision Avoidance System (TCAS) 8.0 - Analyze the requirements and pseudo-codesupports needed to provide effective collision risk avoidance when flying closely spaced parallel Required Navigation Performance (RNP) routes from beginning of the descent to the runway; - Airborne SWIM ? Identify information distribution requirements for non-command and control information transmitted by airborne System-Wide Information Management (SWIM). - Trajectory Modeling - Analyze trajectory requirements to determine differences between different automation systems and decision support tools. Define what trajectory information and exchange methods are required, which trajectory prediction types are required and what is required to achieve trajectory interoperability across multiple domains. - New Radar Requirements (Surveillance and Weather) - Determine technology and requirements for Weather Radar Replacement (WRR).

Activity Target 1:
Monitor and report monthly on established milestones. Due September 30, 2013

Core Initiative: Operations Concept Validation & Infra. Evolution (M08.29-00) (CIP#:M08.29-00)

Conduct analyses on NextGen concepts in support of concept validation and infrastructure.

Relationship to Measure: Concept validation supports development, analysis, and simulation of new concepts to assess requirements and to evaluate the impact of the concept on system capacity, efficiency, safety and human performance.

Core Activity: Conduct Analyses on NextGen Concepts in support of Concept Validation and Infrastructure.

Conduct Analyses to optimize ATC infrastructure and support applications.

Activity Target 1:
Perform and document an evaluation of the Concept Analysis Branch's modeling of aircraft fuel consumption by comparing to actual results from a significant sample of recorded flight operations. Due September 30, 2013

Activity Target 2:
Provide updated Concept Gap Analysis that identifies concept shortfalls, and includes a revised concept hierarchy that identifies relationships, dependencies, and duplicative efforts for traceability and greater alignment across NextGen midterm concepts. Due April 30, 2013

Core Initiative: G01C.01-05 Data Comm Segment 1 Phase (CIP#:G01C.01-05)

tbd

Relationship to Measure: tbd

Core Activity: TBO Data Communications Segment 1 Phase 1

The Data Communications program will provide data communications between air traffic control facilities and aircraft, and will serve as the primary enabler for NextGen operational improvements.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: TBO Data Communications - Segment 1 Phase 1 G01C.01-06 (CIP#:G01C.01-06)

The Data Communications program will provide data communications between air traffic control facilities and aircraft, and will serve as the primary enabler for NextGen operational improvements.

Relationship to Measure: tbd

Core Activity: Data Communications

The Data Communications program will provide data communications between air traffic control facilities and aircraft, and will serve as the primary enabler for NextGen operational improvements.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: FAC NAS Voice System G03C.01-01 (CIP#:G03C.01-01)

The NAS Voice System (NVS) will be a real-time, critical part of the ATC infrastructure that provides the connectivity for efficient communications among air traffic controllers, pilots and ground personnel. It connects incoming and out-going communication lines via a switching matrix to the controller's workstation. The controller using a panel on his workstation selects the lines needed to communicate with pilots, other controllers and other facilities. The current voice system technology deployed in the NAS will not support the expected future NextGen concept of operations for either: networked facilities, or such concepts as dynamic re-sectorization (expanding or contracting a controller's volume of airspace electronically) and off-loading selected sector control to other facilities during nonpeak operations. These capabilities require that lines connected to a controller's workstation panel can be changed to add or eliminate lines as the geographical boundaries of the sector change. The NVS will support current and future ATC operations as envisioned by both government and industry forecasters. The NVS will replace the service that is currently provided by 13 different voice switch system configurations. The focus will be on designing a replacement system with standardized components that will reduce maintenance and parts inventory costs. The NVS program will award a contract in FY 2012 that will be implemented in two parallel paths. The parallel path approach is intended to achieve program objectives, minimize risk, and align to agency priorities and constraints. One path will focus on the demonstration of NextGen capabilities. The second path will focus on the establishment of a production system that is capable of meeting the requirements of any of the target environments. After a production system has been validated, the program will request a Final Investment Decision prior to purchasing production systems. The scope of the NVS contract will address both the demonstration and production systems.

Relationship to Measure: The NVS program supports the average daily airport capacity by providing an architecture that supports future growth and load-sharing within a flexible network. NVS will support the NextGen concept of operations for networked facilities, dynamic re-sectorization (expanding or contracting a controller?s volume of airspace electronically) and off-loading selected sector control to other facilities during non-peak operations. These capabilities will increase capacity by improving the efficiency of operations and the ability to quickly respond to demand changes.

Core Activity: FAC NAS Voice System G03C.01-01

The NAS Voice System (NVS) will be a real-time, critical part of the ATC infrastructure that provides the connectivity for efficient communications among air traffic controllers, pilots and ground personnel. It connects incoming and out-going communication lines via a switching matrix to the controller's workstation. The controller using a panel on his workstation selects the lines needed to communicate with pilots, other controllers and other facilities. The current voice system technology deployed in the NAS will not support the expected future NextGen concept of operations for either: networked facilities, or such concepts as dynamic re-sectorization (expanding or contracting a controller's volume of airspace electronically) and off-loading selected sector control to other facilities during nonpeak operations. These capabilities require that lines connected to a controller's workstation panel can be changed to add or eliminate lines as the geographical boundaries of the sector change. The NVS will support current and future ATC operations as envisioned by both government and industry forecasters. The NVS will replace the service that is currently provided by 13 different voice switch system configurations. The focus will be on designing a replacement system with standardized components that will reduce maintenance and parts inventory costs. The NVS program will award a contract in FY 2012 that will be implemented in two parallel paths. The parallel path approach is intended to achieve program objectives, minimize risk, and align to agency priorities and constraints. One path will focus on the demonstration of NextGen capabilities. The second path will focus on the establishment of a production system that is capable of meeting the requirements of any of the target environments. After a production system has been validated, the program will request a Final Investment Decision prior to purchasing production systems. The scope of the NVS contract will address both the demonstration and production systems.

Activity Target 1:
Monitor and report monthly on established PLA milestones. Due September 30, 2013

Core Initiative: Colorado WAM G08M.03-01 (CIP#:G08M.03-01)

The increase in air traffic volume for the ski country of Colorado has resulted in increased numbers of delays and denied service at mountain airports, especially during bad weather. The FAA has established a reservation system known as the Special Traffic Management Program (STMP) during the peak travel months in an effort to regulate and systematically meter the traffic to the airports. This solution keeps the traffic volume manageable for the Denver Air Route Traffic Control Center (ARTCC), but produces extended delays and, in some cases, diversions or denial of Air Traffic Control (ATC) services. The Colorado Division of Aeronautics has determined that a lack of surveillance is one of the main reasons behind reduced capacity during Instrument Meteorological Conditions (IMC). The problem is compounded by mountainous terrain, single instrument runway airport configurations and limited ramp space. The base of existing radar coverage is most often at or above 9,000 feet. The lack of more comprehensive surveillance forces controllers to use procedural separation standards for the Instrument Flight Rules (IFR) arriving/departing aircraft. This is a safe means of providing the service, but it is not efficient enough to provide for Colorado's air traffic services needs. Normally, many arrivals into Colorado Mountain airports are conducted under Visual Flight Rules (VFR). Operating under IMC reduces acceptance rates for mountain airports from 12-17 flights per hour to 4 per hour. From November to April, when the STMP is in effect, the Colorado DOT estimates 75 aircraft per airport, per day are delayed or diverted, creating daily revenue loss for the state, airlines and local communities. The ADSB/Multilateration system will enhance public safety, increase capacity of the FAA NAS system, and provide increased services and economic benefit to the identified four Colorado Mountain Communities: Durango, Gunnison, Montrose and Telluride CO. The project will develop an ADS-B/Multilateration surveillance service capability. Electronic instrumentation that will be placed at multiple locations on the surface will determine the location of an aircraft by integrating data from several ground sites. The increased accuracy of this surveillance technique will safely expand the capacity of these airports to allow additional aircraft operations during instrument landing conditions. The multilateration component will provide 1090/UAT transponder equipped surveillance in the near term until the transition to ADS-B is complete. During the aircraft equipage period to ADS-B compliant avionics (DO-260B), the system will provide surveillance of traditional ATCRBS and Mode S equipped aircraft through Multilateration. For those aircraft that are equipped, ADS-B surveillance will be provided. The surveillance data will be provided to the automation system at Denver ARTCC from a service provider under contract to the FAA. The baseline surveillance performance of the system will be equal to that of the existing Air Traffic Control Beacon Interrogator - Model 6 (ATCBI-6) currently employed by the FAA in providing En Route Air Traffic separation. The system will be managed by a System Integrator that will be responsible for design, development, deployment, operation and maintenance of the surveillance system and will own the equipment. The System Integrator will integrate ADS-B and multilateration under governmental oversight (FAA and the State of Colorado). After the system is certified by the FAA and is operational, the service provider will

charge the FAA an annual service fee to provide the surveillance data.

Relationship to Measure: ADS-B and Wide Area Multilateration (WAM) are technologies that will allow implementation of new air traffic control procedures that will make better use of existing airspace. This, in effect, is an increase in capacity and will result in fewer delays and more optimal routing for aircraft. Once the services are fully implemented, the financial benefits projected from the increase in capacity is approximately $2.4 million per year.

Core Activity: Colorado WAM G08M.03-01

The increase in air traffic volume for the ski country of Colorado has resulted in increased numbers of delays and denied service at mountain airports, especially during bad weather. The FAA has established a reservation system known as the Special Traffic Management Program (STMP) during the peak travel months in an effort to regulate and systematically meter the traffic to the airports. This solution keeps the traffic volume manageable for the Denver Air Route Traffic Control Center (ARTCC), but produces extended delays and, in some cases, diversions or denial of Air Traffic Control (ATC) services. The Colorado Division of Aeronautics has determined that a lack of surveillance is one of the main reasons behind reduced capacity during Instrument Meteorological Conditions (IMC). The problem is compounded by mountainous terrain, single instrument runway airport configurations and limited ramp space. The base of existing radar coverage is most often at or above 9,000 feet. The lack of more comprehensive surveillance forces controllers to use procedural separation standards for the Instrument Flight Rules (IFR) arriving/departing aircraft. This is a safe means of providing the service, but it is not efficient enough to provide for Colorado's air traffic service's needs. Normally, many arrivals into Colorado Mountain airports are conducted under Visual Flight Rules (VFR). Operating under IMC reduces acceptance rates for mountain airports from 12-17 flights per hour to 4 per hour. From November to April, when the STMP is in effect, the Colorado DOT estimates 75 aircraft per airport, per day are delayed or diverted, creating daily revenue loss for the state, airlines and local communities. The ADSB/Multilateration system will enhance public safety, increase capacity of the FAA NAS system, and provide increased services and economic benefit to the identified four Colorado Mountain Communities: Durango, Gunnison, Montrose and Telluride CO. The project will develop an ADS-B/Multilateration surveillance service capability. Electronic instrumentation that will be placed at multiple locations on the surface will determine the location of an aircraft by integrating data from several ground sites. The increased accuracy of this surveillance technique will safely expand the capacity of these airports to allow additional aircraft operations during instrument landing conditions. The multilateration component will provide 1090/UAT transponder equipped surveillance in the near term until the transition to ADS-B is complete. During the aircraft equipage period to ADS-B compliant avionics (DO-260B), the system will provide surveillance of traditional ATCRBS and Mode S equipped aircraft through Multilateration. For those aircraft that are equipped, ADS-B surveillance will be provided. The surveillance data will be provided to the automation system at Denver ARTCC from a service provider under contract to the FAA. The baseline surveillance performance of the system will be equal to that of the existing Air Traffic Control Beacon Interrogator - Model 6 (ATCBI-6) currently employed by the FAA in providing En Route Air Traffic separation. The system will be managed by a System Integrator that will be responsible for design, development, deployment, operation and maintenance of the surveillance system and will own the equipment. The System Integrator will integrate ADS-B and multilateration under governmental oversight (FAA and the State of Colorado). After the system is certified by the FAA and is operational, the service provider will charge the FAA an annual service fee to provide the surveillance data.

Activity Target 1:
Monitor and report monthly on established milestones. Due September 30, 2013

Core Initiative: FLEX Terminal Flight Data Manager (TFDM) (CIP#:G06A.03-01)

Controllers currently rely on several data management systems in Air Traffic Control Towers (ATCTs) to provide flight data and traffic management tools in the terminal environment. These systems include, but are not limited to, Airport Resource Management Tool (ARMT), Flight Data Input Output (FDIO), Tower Data Link Services (TDLS), Integrated Display System (IDS), Electronic Flight Strip Transfer System (EFSTS), and Advanced Electronic Flight Strip (AEFS). In order to achieve the modernization of the NAS envisioned by NextGen, it is necessary to develop an integrated Terminal Flight Data Management (TFDM) platform that provides all of the functionality currently available to controllers as well as emerging capabilities anticipated in the modernization of the NAS such as Electronic Flight Strip (EFS) and Terminal Data Display System (TDDS). The first phase of TFDM is designed to integrate the functionality of the existing terminal flight data systems and decision support tools in order to facilitate increased capacity in the terminal environment

and reduce ATO operating costs. The TFDM program is an integrated approach to maximize the efficient collection, distribution, and update of data and improve access to information necessary for the safe and efficient control of air traffic. The system will collect and portray terminal flight data, as well as traffic management tools, on an integrated display; and will be connected to information and decision support tools. TFDM provides several enhancements for tower personnel and provides an automation system that: - Integrates flight data with terminal area and surface surveillance data, where available, including associated alerts and alarms indicating potentially unsafe conditions on the surface or between arriving and departing aircraft. - Electronically processes and distributes flight data to different control positions in the tower. - Provides a suite of Decision Support Tools (DST) that assist air traffic controllers in providing efficient and safe airport operations. - Consolidates disparate legacy tower systems into an open, scalable architecture. Consolidation and replacement of legacy platforms, input devices, and displays will allow better use of limited tower cab space and reduce equipment end-of-life issues. - Provides a platform for flight data exchange across domains and enhances collaborative tactical decision making for airport surface operations. - Collects data and distributes it to internal and external NAS users. Use of common data will make TFDM a highly integrated tower automation system. The electronic processing and distribution of flight data will enhance data exchange between the en route, terminal, and Traffic Flow Management (TFM) domains; Airline Operations Centers (AOCs); and Airport Operators. The DSTs will provide tower controllers with the first major automated decision support tools beyond Airport Surface Detection Equipment-Model X (ASDE-X). TFDM will provide an integrated tower automation environment supporting: - Flight Data, - Surveillance Data , - Tower Management, - Aeronautical and Weather Data, - Decision Support Tools, and - Tower platform consolidation.

Relationship to Measure: TFDM will automate manual processes; integrate existing terminal flight data systems and decision support tools, such as ARMT, FDIO, and TDLS, into a single platform; and provide new decision support capabilities. This will improve Air Traffic Control coordination and decision making to facilitate more efficient operations and increased airport capacity.

Core Activity: G06A.03-01 FLEX Terminal Flight Data Manager (TFDM)

Controllers currently rely on several data management systems in Air Traffic Control Towers (ATCTs) to provide flight data and traffic management tools in the terminal environment. These systems include, but are not limited to, Airport Resource Management Tool (ARMT), Flight Data Input Output (FDIO), Tower Data Link Services (TDLS), Integrated Display System (IDS), Electronic Flight Strip Transfer System (EFSTS), and Advanced Electronic Flight Strip (AEFS). In order to achieve the modernization of the NAS envisioned by NextGen, it is necessary to develop an integrated Terminal Flight Data Management (TFDM) platform that provides all of the functionality currently available to controllers as well as emerging capabilities anticipated in the modernization of the NAS such as Electronic Flight Strip (EFS) and Terminal Data Display System (TDDS). The first phase of TFDM is designed to integrate the functionality of the existing terminal flight data systems and decision support tools in order to facilitate increased capacity in the terminal environment and reduce ATO operating costs. The TFDM program is an integrated approach to maximize the efficient collection, distribution, and update of data and improve access to information necessary for the safe and efficient control of air traffic. The system will collect and portray terminal flight data, as well as traffic management tools, on an integrated display; and will be connected to information and decision support tools. TFDM provides several enhancements for tower personnel and provides an automation system that: - Integrates flight data with terminal area and surface surveillance data, where available, including associated alerts and alarms indicating potentially unsafe conditions on the surface or between arriving and departing aircraft. - Electronically processes and distributes flight data to different control positions in the tower. - Provides a suite of Decision Support Tools (DST) that assist air traffic controllers in providing efficient and safe airport operations. - Consolidates disparate legacy tower systems into an open, scalable architecture. Consolidation and replacement of legacy platforms, input devices, and displays will allow better use of limited tower cab space and reduce equipment end-of-life issues. - Provides a platform for flight data exchange across domains and enhances collaborative tactical decision making for airport surface operations. - Collects data and distributes it to internal and external NAS users. Use of common data will make TFDM a highly integrated tower automation system. The electronic processing and distribution of flight data will enhance data exchange between the en route, terminal, and Traffic Flow Management (TFM) domains; Airline Operations Centers (AOCs); and Airport Operators. The DSTs will provide tower controllers with the first major automated decision support tools beyond Airport Surface Detection Equipment-Model X (ASDE-X). TFDM will provide an integrated tower automation environment supporting: - Flight Data, - Surveillance Data , - Tower Management, - Aeronautical and Weather Data, - Decision Support Tools, and - Tower platform consolidation.

Activity Target 1:
Monitor and report monthly on established milestones. Due September 30, 2013

Core Initiative: TBO Separation Mgmt ERAM (G01A.01-04) (CIP#:G01A.01-04)

The ERAM D-Position Upgrade and System Enhancements effort will increase efficiency and add capacity benefits over those established by the baseline ERAM program. It will also build the foundation for incorporating NextGen technologies that mature during the ERAM D-Position Upgrade and System Enhancements timeframe.

Relationship to Measure: The ERAM effort will enable NextGen capabilities to be implemented allowing the increased efficiency and capacity benefits projected for this system enhancement.

Core Activity: G01A.01-04 TBO Separation Mgmt - ERAM D-Position Upgrade

The ERAM D-Position Upgrade and System Enhancements effort will increase efficiency and add capacity benefits over those established by the baseline ERAM program. It will also build the foundation for incorporating NextGen technologies that mature during the ERAM D-Position Upgrade and System Enhancements timeframe. The ERAM D-Position Upgrade and System Enhancements will be replacing hardware and associated software to increase display size and increase processing capacity of the controller Radar Associate Position. This performance enhancement is necessary because the hardware will reach utilization thresholds due to the cumulative effects of adding ERAM System Enhancements, DataComm, ADS-B requirements as well as other NextGen capabilities. Other programs may fund their requirements for enhanced ERAM capabilities during the ERAM D-Position Upgrade and System Enhancements development timeline. Costs for those efforts are not included in this program. Planning for each of this program's software releases allows for software development allocation to accommodate externally funded requirements without duplication of any efforts budgeted and documented in other program's CIPs. The ERAM D-Position Upgrade and System Enhancements effort began in 2011 with the drafting of investment analysis activities and documentation along with initial contract development. A final investment decision is planned for FY 2013. Prime contractor system engineering, software development, and implementation activity is planned to begin in 2014 and complete in 2017. Hardware upgrades start in 2014 with deployment to En Route labs. The benefits of the ERAM D-Position Upgrade and System Enhancements effort will be justified via a business case analysis. This activity is expected to be complete by second quarter, 2013. The planned upgrades would improve the suite of software tools so the D-position controller who assists the radar controller would have the same software support tools as the radar controller.

Activity Target 1:
Monitor and report quarterly on established milestones Due September 30, 2013

Core Initiative: Arrival and Departure Rates

Conduct research to improve safety and increase throughput using wake turbulence monitoring, operational procedures, and controller tools.

Core Activity: Wake Turbulence Enhancement of Arrivals/Departures - Support

Support AJT in the domestic and international work groups looking at enhanced methods of providing wake turbulence mitigation utilizing available technology. Support the development of wake turbulence mitigation separation standards, procedures, processes and enabling technology for near-term, mid-term and far-term NextGen era operations. Assist in assessing the performance of the current wake turbulence separation processes and help utilize the assessments in the design of the NextGen era operations. Support the analysis, modeling, concept development, and data collection activities necessary to accomplish the NextGen ?Wake Turbulence research agenda. Assist in the coordination of the wake turbulence mitigation development work with AJT and AFS-400 as the research progresses. Provide technical support in discussions with ICAO, airports, air carriers, unions, and other stakeholders regarding wake mitigation separation standards, procedures, processes.

Activity Target 1:
Develop addendum to 7110.308 SRMD to cover Phoenix and Las Vegas. Due September 30, 2013

Activity Target 2:
Develop initial comparative wake analysis of Airbus A350 with similar size aircraft. Due July 30, 2013

Core Initiative: HD Trajectory Mgmt-TBFM G02A.01-03 (CIP#:G02A.01-03)

TBFM Work Package 2 (G02A.01-03) will improve the management of traffic flow throughout the cruise phase of flight through point-in-space metering or extended

metering, resolve the issue of TMA hardware obsolescence, increase airspace capacity utilization through flexible scheduling, share metering data with other tools/stakeholders, enable more accurate Area Navigation/Required Navigation Performance (RNAV/RNP) routes, enable more efficient departure operations with the integrated departure and arrival concept (IDAC), and increase traffic manager awareness of severe weather within their area of responsibility.

Relationship to Measure: TBD

Core Activity: Trajectory Mgmt Time Based Flow Management (TBFM) Work Package 2, G02A.01-03

TBFM Work Package 2 (G02A.01-03) will improve the management of traffic flow throughout the cruise phase of flight through point-in-space metering or extended metering, resolve the issue of TMA hardware obsolescence, increase airspace capacity utilization through flexible scheduling, share metering data with other tools/stakeholders, enable more accurate Area Navigation/Required Navigation Performance (RNAV/RNP) routes, enable more efficient departure operations with the integrated departure and arrival concept (IDAC), and increase traffic manager awareness of severe weather within their area of responsibility.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Measure: % FAA On-Time NAS Arrivals

Achieve a NAS on-time arrival rate of 88 percent at Core airports and maintain through FY 2013.

Core Initiative: Systems Engineering & Architecture - MITRE/CAASD (M03.02-00) (CIP#:M03.02-00)

The CAASD is an FAA-sponsored Federally Funded Research and Development Center (FFRDC) operated under a Sponsoring Agreement with the MITRE Corporation. A Product Based Work Plan (PBWP) is developed within the context of the FAA Flight Plan and the Next Generation Air Transportation System (NextGen) Implementation Plan, NAS Enterprise Architecture, National Aviation Research Plan (NARP), other agency long-range plans, and the FAA CAASD Long Range Plan (FY 2010-2014). The CAASD PBWP and Long Range Plan, both approved by the FAA?s FFRDC Executive Board, define an outcome-based program of technically complex research, development, and system engineering assignments designed to support the goals and requirements of the NAS and the NextGen.

Relationship to Measure: The CAASD PBWP and Long Range Plan, both approved by the FAA?s FFRDC Executive Board, define an outcome-based program of technically complex research, development, and system engineering assignments designed to support the goals and requirements of the NAS and the NextGen.

Core Activity: Product Based Work Plan/CAASD Long Range Plan

In FY13, the Product Based Work Plan and CAASD Long Range Plan will need to be formulated and completed.

Activity Target 1:
Complete Product Based Work Plan. Due September 30, 2013

Activity Target 2:
Complete Long Range Plan. Due September 30, 2013

Core Initiative: HD ADS-B National Implementation Seg 1 & 2 G02S.01-01 (CIP#:G02S.01-01)

The Surveillance and Broadcast Services (SBS) program office is implementing Automatic Dependant Surveillance - Broadcast (ADS-B), Automatic Dependant Surveillance - Rebroadcast (ADS-R), Traffic Information Services - Broadcast (TIS-B) and Flight Information Services - Broadcast (FIS-B) NAS Wide. ADS-B is the cornerstone technology for the Next Generation Air Transportation System. This new system promises to significantly reduce delays and enhance safety by using aircraft broadcasted position based on precise signals from the Global Navigation Satellite System instead of those from traditional radar to pinpoint aircraft locations to track and manage air traffic. The frequencies utilized by all 3 of the broadcast services will be 1090 Mhz and 978 Mhz (Universal Access Transceiver (UAT)). The minimum operating performance standards that govern the aircraft avionics are DO-260B for 1090 MHz and DO-282B for 978 MHz. ADS-B: ADS-B is an advanced surveillance technology that provides highly accurate and more comprehensive surveillance information via broadcast communication links. Aircraft position (longitude, latitude, altitude, and time) is determined using the Global Navigation Satellite System (GNSS), and/or an internal inertial navigational reference system, or other navigation aids. The aircraft's ADS-B equipment processes this position information, along with other flight parameters, (such as identification, indication of climb or descent angle, velocity, next waypoint, and

other data that is limited only by the equipment's capability) for a periodic broadcast transmission, typically once a second, to the ADS-B ground station. The information will be used for surveillance applications and Air Traffic Services Displays on automation systems such as Common Automated Radar Tracking System (CARTS), Standard Terminal Automation Replacement System (STARS), Microprocessor En Route Automated Radar Tracking System (MicroEARTS), En Route Automation Modernization (ERAM), HOST, and Advanced Technologies and Oceanic Procedures (ATOP). In addition to the ground-based ADS-B receiver, nearby aircraft within range of the broadcast and equipped with ADS-B avionics may receive and process the surveillance information for display to the pilot using the aircraft's multifunction display. Pilots use the aircraft's multi-function display to enhance their awareness of the location of nearby aircraft. Finally, ADS-B equipment may be placed on ground vehicles to allow controllers and pilots to locate and identify them when they are on runways or taxiways. Below are additional services provided as part of the ADS-B system implementation: - ADS-R: Two communication link protocols have been approved for ADS-B use; Universal Access Transceiver (UAT), used mostly by general aviation aircraft, and 1090 Extended Squitter (ES), normally used in commercial transport aircraft. The ADS-R service provides a rebroadcast of the ADS-B received information on the other frequency band. This ensures that any particular ADS-B broadcast is available on both the UAT and ES protocols for aviation use. - TIS-B: Traffic Information Services provide ADS-B equipped aircraft with a more complete picture of aircraft in their vicinity including aircraft which are not equipped with ADS-B. TIS-B comprises surveillance information provided by one or more surveillance sources, such as secondary or primary surveillance radar. The surveillance information is processed and converted for use by ADS-B equipped aircraft. - FIS-B: Flight Information Services provide ground-to-air broadcast of non-air traffic control advisory information which provides users valuable, near real-time information to operate safely and efficiently. FIS-B products include graphical and textual weather reports and forecasts, Special Use Airspace Information, Notices to Airmen, and other aeronautical information. The ADS-B acquisition has been structured as a multiple year, performance-based service contract under which the vendors will install, own, and maintain the equipment. The FAA will purchase services in the same way the agency purchases telecommunications services today. The FAA will define the services it requires and maintain ultimate control of the data that flows between the vendor's infrastructure, FAA facilities, and aircraft. The government will not own the ground infrastructure (which will be owned by the vendor) or the avionics (which will be owned by the aircraft owner). Concurrent to the deployment and implementation of ADS-B, the agency has signed agreements with several airlines (JetBlue, United and US Airways). These agreements are set up to demonstrate the benefits of advanced ADS-B applications and procedures during revenue service. The operational evaluations will give the agency detailed cost and benefit data, and encourage airlines to equip early to capitalize on ADS-B benefits. The FAA has also tasked the Aviation Rulemaking Committee (ARC) to provide recommendations for moving forward with the implementation of high value ADS-B applications that would require a cockpit display installed in the aircraft. The ARC made its final report to the FAA by September 30, 2011 and detail recommended next steps by June 2012. ADS-B National Implementation - Segments 1 and 2: Segment 1 of the program requires two In-Service Decisions. The first, completed on November 25, 2008, provided the authority to proceed with NAS-Wide deployment of Pilot Advisory Services TIS-B/FIS-B. The second, on September 26, 2010, provided the authority to proceed with NAS-Wide deployment of Air Traffic Control (ATC) Separation and Advisory Services (Surveillance). This includes integration, certification, and approval of 3 and 5-mile separation standards using ADS-B as a surveillance source. The areas that Segment 1 focused on were: Gulf of Mexico (Communications, Weather, and Surveillance); Louisville, KY (Surveillance/TIS-B/FIS-B); Philadelphia, PA (Surveillance/TIS-B/FIS-B); Southeast Alaska, Juneau Area (Surveillance/TIS-B/FIS-B and Wide Area Multilateration); and Expansion of Broadcast Services - East Coast, Midwest to North Dakota, Western Arizona through California and Oregon, (TIS-B/FIS-B). Segment 2 of the program began in FY 2011, and the schedule for deployment of services for the remainder of the NAS has been developed jointly by the FAA and the service provider ITT Corp, based on a roadmap that will provide for maximum operational benefit and the potential for early equipage along with select pocket of users that will optimize the user and government benefits. The planned completion date for deployment of ADS-B services, including TIS-B and FIS-B, is December 2013. This segment covers performance based service fees to pay for ADS-B infrastructure owned and operated by the prime contractor. Segment 2 for FY2013 and FY2014 will continue NAS-Wide deployment of ADS-B with subscription services operational for surveillance and air traffic services at ERAM, CARTS, STARS & ASDE-X. Further development of ATC Spacing Services i.e.; Ground Based Interval Management-Spacing (GIM-S) (En Route only), and future applications i.e.; spacing flight trials for Flight Deck Based Interval Management-Spacing (FIM-S), In-Trail Procedure (ITP) operational evaluation, and Traffic Situational Awareness with Alerts (TSAA) flight tests are planned. ADS-B software development will occur for the ATOP automation platform.

Relationship to Measure: ADS-B is a technology that will allow implementation of new air traffic control

procedures based on more accurate aircraft position information that will allow better use of existing airspace. This should result in an increase in capacity and will result in fewer delays and more optimal routing for aircraft.

Core Activity: HD ADS-B National Implementation Seg 1 & 2 G02S.01-01 (13C.7EE)

The Surveillance and Broadcast Services (SBS) program office is implementing Automatic Dependant Surveillance - Broadcast (ADS-B), Automatic Dependant Surveillance - Rebroadcast (ADS-R), Traffic Information Services - Broadcast (TIS-B) and Flight Information Services - Broadcast (FIS-B) NAS Wide. ADS-B is the cornerstone technology for the Next Generation Air Transportation System. This new system promises to significantly reduce delays and enhance safety by using aircraft broadcasted position based on precise signals from the Global Navigation Satellite System instead of those from traditional radar to pinpoint aircraft locations to track and manage air traffic. The frequencies utilized by all 3 of the broadcast services will be 1090 Mhz and 978 Mhz (Universal Access Transceiver (UAT)). The minimum operating performance standards that govern the aircraft avionics are DO-260B for 1090 MHz and DO-282B for 978 MHz. ADS-B: ADS-B is an advanced surveillance technology that provides highly accurate and more comprehensive surveillance information via broadcast communication links. Aircraft position (longitude, latitude, altitude, and time) is determined using the Global Navigation Satellite System (GNSS), and/or an internal inertial navigational reference system, or other navigation aids. The aircraft's ADS-B equipment processes this position information, along with other flight parameters, (such as identification, indication of climb or descent angle, velocity, next waypoint, and other data that is limited only by the equipment's capability) for a periodic broadcast transmission, typically once a second, to the ADS-B ground station. The information will be used for surveillance applications and Air Traffic Services Displays on automation systems such as Common Automated Radar Tracking System (CARTS), Standard Terminal Automation Replacement System (STARS), Microprocessor En Route Automated Radar Tracking System (MicroEARTS), En Route Automation Modernization (ERAM), HOST, and Advanced Technologies and Oceanic Procedures (ATOP). In addition to the ground-based ADS-B receiver, nearby aircraft within range of the broadcast and equipped with ADS-B avionics may receive and process the surveillance information for display to the pilot using the aircraft's multifunction display. Pilots use the aircraft's multi-function display to enhance their awareness of the location ofnearby aircraft. Finally, ADS-B equipment may be placed on ground vehicles to allow controllers and pilots to locate and identify them when they are on runways or taxiways. Below are additional services provided as part of the ADS-B system implementation: - ADS-R: Two communication link protocols have been approved for ADS-B use; Universal Access Transceiver (UAT), used mostly by general aviation aircraft, and 1090 Extended Squitter (ES), normally used in commercial transport aircraft. The ADS-R service provides a rebroadcast of the ADS-B received information on the other frequency band. This ensures that any particular ADS-B broadcast is available on both the UAT and ES protocols for aviation use. - TIS-B: Traffic Information Services provide ADS-B equipped aircraft with a more complete picture of aircraft in their vicinity including aircraft which are not equipped with ADS-B. TIS-B comprises surveillance information provided by one or more surveillance sources, such as secondary or primary surveillance radar. The surveillance information is processed and converted for use by ADS-B equipped aircraft. - FIS-B: Flight Information Services provide ground-to-air broadcast of non-air traffic control advisory information which provides users valuable, near real-time information to operate safely and efficiently. FIS-B products include graphical and textual weather reports and forecasts, Special Use Airspace Information, Notices to Airmen, and other aeronautical information. The ADS-B acquisition has been structured as a multiple year, performance-based service contract under which the vendors will install, own, and maintain the equipment. The FAA will purchase services in the same way the agency purchases telecommunications services today. The FAA will define the services it requires and maintain ultimate control of the data that flows between the vendor's infrastructure, FAA facilities, and aircraft. The government will not own the ground infrastructure (which will be owned by the vendor) or the avionics (which will be owned by the aircraft owner). Concurrent to the deployment and implementation of ADS-B, the agency has signed agreements with several airlines (JetBlue, United and US Airways). These agreements are set up to demonstrate the benefits of advanced ADS-B applications and procedures during revenue service. The operational evaluations will give the agency detailed cost and benefit data, and encourage airlines to equip early to capitalize on ADS-B benefits. The FAA has also tasked the Aviation Rulemaking Committee (ARC) to provide recommendations for moving forward with the implementation of high value ADS-B applications that would require a cockpit display installed in the aircraft. The ARC made its final report to the FAA by September 30, 2011 and detail recommended next steps by June 2012. ADS-B National Implementation - Segments 1 and 2: Segment 1 of the program requires two In-Service Decisions. The first, completed on November 25, 2008, provided the authority to proceed with NAS-

Wide deployment of Pilot Advisory Services TIS-B/FIS-B. The second, on September 26, 2010, provided the authority to proceed with NAS-Wide deployment of Air Traffic Control (ATC) Separation and Advisory Services (Surveillance). This includes integration, certification, and approval of 3 and 5-mile separation standards using ADS-B as a surveillance source. The areas that Segment 1 focused on were: Gulf of Mexico (Communications, Weather, and Surveillance); Louisville, KY (Surveillance/TIS-B/FIS-B); Philadelphia, PA (Surveillance/TIS-B/FIS-B); Southeast Alaska, Juneau Area (Surveillance/TIS-B/FIS-B and Wide Area Multilateration); and Expansion of Broadcast Services - East Coast, Midwest to North Dakota, Western Arizona through California and Oregon, (TIS-B/FIS-B). Segment 2 of the program began in FY 2011, and the schedule for deployment of services for the remainder of the NAS has been developed jointly by the FAA and the service provider ITT Corp, based on a roadmap that will provide for maximum operational benefit and the potential for early equipage along with select pocket of users that will optimize the user and government benefits. The planned completion date for deployment of ADS-B services, including TIS-B and FIS-B, is December 2013. This segment covers performance based service fees to pay for ADS-B infrastructure owned and operated by the prime contractor. Segment 2 for FY2013 and FY2014 will continue NAS-Wide deployment of ADS-B with subscription services operational for surveillance and air traffic services at ERAM, CARTS, STARS & ASDE-X. Further development of ATC Spacing Services i.e.; Ground Based Interval Management-Spacing (GIM-S) (En Route only), and future applications i.e.; spacing flight trials for Flight Deck Based Interval Management-Spacing (FIM-S), In-Trail Procedure (ITP) operational evaluation, and Traffic Situational Awareness with Alerts (TSAA) flight tests are planned. ADS-B software development will occur for the ATOP automation platform.

Activity Target 1:
Monitor and report monthly on established PLA milestones. Due September 30, 2013

Core Initiative: CATM CATMT WP2 G05A.05-01 (CIP#:G05A.05-01)

The Traffic Flow Management (TFM) system is the primary automation system used by the Air Traffic Control System Command Center (ATCSCC) and the nationwide Traffic Management Units that assist the ATCSCC in management of air traffic flow and throughput and planning for future air traffic demand. The TFM system is the nation's primary source for capturing and disseminating air traffic information and is the key information source for coordinating air traffic in the NAS. TFM hosts the software decision support systems that assist in managing and metering air traffic to reduce delays and make maximum use of system capacity to dynamically balance growing flight demands with NAS capacity. The FAA uses the information from this system to collaborate with aviation users to develop and implement airspace management programs that reduce delays and ensure smooth and efficient traffic flow which result in significant benefits to passengers and airlines. TFM benefits the airlines, general aviation, U.S. Department of Defense (DoD), U.S. Department of Homeland Security, industry, and partner countries. CATMT Work Package 2 (WP2) will provide new enhancements to the TFM decision support tool suite from FY 2010 through FY 2014. The FAA baseline for WP2 includes the following capability enhancements: - Arrival Uncertainty Management (AUM) ? Automates the use of historical data for determining the number of arrival time slots to be reserved for flights outside of the regular schedule, when a Ground Delay Program is generated; - Weather Integration - Integrates high confidence 2 hour weather predictions onto the primary display used by Traffic Managers and into TFMS for use as constraint information in decision support tools (called Corridor Integrated Weather System (CIWS)). Also locates departure opportunities through impending weather gaps and determines if a flight will encounter weather problems on its projected departure route (called the Route Availability Planning Tool (RAPT) enhancement); - Collaborative Airspace Constraint Resolution (CACR) - Automated decision support tool that identifies constrained airspace and provides potential solutions for avoiding those constraints. CACR responds to the RTCA Task Force 5 recommendation for automation to negotiate user-preferred routes and alternative trajectories; and - Airborne Reroute Execution (ABRR) ? Provides the ability to electronically send TFM generated airborne reroutes to En Route control facility automation for ATC execution.

Relationship to Measure: The ATM program will support the Delivering Aviation Access through Innovation goal through the use of automated systems that provide more accurate and timely information for all TFM system users, improve operator and passenger access to flight information, and reduce system delays. CATMT will support the Performance Metric for On Time Arrival by providing more accurate forecasting of system capacity and user demand; improving modeling, evaluation and optimization of traffic management initiatives; improving information dissemination, coordination and execution of traffic flow strategies with NAS users; minimizing and equitably distributing delays across airports and users; collecting and processing additional performance data to define metrics and identify trends; and providing greater ease of use to the traffic management users. Complete development, test and deployment of RAPT (at Chicago). - Continue development and test of the next increment of the

CACR capability. - Initiate design of Airborne Reroute Execution (ABRR).

Core Activity: CATM CATMT WP2 G05A.05-01 (13C.7FF)

The Traffic Flow Management (TFM) system is the primary automation system used by the Air Traffic Control System Command Center (ATCSCC) and the nationwide Traffic Management Units that assist the ATCSCC in management of air traffic flow and throughput and planning for future air traffic demand. The TFM system is the nation's primary source for capturing and disseminating air traffic information and is the key information source for coordinating air traffic in the NAS. TFM hosts the software decision support systems that assist in managing and metering air traffic to reduce delays and make maximum use of system capacity to dynamically balance growing flight demands with NAS capacity. The FAA uses the information from this system to collaborate with aviation users to develop and implement airspace management programs that reduce delays and ensure smooth and efficient traffic flow which result in significant benefits to passengers and airlines. TFM benefits the airlines, general aviation, U.S. Department of Defense (DoD), U.S. Department of Homeland Security, industry, and partner countries. CATMT Work Package 2 (WP2) will provide new enhancements to the TFM decision support tool suite from FY 2010 through FY 2014. The FAA baseline for WP2 includes the following capability enhancements: - Arrival Uncertainty Management (AUM) - Automates the use of historical data for determining the number of arrival time slots to be reserved for flights outside of the regular schedule, when a Ground Delay Program is generated; - Weather Integration - Integrates high confidence 2 hour weather predictions onto the primary display used by Traffic Managers and into TFMS for use as constraint information in decision support tools (called Corridor Integrated Weather System (CIWS)). Also locates departure opportunities through impending weather gaps and determines if a flight will encounter weather problems on its projected departure route (called the Route Availability Planning Tool (RAPT) enhancement); - Collaborative Airspace Constraint Resolution (CACR) - Automated decision support tool that identifies constrained airspace and provides potential solutions for avoiding those constraints. CACR responds to the RTCA Task Force 5 recommendation for automation to negotiate user-preferred routes and alternative trajectories; and - Airborne Reroute Execution (ABRR) - Provides the ability to electronically send TFM generated airborne reroutes to En Route control facility automation for ATC execution.

Activity Target 1:
Monitor and report monthly on established PLA milestones. Due September 30, 2013

Core Initiative: CATM CATMT WP3 G05A.05-02 (CIP#:G05A.05-02)

The Traffic Flow Management (TFM) system is the primary automation system used by the Air Traffic Control System Command Center (ATCSCC) and the nationwide Traffic Management Units that assist the ATCSCC in management of air traffic flow and throughput and planning for future air traffic demand. The TFM system is the nation's primary source for capturing and disseminating air traffic information and is the key information source for coordinating air traffic in the NAS. TFM hosts the software decision support systems that assist in managing and metering air traffic to reduce delays and make maximum use of system capacity to dynamically balance growing flight demands with NAS capacity. The FAA uses the information from this system to collaborate with aviation users to develop and implement airspace management programs that reduce delays and ensure smooth and efficient traffic flow which result in significant benefits to passengers and airlines. TFM benefits the airlines, general aviation, U.S. Department of Defense (DoD), U.S. Department of Homeland Security, industry, and partner countries. CATMT Work Package 3 (WP3) G05A.05-02, provides enhancements to the TFM from FY 2011 to CY 2015. The FAA baseline for WP 3 includes the following capability enhancements: - TFM Remote Site Re-engineering (TRS-R) - Modernizes the software (SW) infrastructure, backbone of the TFM decision support tool suite (TFM Remote Site) used by Traffic Managers in the field: Phase 1 - Consolidates three software base codes into one. Allows the airlines to see the same information as the FAA for better situational awareness, collaboration and decision support. Phase 2 - Consolidates software communications, control and data management to one modernized suite. This is the first and fundamental step for future mid-term CATMT capabilities as well as the TFM integrated tool suite and integrated displays planned for future CATMT work pack Collaborative Information Exchange (CIX) - Manages information exchange between the TFM system and external systems through software interfaces: - Integrates Special Use Airspace (SUA) status information made available through SWIM Segment 1 for use in decision support tools and on the Traffic Situation Display.

Relationship to Measure: The ATM program will support the Delivering Aviation Access through Innovation goal through the use of automated systems that provide more accurate and timely information for all TFM system users, improve operator and passenger access to flight information, and reduce system delays. CATMT will support the Performance Metric for On Time

Arrival by providing more accurate forecasting of system capacity and user demand; improving modeling, evaluation and optimization of traffic management initiatives; improving information dissemination, coordination and execution of traffic flow strategies with NAS users; minimizing and equitably distributing delays across airports and users; collecting and processing additional performance data to define metrics and identify trends; and providing greater ease of use to the traffic management users.

Core Activity: CATM CATMT WP3 G05A.05-02

The Traffic Flow Management (TFM) system is the primary automation system used by the Air Traffic Control System Command Center (ATCSCC) and the nationwide Traffic Management Units that assist the ATCSCC in management of air traffic flow and throughput and planning for future air traffic demand. The TFM system is the nation's primary source for capturing and disseminating air traffic information and is the key information source for coordinating air traffic in the NAS. TFM hosts the software decision support systems that assist in managing and metering air traffic to reduce delays and make maximum use of system capacity to dynamically balance growing flight demands with NAS capacity. The FAA uses the information from this system to collaborate with aviation users to develop and implement airspace management programs that reduce delays and ensure smooth and efficient traffic flow which result in significant benefits to passengers and airlines. TFM benefits the airlines, general aviation, U.S. Department of Defense (DoD), U.S. Department of Homeland Security, industry, and partner countries. CATMT Work Package 3 (WP3) G05A.05-02, provides enhancements to the TFM from FY 2011 to CY 2015. The FAA baseline for WP 3 includes the following capability enhancements: - TFM Remote Site Re-engineering (TRS-R) - Modernizes the software (SW) infrastructure, backbone of the TFM decision support tool suite (TFM Remote Site) used by Traffic Managers in the field: Phase 1 - Consolidates three software base codes into one. Allows the airlines to see the same information as the FAA for better situational awareness, collaboration and decision support. Phase 2 - Consolidates software communications, control and data management to one modernized suite. This is the first and fundamental step for future mid-term CATMT capabilities as well as the TFM integrated tool suite and integrated displays planned for future CATMT work pack Collaborative Information Exchange (CIX) - Manages information exchange between the TFM system and external systems through software interfaces: - Integrates Special Use Airspace (SUA) status information made available through SWIM Segment 1 for use in decision support tools and on the Traffic Situation Display.

Activity Target 1:
Monitor and report monthly on established PLA milestones. Due September 30, 2013

Core Measure: NextGen Critical Decisions

Identify NextGen critical decisions and supporting research, capital and implementation activities required to fulfill FAA NextGen commitments and meet 90 percent of the commitments.

Core Initiative: ANG-1 Assistant Administrator for NextGen (WA9Z100000) (CIP#:X01.00-00)

Executes the mission of the NextGen Implementation and Reporting Group. Keeps senior management, Congress and the public informed of the program outcome performance and guides the NextGen program by providing outcome based metrics, analysis and risk mitigation required to meet the established goals.

Relationship to Measure: PCB&T/Other

Core Activity: Effective Executive Leadership

Provide executive leadership to oversee NextGen. Executes the mission of the FAA, ATO, and NextGen to include maintaining the NAS architecture to ensure it is meeting current and future service requirements as well as monitoring the formulation and execution of the NextGen Implementation Plan. Plans, analyzes, researches, and develops advanced concepts, new technologies and prototypes, and systems engineering to support initial and final investment decisions. Ensure the William J. Hughes Technical Center is available and meets the requirements of the ATO and external customers.

Activity Target 1:
Conduct assessments through program reviews for the quarterly monitoring of Group Director programmatic targets to ensure that activities are on schedule and meet ninety-five (95%) of the targeted goals. Due September 30, 2013

Core Initiative: Advanced Concepts & Technology development Office (WAG2100000) (CIP#:X01.00-00)

Manage NAS evolution through management of NAS operational requirements and the NAS Operational

Concept, to include development, assessment, and refinement of NAS concepts to determine their feasibility and viability within the NAS.

Relationship to Measure: F&E Activity 5

Core Activity: Effective Executive Leadership

Ensure effective executive leadership that manages the Advanced Concepts and Technology Development Office programs to assure alignment with the Agency's Destination 2025 goals and the NextGen Concept of Operations and Agency strategic and business plans by providing the infrastructure and resources, plans and direction necessary to meet the organization's mission.

Activity Target 1:
Conduct assessments through organizational reviews for the quarterly monitoring of Division Manager organizational targets to ensure that activities are on schedule and meet ninety-five percent (95%) of the targeted goals. Due September 30, 2013

Core Initiative: WILLIAM J. HUGHES TECHNICAL CENTER (CTG7100000) (CIP#:X01.00-00)

Provide effective executive leadership to ensure the implementation and successful accomplishment of programs and product provision that are vital in meeting FAA corporate objectives and goals.

Relationship to Measure: PCB&T/Other

Core Activity: Effective Executive Leadership

Provide effective executive leadership to maintain the WJH Technical Center as an exemplary aviation research and development, test and evaluation facility and the national scientific test base for long range development of aviation systems and concepts, new air traffic control equipment and software, and the modification of existing systems and procedures.

Activity Target 1:
Conduct assessments through program reviews for the quarterly monitoring of Division and Branch Manager programmatic targets to ensure that activities are on schedule and meet ninety-five percent (95%) of the targeted goals. Due September 30, 2013

Core Activity: Research, Engineering and Development Program Support (086-110/091-110/111-150)

Provide management support for the planning and execution of the Research, Engineering, and Development annual budget submission and for responding to any ancillary activities as required by OST, OMB and Congress

Activity Target 1:
Provide year-end Report out on all indirect resource obligations to the REB. Due September 30, 2013

Core Activity: Building 300 repair and recovery efforts from Fire

Due to the fire at the WJH Technical Center, repair and recovery efforts include repairing/replacing roof, constructing temporary work areas and transitioning displaced employees to temporary locations

Activity Target 1:
Transition displaced work force to temporary cubicles Due August 30, 2013

Activity Target 2:
Construct permanent work areas and relocate work force Due September 30, 2013

Core Initiative: ANG-F NEXTGEN IMPLEM PERFORMANCE & REPORTING (WA9G320000) (CIP#:X01.00-00)

Executes the mission of the NextGen implementation and reporting group. Keeps senior management, congress and the public informed of the program outcome performance and guides the NextGen program by providing outcome based matrix, analysis and risk mitigation required to meet the established goals.

Relationship to Measure: F&E Activity 5

Core Activity: Effective Executive Leadership

Provide effective executive leadership to maintain tools, capabilities, resources and outcome-based reporting to support, promote, measure and enable successful NextGen decision-making and implementation.

Activity Target 1:
Conduct assessments through program reviews for the quarterly monitoring of Group Manager programmatic targets to ensure that activities are

on schedule and meet ninety-five percent (95%) of the targeted goals. Due September 30, 2013

Core Activity: NextGen Strategic Messaging

Communicate with aviation community stakeholders, including Congress, federal agencies, operators and the FAA workforce FAA's efforts to develop and implement NextGen.

Activity Target 1:
Support outreach activities such as the NextGen Web site, brochures and other informational material, and face-to-face communication at aviation community conferences and meetings. Due September 30, 2013

Core Initiative: NAS Lifecycle Integration Office (WA9G010000) (CIP#:X01.00-00)

Executes the mission of NextGen. Establishes goals, strategies, budgets, and priorities. Allocates and manages resources to meet performance targets. Support the FAA and ATO with services. Guides the transformation to NextGen by providing analysis and planning support for the FAA's implementation of the NextGen vision.

Relationship to Measure: F&E Activity 5

Core Activity: Effective Executive Leadership

Provide effective executive leadership to execute the mission of NextGen. Establishes goals, strategies, budgets, and priorities. Guides the transformation to NextGen by providing analysis and planning support for the FAA's implementation of the NextGen vision. Ensures that all FAA lines of business integrate systems, capabilities, and programs in support of NextGen. Monitors all NextGen programs ensuring their execution is congruent with NextGen implementation plans and approved NAS Enterprise Architecture.

Activity Target 1:
Conduct assessments through program reviews for the quarterly monitoring of Group Manager programmatic targets to ensure that activities are on schedule and meet ninety-five percent (95%) of the targeted goals Due September 30, 2013

Core Initiative: Management Services Office (WAG7X30000) (CIP#:X01.00-00)

Execute the mission of NextGen while establishing integrated goals, strategies, budgets, and priorities. Enhance the leadership and mission of the NextGen Organization by supporting human capital management, succession planning, and technical training plans and requirements.

Relationship to Measure: Execute the mission of NextGen while establishing integrated goals, strategies, budgets, and priorities. Enhance the leadership and mission of the NextGen Organization by supporting human capital management, succession planning, and technical training plans and requirements.

Core Activity: Effective Executive Leadership

Provide effective executive leadership to maintain efficient Financial Management, Contract Administration, Business Operations and Business Planning for NextGen.

Activity Target 1:
Conduct assessments through program reviews for the quarterly monitoring of Group Manager programmatic targets to ensure that activities are on schedule and meet ninety-five percent (95%) of the targeted goals. Due September 30, 2013

Core Activity: ANG Management Services

Deliver innovative and agile processes and solutions for finance, contracts, planning, personnel and administrative functions for NextGen.

Activity Target 1:
Formulate, allocate and manage NextGen program budgets ensuring execution is in line with NextGen Segment Implementation Plan (NSIP) and facilitate FAA budget alignment to support effective transition of the NAS. Due September 30, 2013

Activity Target 2:
Provide contract management services to study, analyze and formulate approaches for the modernization of the NAS delivered through a portfolio management approach to contract administration. Due September 30, 2013

Core Initiative: NAS Business Solutions (WAG7X31000)

Provide technical services to study, analyze and formulate concepts for the modernization of NextGen. Provide access to research, systems engineering, and other services through contracts and agreements. Implement information management strategies, tools, and capabilities to facilitate decision-making and

collaborating with NextGen stakeholders. Manage all contracts within the NextGen Organization through a portfolio management approach; determining best-fit for the delivery of requirements, tracking performance metrics and ensuring the integrity of contractual information.

Core Activity: SE2020 Program Management

Manage, oversee and administer the System Engineering 2020 contract vehicle through portfolio management to determine best-fit for delivery of requirements, tracking of performance metrics, and ensuring the integrity of contractual information.

Activity Target 1:
Manage and track costs, Task Orders and deliverables for the SE2020 portfolio. Due September 30, 2013

Activity Target 2:
Facilitate, coordinate and implement timely award of SE2020 Task Orders. Due September 30, 2013

Core Activity: Business Operations Program Management

ANG Management Services has the responsibility of providing resource vehicles and services to ensure that NextGen and its customers have the resource support needed to meet their Destination 2025 goals and initiatives in support of NextGen. The Business Operations Group key priority is implementing process improvements and best practices to optimize and ensure ANG contracts are on schedule and within budget in FY2013.

Activity Target 1:
Maintain the management reporting and tracking system to manage contract resources assigned to ANG outside of the SE2020 Program. Due September 30, 2013

Core Initiative: Employee Services Division (WAZ3120000)

Ensures efficient and effective operation of the NextGen Organization by establishing, implementing, and maintaining internal administrative, business, and logistical processes and ensuring adherence to policy.

Core Activity: Employee Services Division

Create effective recruitment and talent management strategies to attract, retain, and develop a highly skilled and diverse pool of employees and management.

Activity Target 1:
Develop system to track completion of required training for ANG employees identified in the Acquisition Workforce Plan. Due September 30, 2013

Core Initiative: Administration Services Division (WAG7X33000)

Ensures efficient and effective operations of the NextGen Organization by establishing, implementing, and maintaining internal administrative, business, and logistical processes and ensuring adherence to policy.

Core Activity: Controlled Tracking System for Official Correspondence and Responses.

Controlled Tracking System for Official Correspondence and Responses.

Activity Target 1:
Manage, oversee and administer the action control tacking vehicle through the Correspondence Control Management System. Due September 30, 2013

Core Initiative: NAS Programming & Financial Management Division (WAG7X34000)

Support the budget formulation, presentation, execution and auditing activities associated with the NextGen investment portfolio and associated NAS programs, including budget submissions, congressional hearings, appropriation process, and GAO/OIG audits. Assist with Project Level Agreement process for the NextGen investment portfolio to facilitate funding flow.

Core Activity: NextGen Financial Management

Support the budget formulation, presentation, execution and auditing activities associated with the NextGen investment portfolio and associated NAS programs, including budget submissions, congressional hearings, appropriation process, and GAO/OIG audits. Assist with Project Level Agreement process for the NextGen investment portfolio to facilitate funding flow.

Activity Target 1:
Submit Presidential Budget Request. Due January 31, 2013

Activity Target 2:
Submit OST Budget Request. Due June 30, 2013

Activity Target 3:
Submit OMB Budget Request. Due September 30, 2013

Core Initiative: Budget & Financial Services Division (CTG7X30000)

Execute ANG Financial Management through accountability, repeatability, and improved efficiencies. Provide timely data, analysis, plans, justifications, and reports to FAA Finance for the NextGen budget to promote cost efficient financial management within ANG.

Core Activity: ANG Financial Management

Provide financial management reporting for ANG, including the allocation of resources, reprogramming actions, and obligational performance. Implement and institute financial management functions to include budget formulation, budget execution, budget allocation as well as coordination, facilitation and submittal of financial analysis and justifications for the NextGen organization (ANG).

Activity Target 1:
Effectively obligate 90% F&E Activity 5 and Operations funding while properly managing within appropriations and budget feasibility and/or constraints. Due September 30, 2013

Core Initiative: NAS Requirements Services Division, ANG-B1 (WASG5640000) (CIP#:X01.00-00)

Develops and maintains the NAS-RD-20XX series of documents and manages allocation of NAS level requirements to acquisition in support of NAS Enterprise Architecture and NextGen; and supports the development of functional analysis, operational requirements, system requirements and managing associated data.

Relationship to Measure: PCB&T/Other

Core Activity: NAS Requirements Division, ANG-B1: Revised NAS Requirements

Revise NAS Requirements Database and associated documents (NAS Level Requirements) to support NextGen Operational Improvements (OIs).

Activity Target 1:
Incorporates and revise requirements derived from NextGen requirements development activities into the NAS Requirements Database and generate the associated documents for review and comment. Due June 30, 2013

Activity Target 2:
Manage disposition of all comments and get approval of the updated NAS Requirements. Due September 30, 2013

Core Activity: NAS Requirements Services Division, ANG-B1: Program Requirements

Support the development of preliminary and final Program Requirements and review associated programmatic AMS (Acquisition Management System) documentation for consistency with program requirements.

Activity Target 1:
Ensure that 90% of programs seeking Investment Analysis Readiness, Initial Investment, and Final Investment decisions have the necessary requirements documents completed on time to support their respective decision points. Due September 30, 2013

Core Activity: Requirements Services Branch: Support Services, ANG-B11

Provide systems engineering services; develop requirements/specification, functional architecture, alternative analysis, systems integration planning, and standards validation in support of the acquisition decision and development of the NextGen communication infrastructure.

Activity Target 1:
Finalize SC-214 Standards Validation five-year plan in support of Standards Validation activities beyond the Segment 1 phase. Due July 31, 2013

Activity Target 2:
Develop final Systems Integration Plan supportive of the end-to-end components for Segment 1 Phase 1. Due August 31, 2013

Core Initiative: NAS Enterprise Architecture (EA) Division, ANG-B2 (WAG5650000) (CIP#:X01.00-00)

Develop and maintain the NAS Enterprise Architecture in support of FAA and NextGen concepts and develops concepts of use, functional analysis and architecture; security risk assessments, requirements and Information System Security (ISS) architecture, and operational requirements for NAS systems.

Relationship to Measure: PCB&T/Other

Core Activity: NAS Enterprise Architecture Division, ANG-B2: Products - NAS EA Views

Develop the Enterprise Architecture (EA) products necessary to describe the evolution the National Airspace mission over time and include the results in the Air Traffic Organization (ATO) National Airspace System (NAS) EA repository to ensure effective use of the NAS EA across the agency.

Activity Target 1:
Incorporate updates in FY2013 to develop and build out the NAS EA roadmaps to support NextGen implementation and enterprise level architectural decisions. Due February 28, 2013

Activity Target 2:
Incorporate updates in FY2013 to develop and build out of the NAS Architecture Framework views to support NextGen implementation and enterprise level architectural decisions. Due September 30, 2013

Core Activity: Architecture Services Branch, ANG-B21: NAS EA Views

Provide system engineering and technical support to develop enterprise-level NAS Enterprise Architecture (EA) mid- and far-term views thereby providing the framework to help guide acquisition decisions for programs leading to the NextGen end-state.

Activity Target 1:
Update and maintain far-term EA products. Due June 30, 2013

Activity Target 2:
Update and maintain mid-term EA products. Due September 30, 2013

Core Initiative: Business Operations Services Division, ANG-B5 (WAG5600000) (CIP#:X01.00-00)

Manage the systems engineering and enterprise architecture tools, and engineering services business processes, including configuration management and content development of training courses to support the NAS Systems Engineering Office, ANG-B.

Relationship to Measure: PCB&T/Other

Core Activity: Business Operations Services Division, ANG-B5: Products

Improve configuration management of acquisition management products generated by the NAS Systems Engineering Services Office, ANG-B.

Activity Target 1:
Complete inventory of the NAS Systems Engineering Services Office business processes. Due January 31, 2013

Activity Target 2:
Expand configuration management of the NAS Systems Engineering Services Office acquisition management products and processes. Due September 30, 2013

Core Activity: Effective Executive Leadership for NAS Systems Engineering Office, ANG-B

Provide effective executive leadership to support and execute the mission of NextGen. Ensures a viable future air transportation through meeting national and international safety goals for all NAS systems; ensures system engineering practices are integrated into all ATO development by overseeing the system engineering manual (SEM) and training guidance in its uses; supports FAA policy guidelines for the concepts and requirements definition (CRD) phase of the acquisition Management System (AMS); develops and maintain the NAS system requirements, ensure the NAS Enterprise Architecture meets current and future demands of all customers; develop functional analysis, architecture and operational requirements, safety and security requirements for the NAS systems, support systems engineering and engineering services planning for future NAS facilities; provides cross-program and domain systems engineering to support trade studies; ensure the integration of systems and capabilities across and within FAA Lines of Businesses (LOBs); works with the NextGen Life Cycle Integration to support alignment of cross-domain systems engineering with program function management, and mange systems engineering tools and business process, including configuration management and development training courses in support of the NAS Systems Engineering Office (ANG-B) directorate.

Activity Target 1:
Ensure that funding provided by the Management Services Office (ANG-A) to the NAS Systems Engineering Office (ANG-B) through the SE2020 line item is coordinated, allocated, and monitored to meet the business planning activities outlines in its FY-13 Business Plan in support of NextGen. Due September 30, 2013

Core Initiative: Redesign NextGen Performance Snapshots (NPS) ANG-F1 (CIP#:X01.00-00)

This initiative covers NP&R's on-going development, management and maintenance of an operating metrics dashboard that will inform NextGen decision-making and action planning, including the NMB, NRB, as well as all those who need to be aware of NextGen progress.

Relationship to Measure: F&E Activity 5

Core Activity: Update, report, and publish Nextgen operational performance metrics

NextGen Implementation Performance & Reporting: By the end of 2013, publish and socialize redesigned NextGen Performance Snapshot.

Activity Target 1:
Meet with stakeholders to gain input from industry for NPS redesign. Due December 31, 2012

Activity Target 2:
Generate requirements for NPS redesign. Due March 31, 2013

Activity Target 3:
Publish re-designed NPS Due July 31, 2013

Core Initiative: Test & Evaluation Services Division (CTG7B40000) (CIP#:X01.00-00)

Provide test and evaluation services and products for communication, navigation, surveillance, and air traffic management automation programs primarily in the solution implementation and in-service management acquisition life-cycle phases. Additionally, test and evaluation services and products are provided to support programmatic test planning activities for earlier acquisition life cycle phases as required. Monthly reports reflect the status of deliverables as documented in the fiscal year project scope agreements (PjSAs) with sponsoring program offices.

Relationship to Measure: PCB&T/Other

Core Activity: Test Protocol and Documentation

Provide the successful execution of required test plans, test procedures, test reports and witnessing of contract support testing.

Activity Target 1:
Provide deliverables and services as per the agreements with program offices. Summary status reports are provided monthly. Due September 30, 2013

Core Initiative: TECHNICAL STRATEGIES & INTEGRATION GRP (CTG7B00000)

Facilitate and govern the integration, transition, and strategic management of various WJHTC products, services and initiatives through collaborative work with FAA organizations and partnerships with other government agencies, academia and industry.

Core Activity: Verification and Validation (V&V) Strategies

Develop and execute WJH Technical Center V&V strategies and practices.

Activity Target 1:
Assure ninety percent (90%) independent review of the WJH Technical Center's test work products. Due September 30, 2013

Activity Target 2:
Conduct the annual V&V Summit. Due November 30, 2012

Activity Target 3:
Maintain ISO certification for the WJH Technical Center Test and Evaluation programs. Due September 30, 2013

Core Activity: Managing ANG External Partnership Agreements

Enhance our Federal Laboratory status through partnerships with other government agencies, academia, and industry such as technology transfer, personnel exchange, joint research projects and other collaborative agreements.

Activity Target 1:
Provide Congress with fiscal year achievements for the FAA Technology Transfer Program. Due November 30, 2012

Activity Target 2:
Develop and/or monitor technical partnership agreements and generate at least three new technical partnership opportunities through outreach activities. Due September 30, 2013

Core Activity: Strategic Analysis and Operation

Manage the WJH Technical Center strategic analysis and operation efforts for the alignment with NextGen critical milestones

Activity Target 1:
Coordinate strategic initiatives that identify

business opportunities. Provide business plan results to the Center Management Team at least twice a year. Due September 30, 2013

Core Initiative: Air transportation Sys Evaluation Division (CTG7B30000) (CIP#:X01.00-00)

Provide analytical studies and related safety monitoring in support of separation reductions in U.S. Sovereign Airspace, international airspace where FAA has delegated authority to provide air traffic services, and international airspace where the U.S. and its citizens have a safety-related interest. Provide technically and operationally sound evaluations, analyses, data & services from air transportation system, local airport, airspace, and user perspectives.

Relationship to Measure: PCB&T/Other

Core Activity: Test, Analysis, Monitoring and Documentation

Provide the successful execution of required test plans, test procedures, test reports, analyses reports, and technical working papers.

Activity Target 1:
Provide deliverables and services per agreements with program offices and sponsors. Summary Status Reports are provided monthly. Due September 30, 2013

Core Measure: Efficiency Implementation

Organizations throughout the agency will continue to implement efficiency initiatives. FY2013 Target: Ensure 80% of the initiatives are completed on schedule.

Core Initiative: CENTER OPERATIONS Division (CTG7X20000) (CIP#:X01.00-00)

Provide facility maintenance and engineering support for all properties located at the WJHTC. This includes land, buildings, infrastructure and support services that effectively meet the requirements of organizations residing within the campus.

Relationship to Measure: PCB&T/Other

Core Activity: Facility Maintenance, Engineering and Support Services

Provide facility maintenance, engineering support and additional support services for all properties located at the WJH Technical Center.

Activity Target 1:
Protect human health by managing and operating the WJH Technical Center potable water system; provide water quality assessment report to ensure that maximum contaminate levels are not exceeded more than once per year. Due September 15, 2013

Activity Target 2:
Provide physical security for all employees, tenants , contractors, visitors and facilities located at the WJH Technical Center. This includes maintaining accreditation and respective security conditions for a "Level 4" facility by ensuring action plans are prepared and completed on time for ninety-five percent (95%) of all Office of Security and Hazardous Materials security findings. Due September 30, 2013

Activity Target 3:
Provide twenty-four hour facility maintenance, operations, improvements and support services for the WJH Technical Center campus. Conduct performance assessments through program reviews. Due July 30, 2013

Core Activity: Environmental Management Systems (EMS) ACT

The ATO is fully committed to conducting all operations and activities in a manner that is protective of the environment. In keeping with this commitment, ACT Management and staff work continuously to integrate environmental considerations into operations, conserve energy and resources, and to avoid or minimize the use of environmentally detrimental materials. This commitment extends to all FAA Technical Center facilities and operations and is implemented through an ACT-wide Environmental Management System.

Activity Target 1:
Maintain WJHTC Environmental Management System ISO 14001:2004 registration by ensuring 80% of the nonconformances from the previous year EMS external audit are addressed prior to the next external audit. Due April 1, 2013

Activity Target 2:
Conduct an external EMS conformance audit. Due May 31, 2013

Activity Target 3:
Conduct an internal EMS audit. Due July 31, 2013

Activity Target 4:
Conduct EMS Management Review. Due August 31, 2013

Core Initiative: System Support Laboratory Sustained Support (F14.00-00) (CIP#:F14.00-00)

Implement cost effective initiatives that improve laboratory services and supporting infrastructure to the WJHTC laboratory customers.

Relationship to Measure: CIP

Core Activity: WJH Technical Center Laboratory Sustainment

The FAA's centralized set of laboratories located at the WJH Technical Center provide the infrastructure for research, development, testing, and field support to the FAA Capital Investment Plan (CIP) programs. This activity provides the ongoing sustainment of the WJH Technical Center NAS and NextGen laboratories. This includes providing services and support for engineering, operations, scheduling, maintenance, configuration management, pilots, infrastructure management, aircraft maintenance, and quality management. This program also provides the laboratory equipment, maintenance agreements, software and hardware licenses necessary to maintain the laboratories.

Activity Target 1:
Laboratory Support Services: Conduct independent external surveillance audits of the Laboratory Services Division Quality Management procedures and processes. Due September 30, 2013

Activity Target 2:
Laboratory Support Services. Identify at least two quality objectives for each branch in the Laboratory Services Division for FY 2013. Conduct a management review meeting to report on Level 2 performance status and review the FY 2013 Quality Objectives. Successfully complete seventy-five (75%) of the quality objectives by the end of the fiscal year. Due September 30, 2013

Core Activity: WJH Technical Center Laboratory Modernization

The FAA's centralized set of laboratories located at the WJH Technical Center provide the infrastructure for research, development, testing, and field support to FAA's Capital Investment Plan (CIP) programs. It is necessary to upgrade and improve the supporting laboratory infrastructure and equipment to provide a laboratory platform capable of supporting FAA programs. This activity provides for the modernization of the laboratory infrastructure in accordance with the 20-Year Master Plan developed in FY 2010.

Activity Target 1:
Laboratory Infrastructure 20-Year Master Plan: Initiate thirty percent (30%) of the activities targeted for FY 2013 shown in the Implementation Strategy and Cost Plan developed in FY 2011. Due June 30, 2013

Activity Target 2:
Laboratory Infrastructure 20-Year Master Plan: Complete seventy-five percent (75%) of the activities targeted for FY 2013 shown in the Implementation Strategy and Cost Plan developed in FY 2011. Due September 30, 2013

Core Initiative: FAC Integration, Dev, & Operations Analysis Cap. (G03M.02-01) (CIP#:G03M.02-01)

The primary goal of NextGen is to address and meet the rapidly changing needs of the United States aviation industry. For example, NextGen breaks down the geographical boundaries that characterize air traffic control and leads to a more seamless view of traffic, organized not by geographically oriented sectors, but by aircraft trajectories. New infrastructure, automation, aircraft equipage, procedures, and regulations are designed to support this seamless operational concept which must evolve from a geographical focus to a broader air traffic management concept. It will be necessary to test the integration, development, and operations functions in a real-time and flexible environment to validate the broad framework of concepts, technologies, and systems introduced by NextGen. This project develops a laboratory to assess NextGen technologies and concepts in an integrated environment. The NextGen concepts of operation and supporting technologies are not only sophisticated, but very complex. This laboratory allows early evaluations, concept development, and/or demonstrations in a real-time environment without being encumbered by the present structure of the NAS. The requirements in this area will continue to grow as NextGen matures. Key characteristics of the laboratory capability include: - A collocated display area to support Human-in-the-Loop simulations; - A real-time rapid prototyping and simulation environment that simulates the NAS while integrating NextGen enabling components; - A low-to-medium fidelity simulation environment; and - An integrated federal and industry laboratory capability to support high fidelity simulations.

Relationship to Measure: The integration, development, and operational analysis capability provides the support services, and software and hardware required to enhance and sustain the NextGen Integration and Evaluation Capability (NIEC) to conduct early proof of concept studies, rapid prototyping, validate and mature concepts, reduce risks, and

improve operational performance across all NextGen solution sets.

Core Activity: NextGen Integration and Evaluation Capabilities (NIEC) Sustainment and Expansion

The WJH Technical Center will provide NIEC services designed to provide a realistic platform to explore, integrate, and evaluate NextGen concepts through simulation activities resulting in concept maturation, requirements definition, and data collection for use in the definition, validation, usability, and performance of NextGen concepts and technologies.

Activity Target 1:
NIEC Support Services: Provide NIEC operations, maintenance, and engineering service to support NextGen Programs. NIEC will maintain availability to scheduled customers for at least eighty percent (80%) of the normal workweek. Due September 30, 2013 Due September 30, 2013

Activity Target 2:
NIEC Support Services: Identify modifications to NIEC required to support NextGen research and development, human-in-the-loop simulations, and proof of concept demonstrations for FY 2013. Prepare a modification and implementation plan. Due April 30, 2013 Due April 30, 2013

Activity Target 3:
NIEC Equipment Upgrade: Complete the technical refresh analysis report for the reconfigured cockpit simulator and initiate the procurement of equipment to support the technical refresh. Due September 30, 2013 Due September 30, 2013

Activity Target 4:
Monitor and report monthly on established milestones. Due September 30, 2013

Global Collaboration

NextGen supports Destination 2025 Global Collaboration initiatives with activities that include efforts on exporting technologies, enhancing capacity, optimizing efficiencies, providing technical leadership to the international community, and providing expert guidance to FAA organizations on technical issues, international processes, and ICAO Standards and Recommended Practices (SARPs).

Strategic Measure: NextGen Interoperability

40 percent of all commercial aircraft from the top 25 aviation states are using fully interoperable NextGen technologies and capabilities by 2018. Fy13 Target: 0%

Strategic Initiative: NextGen Technologies and Procedures

Promote global interoperability by working on research, validation and implementation of new concepts, systems, and procedures through maximizing resources to assist key countries and regional organizations to implement interoperable ATM technologies and procedures.

Strategic Activity: ANG Support for NextGen Interoperability Cooperative Efforts and Implementation of Regional Plans

Support implementation of NextGen interoperable technologies and procedures working with other air traffic systems and regional efforts by providing ANG ongoing oversight coordination plans, and support for leadership coordination meetings.

Activity Target 1:
Monitor development of work products and provide leadership support for the FAA at the ANC-12 November meeting. Due December 31, 2012

Activity Target 2:
Provide leadership and support of the FAA/EU MOU by working with other air traffic systems and regional efforts to support the implementation of NextGen interoperable technologies and procedures. Due September 30, 2013

Workplace of Choice

NextGen supports Destination 2025 Workplace of Choice initiatives with activities that include efforts to align revenues with costs, reduce the number of ATO plans, updating the NextGen Implementation Plan, reducing the management expenses associated with the RE&D program, measuring and reporting NextGen performance, and linking performance plans to NextGen, agency and and DOT goals.

Core Measure: Drive Continuous Efficiency Improvement & Cost Control

Achieve documented cost savings and cost avoidance of $82.3 million in FY 2013.

Core Initiative: Cost Control Program

Implement line of business-specific cost efficiency as well as agency-wide initiatives to reduce costs or improve productivity. Each FAA organization will develop, track, and report quarterly on a comprehensive measure of its operating efficiency or financial performance, accounting for 75% of operating resources.

Core Activity: ATO Efficiency Measure: System Planning and Resource Management Budget

Sustain FY 2013 System Planning and Resource Management budget at 2% or less of total RE&D budget.

Activity Target 1:
Report quarterly (Q4 FY 2012 and Q1-3 FY 2013) to ABA, within 30 days of quarter close. Due September 30, 2013

Activity Target 2:
Provide updated FY 2014 template for review and approval in time to be included in the FY 2014 Business Plan. Due May 15, 2013

Core Activity: ATO Efficiency Measure: RE&D Management Workforce

Maintain an RE&D management workforce comprising no more than 10% of the overall RE&D workforce.

Activity Target 1:
Report quarterly (Q4 FY 2012 and Q1-3 FY 2013) to ABA, within 30 days of quarter close. Due September 30, 2013

Activity Target 2:
Provide updated FY 2014 template for review and approval in time to be included in the FY 2014 Business Plan. Due May 15, 2013

Core Initiative: Technical center Bldg & Plant Support (F16.00-00) (CIP#:F16.00-00)

Provide facility maintenance, engineering and support services for all properties located at the Technical Center including, land, buildings and infrastructure.

Relationship to Measure: Cost control initiative

Core Activity: Facility Improvement Engineering

Design and engineer facility improvements to ensure the operations of the WJH Technical Center.

Activity Target 1:
Complete Phase 2 of Building 300 (main building) roof and skylight replacement. Due August 31, 2013

Activity Target 2:
Due to Building 300 fire, construct permanent work areas and relocate work force. Due September 30, 2013

Core Activity: Facility Space Improvement Projects

The Technical Support Space Utilization Strategy Program identifies, evaluates, and develops facilities improvement projects based on customer requirements for current and future NAS support facilities, research, development, test and evaluation (RDT&E) facilities, IT data centers, and administrative support space at the FAA William J. Hughes Technical Center (WJHTC), Atlantic City, NJ.

Activity Target 1:
Due to Building 300 fire, set up and transition displaced workforce to temporary cubicles. Due August 30, 2013

Core Initiative: CATM SYSTEM WIDE INFO SWIM Seg 1- G05C.01-01 (CIP#:G05C.01-01)

The System Wide Information Management (SWIM) Program is a National Airspace System (NAS)-wide information system that supports the FAA Next Generation Air Transportation System (NextGen). It is the NextGen focal information management and data sharing system. SWIM collects and disseminates information and provides services to the aviation community. SWIM facilitates the data sharing requirements for NextGen and improves the way we create and leverage new and existing systems in the NAS. SWIM enables increased common situational awareness and improved NAS agility to deliver the right information to the right people at the right time. SWIM enables the sharing of information with a Service Oriented Architecture, while making it easier and less costly to develop and share IT services.

Relationship to Measure: Developing performance based navigation in metroplex airspace will allow more efficient use of the airspace and increases in arrival and departure flows. Using the airspace more efficiently increases the capacity for the affected airports.

Core Activity: CATM SYSTEM WIDE INFO SWIM Seg 1- G05C.01-01 (13E.53AA

The System Wide Information Management (SWIM) Program is a National Airspace System (NAS)-wide

information system that supports the FAA Next Generation Air Transportation System (NextGen). It is the NextGen focal information management and data sharing system. SWIM collects and disseminates information and provides services to the aviation community. SWIM facilitates the data sharing requirements for NextGen and improves the way we create and leverage new and existing systems in the NAS. SWIM enables increased common situational awareness and improved NAS agility to deliver the right information to the right people at the right time. SWIM enables the sharing of information with a Service Oriented Architecture, while making it easier and less costly to develop and share IT services. System Wide Information Management (SWIM) - Segment 1 SWIM is being developed incrementally in segments. In SWIM Segment 1, seven SWIM Implementing Programs (SIPs) are implementing nine SWIM capabilities in the NAS with SWIM-provided governance, standards, and software to support development of reusable SOA services. SWIM provides requirements, schedule, and funding to the SIPs. Segment 1 results in SOA services deployed to all Air Route Traffic Control Centers (ARTCCs), 39 Terminal Radar Approach Controls (TRACONs), the Air Traffic Control System Command Center, the William J. Hughes Technical Center .

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Initiative: CATM SYSTEM WIDE INFO (SWIM) NNEW G05C.01-06 (CIP#:G05C.01-06)

The System Wide Information Management (SWIM) Program is an Information Technology (IT) infrastructure program that operates in the background to provide data to authorized users to facilitate collaboration across NAS domains. SWIM will provide the Service Oriented Architecture (SOA) Governance and Enterprise Infrastructure needed to meet NextGen's information management and data sharing needs. The program provides the policies and standards to support data management, secure its integrity, and control its access and use; these benefits improve the provision of data and services to support better real-time planning, streamline communications, and connect more FAA systems to more customers. Under SWIM Segment 2, NextGen Network Enabled Weather (NNEW) will be the first instance in the first phase of a NAS Common Support Services capability to disseminate aviation weather and aeronautical information in a network enabled and global environment. NNEW is a key contributor to an interagency NextGen effort to provide quick, easy, and cost-effective access to weather information for all users of the NAS. NNEW will enable universal access to weather information for input to collaborative and dynamic NAS decision making. Establishing and utilizing open standards and developing the software necessary to support universal access to this information will provide an enhanced method of making aviation weather information available to NextGen stakeholders. It will utilize SOA architecture to enable common, universal access to aviation weather data. It will develop the standards, procedures, and field the system capabilities necessary to support these functions. Future segments will include additional capabilities that move the FAA further toward the data sharing required for NextGen. SWIM will return to the Joint Resource Council (JRC) in FY 2012 for a Segment 1 Baseline Change Decision (BCD) and Segment 2 Final Investment Decision (FID).

Relationship to Measure: SWIM will reduce the number and types of unique interfaces, reduce redundancy of information, better facilitate information-sharing, improve predictability and operational decision-making, and reduce the cost of service. The improved coordination that SWIM will provide will allow for the transition from tactical conflict management of air traffic to strategic trajectory-based operations. In addition, SWIM will provide the foundation for greatly enhanced information exchange and sharing outside the FAA.

Core Activity: CATM SYSTEM WIDE INFO (SWIM) NNEW G05C.01-06 (13E.53BB)

The System Wide Information Management (SWIM) Program is an Information Technology (IT) infrastructure program that operates in the background to provide data to authorized users to facilitate collaboration across NAS domains. SWIM will provide the Service Oriented Architecture (SOA) Governance and Enterprise Infrastructure needed to meet NextGen's information management and data sharing needs. The program provides the policies and standards to support data management, secure its integrity, and control its access and use; these benefits improve the provision of data and services to support better real-time planning, streamline communications, and connect more FAA systems to more customers. Under SWIM Segment 2, NextGen Network Enabled Weather (NNEW) will be the first instance in the first phase of a NAS Common Support Services capability to disseminate aviation weather and aeronautical information in a network enabled and global environment. NNEW is a key contributor to an interagency NextGen effort to provide quick, easy, and cost-effective access to weather information for all users of the NAS. NNEW will enable universal access to weather information for input to collaborative and dynamic NAS decision making. Establishing and utilizing open standards and developing the software necessary to support universal access to this information will provide an

enhanced method of making aviation weather information available to NextGen stakeholders. It will utilize SOA architecture to enable common, universal access to aviation weather data. It will develop the standards, procedures, and field the system capabilities necessary to support these functions. Future segments will include additional capabilities that move the FAA further toward the data sharing required for NextGen. SWIM will return to the Joint Resource Council (JRC) in FY 2012 for a Segment 1 Baseline Change Decision (BCD) and Segment 2 Final Investment Decision (FID).

Activity Target 1:
Monitor and report monthly on established PLA milestones. Due September 30, 2013

Core Initiative: Systems Engineering and Development Support SE2020, M03.03-01 (CIP#:M03.03-01)

The System Engineering 2020 (SE-2020) program manages a portfolio of contracts providing support services for research, analysis, systems engineering and integration for both Next Generation Air Transportation System (NextGen) and non-NextGen initiatives. It provides access to research, technical, engineering and programmatic resources that support the FAA's transformational programs and further improves the NAS. The portfolio of contracts was awarded in two major categories: Screening Information Request 1 (SIR 1), Research and Mission Analysis and Screening Information Request 2 (SIR 2), Systems Engineering. SIR 1 Research and Mission Analysis supports the full range of NextGen Research & Mission Analysis support services in one or more functional task areas related to NextGen and activities necessary to reach the Investment Analysis Readiness Decision (IARD) phase in the Acquisition Management System (AMS) Lifecycle. SIR 1 Research and Mission Analysis includes the following service support activities: * Concept and Requirements Definition Planning * Early Life Cycle Concepts and Prototyping * Early Life Cycle Human Factors Research * Early Life Cycle Concepts of Operations Research * Early Life Cycle Human Performance Analysis * Proof of Concept Research * Pre-Operational Concept Demonstration Trials * Cost Benefit Analysis * Operational Demonstration Trials * Concept Integration * Rapid Prototyping/Fast-Time Modeling * Real-Time Simulations * Real-Time Human In-the-Loop Simulations * Full-Scale Concept Demonstrations * Cognitive Task Analysis Methods * Conceptual Operations Verification and Validation SIR 2 Systems Engineering supports systems engineering activities that occur throughout the AMS Lifecycle for both NextGen and non-NextGen service activities. Note that SIR 2 Systems Engineering is not intended to perform R&D, post-FID full-scale development, NAS system maintenance, or program management support for program offices responsible for fielding and/or maintaining NAS systems. The majority of SIR 2 Systems Engineering activities are expected to occur after the AMS Lifecycle Acquisition Management phase, "Concept and Requirements Definition" (CRD). In addition, SIR 2 Systems Engineering supports pre-IARD activities related to the technical refresh of current NAS systems before the "Solution Implementation" phase of the AMS lifecycle. SIR 2 Systems Engineering supports the following activities: * Concept and Requirements Definition * Final Investment Analysis * Final Requirements Documents, Enterprise Architectural Products * Safety and Regulatory * Business Continuity Planning * Portfolio Analyses * Maintenance, Operation and Enhancements of Financial Systems * Acquisition Support * Schedules * Human Factors * Concepts of Operations * Human Performance Analysis * Proof of Concept Validation * Pre-Operational Trials and Operational Trials * System Integration * Rapid Prototyping/Fast-Time Modeling * Pre-Development Real-Time Simulations * Real-Time Human In-the-Loop Simulations * Full-Scale Prototype Demonstrations * Verification and Validation * Cognitive Task Analysis Methods * Cost Benefit Analysis

Relationship to Measure: It provides access to research, technical, engineering and programmatic resources that support the FAA's transformational programs and further improves the NAS

Core Activity: SE2020 Administration

Manage SE2020 Contract vehicle to ensure the availability of technical and engineering projects and programs to support ANG and other FAA organizations in support of Destination 2025.

Activity Target 1:
Manage and maintain the 2020 CIP Line within 10% budget and provide monthly status to ANG Executives and ANG-A management. Due September 30, 2013

Activity Target 2:
On a quarterly basis, report the 2020 current and future Task Order award status including financial obligations, expenditures and remaining balances. Due September 30, 2013

Core Activity: NAS Systems Engineering Services

Receive funding from the SE2020 budget line item through Management Services Office (ANG-A). This funding contributes to ANG-B NextGen mission to provide engineering services leadership, establish integrated goals, strategies, budgets and priorities; allocate and manage resources, meet performance

targets and supply services to meet engineering requirements and goals to the FAA.

Activity Target 1:
Ensure that funding provided by the Management Services Office (ANG-A) to the Engineering Services Office (ANG-B) through the SE2020 line item is coordinated, allocated, and monitored to meet the business planning activities outlined in its FY13 Business Plan in support of NextGen. Due September 30, 2013

Core Activity: SE2020 Budget Line Item

Provide funding from the SE2020 budget line item through the Management Services Office (ANG-A) to the Engineering Services Office (ANG-B). The SE2020 Budget line item is coordinated, monitored, and allocated to meet business planning activities outlined in its FY13 Business Plan in support of NextGen.

Activity Target 1:
Monitor and track performance associated with SE2020 budget line item. Due September 30, 2013

Core Initiative: LABORATORY SERVICES DIVISION (CTG7B80000) (CIP#:X01.00-00)

Provide cost effective initiatives that meet or exceed client objectives through sustaining, improving and expanding the WJHTC laboratory infrastructure.

Relationship to Measure: PCB&T/Other

Core Activity: WJH Technical Center Laboratory Services Group

Maintain the NAS laboratory systems and supporting infrastructure at the WJH Technical Center.

Activity Target 1:
Provide workforce training and travel in the areas of management, system maintenance, simulation and modeling, and other competencies needed to support the WJH Technical Center laboratories and equipment. Due September 30, 2013

Activity Target 2:
Operations: Provide labor and supplies for repair and replacement of parts for the NAS laboratory equipment and aircraft supporting the WJH Technical Center laboratories. Due September 30, 2013

Core Measure: Support Open Government Initiative

Support the Open Government Initiative to Streamline Service Delivery, Improve Customer Service (EO13571), and leverage technology to increase productive collaboration with citizens, stakeholders and other government agencies by making high-value data and content in at least two existing major customer-facing systems available through web APIs via FAA.gov, including IdeaHub as a topic in at least two Town Hall or all-hands meetings, and using Twitter and Facebook to promote at least 3 FAA Safety related initiatives.

Core Initiative: Support Open Government Initiative

Support the Open Government Initiative to Streamline Service Delivery, Improve Customer Service (EO13571), and leverage technology to increase productive collaboration with citizens, stakeholders and other government agencies by making high-value data and content in at least two existing major customer-facing systems available through web International Affairs (APIs) via FAA.gov, including IdeaHub as a topic in at least two Town Hall or all-hands meetings, and using Twitter and Facebook to promote at least 3 FAA Safety related initiatives.

Core Activity: Support Open Government - ANG

Support the Open Government Initiative the President's Executive Order on Streamlining Service Delivery and Improving Customer Service (EO 13571) and the 21st Century Digital Government directive by leveraging technology to make data available, improve web service efficiencies and increase productive collaboration with citizens, stakeholders and other government agencies while reducing duplicative efforts.

Activity Target 1:
Update web strategy and action plans in writing to the FAA Web Manager and brief Web Council on office plans. Due November 30, 2012

Activity Target 2:
Submit a progress report to the FAA Web Manager on their LOB and Staff Office FY 2013 Web Strategy and Action Plan. Due March 30, 2013

Activity Target 3:
Submit a progress report to the FAA Web Manager on their LOB and Staff Office FY 2013 Web Strategy and Action Plan. Due August 31, 2013

Activity Target 4:
Certify to the Administrator in writing: An estimated 95% of static information web pages on the public and employee web sites comply with FAA web standards, proper branding as described in the branding order and web policies. Due September 30, 2013

Activity Target 5:
Certify to the Administrator in writing: The number of compliant web-based applications has been coordinated with and accepted by the Office of Communications as complying with FAA web standards, policies, and requirements. Due September 30, 2013

Core Measure: Hiring People with Targeted Disabilities

In support of the Secretary of Transportation goal that 3% of all new hires are People with Targeted Disabilities (PWTD), ACR will create quarterly reports to track the hiring of PWTD by FAA organizations. In FY 2013, the FAA will ensure that at least 1.67% of all new hires are PWTD. Each year, the FAA will work towards increasing the percentage of PWTD hires by .67% per year to reach the 3% hiring goal by FY 2015. ACR will provide supervisors and managers training on the DOT Online Accommodation Tracking System (OATS) to ensure that 90% of reasonable accommodations requests are completed within 25 business days or less. Additionally, ACR will work on achieving FAA-wide utilization of several resources for recruiting and hiring people with disabilities. Accomplishment of this measure will contribute to creating a work environment that embraces and values diversity.

Core Initiative: Hiring People with Targeted Disabilities

Each FAA organization will take actions in support of the Secretary of Transportation fiscal year goal that 3% of all new hires are individuals with targeted (severe) disabilities. In FY 2013, all FAA organizations will ensure that at least 1.67 of all new hires are people with targeted (severe) disabilities.

Core Activity: Hiring People with Targeted Disabilities

Assist agency efforts to support the hiring goal for PWTD by reporting quarterly on the specific number of new hires of PWTD; improving the efficacy and timeliness of the reasonable accommodation process; and promoting the use of various resources for hiring PWD. Accomplishment of this activity will ensure that FAA organizations meet the FY 13 Shared STI goal that at least 1.67% of all new hires are people with targeted (severe) disabilities.

Activity Target 1:
Each LOB/SO will report quarterly on the specific number of new hires of PWTD and the specific actions taken (i.e. outreach activities, marketing of vacant positions, internships, disability awareness events) to ensure that at least 1.67% of all new hires are people with targeted (severe) disabilities. Due September 30, 2013

Activity Target 2:
Cooperate with ACR to ensure that 400 FAA managers/supervisors are trained on the DOT Online Accommodation Tracking system. Due September 30, 2013

Activity Target 3:
Ensure managers/supervisors attend briefings on the resources available for recruiting and hiring PWD. Due September 30, 2013

Activity Target 4:
Process 90% reasonable accommodation requests within 25 days or less of been received. Due September 30, 2013

Core Measure: Alternative Dispute Resolution Engagement (STI)

ACR, in coordination with the LOB/SO, will ensure that 70% of all managers agree to engage in mediation and that 35% of all EEO pre-complaint cases engage in the ADR process when the employee request mediation, to reduce the number of formal EEO complaints.

Core Initiative: Alternative Dispute Resolution (ADR) Engagement

ACR, in coordination with the LOB/SO, will ensure that 70% of all managers agree to engage in mediation when the complainant has requested mediation and that 35% of all EEO pre-complaint cases engage in the ADR process to reduce the number of formal EEO complaints.

Core Activity: Alternative Dispute Resolution (ADR)

ACR, in coordination with the LOB/SO, will ensure that 70% of all managers agree to mediation as a means to track management willingness to participate in the ADR process. Ensure that 35% of all EEO pre-complaint cases engage in the ADR process when the employee request mediation, to reduce the number of formal EEO complaints.

Activity Target 1:
Civil Rights Offices (ANM, ASW, ACT, and ASO) will manage the ADR process within the geographical service areas and the LOB/SOs will ensure that 70% of all managers agree to mediation as a means to track management willingness to participate in the ADR process. Due September 30, 2013

Activity Target 2:
Assist agency efforts with ADR engagement by ensuring that 35% of all EEO pre-complaint cases engage in the ADR process when the employee request mediation, to reduce the number of formal EEO complaints. Due September 30, 2013

Core Measure: Congressional Correspondence FAA Milestones

Per direction of the Secretary of Transportation, all Congressional letters sent directly to the FAA must be answered within 30 calendar days of entry into the FAA Correspondence Control Management System (CCMS). DOT Congressional letters assigned to the FAA for response must be returned back to the Secretary of Transportation within 5 business days. 90% of all Congressional letters sent directly to the FAA must be responded to within 10 business days.

Core Initiative: FAA Congressional Correspondence Response

Per direction of the Secretary of Transportation, all Congressional letters sent to DOT must be answered within 30 calendar days.

Core Activity: Response to Congressional Letters

Per direction of the Secretary of Transportation, all Congressional letters sent directly to the FAA must be answered within 30 calendar days of entry into the FAA Correspondence Control Management System (CCMS).

Activity Target 1:
Respond to 90% of assigned Congressional letters sent directly to the FAA within 30 calendar days of entry into CCMS. Due September 30, 2013

Core Measure: Manage EEO Training

Assist agency efforts to prevent discrimination by training 60% of management and 10% of employees on EEO responsibilities and appropriate behaviors; ensuring that all FAA employees complete the NO FEAR Training that is required by OPM; and providing training to 75% of all new Air Traffic Student hires.

Core Initiative: Prevent Discrimination through EEO Training

Assist agency efforts to prevent discrimination by training 60% of management and 10% of employees on EEO responsibilities and appropriate behaviors. Additionally, ACR will ensure that all FAA employees complete the NO FEAR Training that is required by OPM.

Core Activity: Prevent Discrimination through EEO Training

Assist agency efforts to create a FAA culture in which managers and employees each understand their role in creating and maintaining an inclusive workplace, by promoting diversity and equal employment opportunity, consistent with merit principles and applicable law.

Activity Target 1:
Ensure that employees complete the NO FEAR Training to meet the OPM requirement. Due November 23, 2012

Activity Target 2:
Promote and support agency's efforts to prevent discrimination by ensuring that 60% of management and 10% of employees attend EEO training. Due September 30, 2013

Core Measure: Small Business and Corporate Citizenship

Award at least 25% of the total direct procurement dollars to small businesses, thereby promoting small business development and good corporate citizenship

Core Initiative: Award Procurement Dollars

Award at least 25% of the total direct procurement dollars to small businesses, thereby promoting small business development and good corporate citizenship.

Core Activity: Awarding of procurement dollars.

Special emphasis on small, disadvantaged and women-owed, and service-disabled veteran-owned businesses.

Activity Target 1:
Participate in one outreach event or program. Due September 30, 2013

Activity Target 2:
Award at least 25% of ANG's procurement dollars to Small Businesses. Due September 30, 2013

Core Measure: EEO Action Committee

ACR in coordination with LOB/SOs will host a minimum of five (5) meetings to identify recommendations and strategies regarding EEO and diversity within the FAA Workplace.

Core Initiative: EEO Action Committee Meetings

ACR in coordination with LOB/SOs will host a minimum of five (5) meetings to identify recommendations and strategies regarding EEO and diversity within the FAA Workplace.

Core Activity: EEO Action Committee Meetings

Attend a minimum of five (5) EEO Action Committee Meetings held by ACR to identify recommendations and strategies regarding EEO and diversity within the FAA Workplace.

Activity Target 1:
Attend EEO Action Committee Meetings scheduled by ACR. Due September 30, 2013

Activity Target 2:
Present demographics profiles for ANG at the EEO Action Committee and discuss strategies for improving in areas with low participation. Due September 30, 2013

Activity Target 3:
Analyze ANG statistical demographic data and identify programs, recommendations, actions regarding EEO and diversity within the FAA workplace. Due September 30, 2013

Sustain our Future

NextGen supports Destination 2025 Sustain our Future initiatives by incorporating environmentally friendly goals and impacts into all of our activities. Through concept and requirements definitions, design and testing, prototyping and evaluation, we strive to reduce the impact of aviation on the environment, today and in the future.

Core Measure: Sustainability Performance

Facilitate improved FAA performance on the OST Leadership in Sustainability Scorecard through communication, coordination, guidance, and other activities with LOBs/SOs. Provide guidance and coordinate FAA efforts to plan, implement, and document agency energy and environmental management activities to address national mandates. Target = 80% of OST tasking is completed on time.

Core Initiative: Implement elements of the FAA Greening Initiative and other sustainability and adaptation plans

Facilitate improved FAA performance on the OST Leadership in Sustainability Scorecard through communication, coordination, guidance, and other activities with LOBs/SOs. Provide guidance and coordinate FAA efforts to plan, implement, and document agency energy and environmental management activities to address national mandates.

Core Activity: ACT support to implement elements of the FAA Greening Initiative

ACT support to implement elements of the FAA Greening Initiative - Jim Mills

Activity Target 1:
Provide AEE with ACT data for the FAA FY 2011 Annual Energy Management and Greenhouse Gas Report. Due October 31, 2012

Activity Target 2:
Provide AEE with ACT data for sustainability performance reporting requests (e.g., Sustainability Reg Review Scorecard, OMB Scorecards) on a quarterly basis, based on agreed upon schedule. Due September 30, 2013

Activity Target 3:
Make quantifiable progress in completing Energy Independence and Security Act (EISA) 432 required evaluations at ACT covered facilities, document results in the EISA 432 Compliance Tracking System (CTS), and provide AEE with supporting documentation. Due June 29, 2013

Activity Target 4:
Make quantifiable progress in installing building level advanced gas, electric, and water meters at buildings included in ACT's EISA 432 covered facilities and/or those targeted to meet the Guiding Principles for High Performance Sustainable Buildings, and report progress to AEE. Due September 30, 2013

Activity Target 5:
Support efforts to enter ACT data related to meeting the Guiding Principles for High Performance Sustainable Buildings into Energy Star Portfolio Manager. Due September 30, 2013

Core Measure: FAA Environmental Management System (EMS)

APL is leading the FAA in maintaining an effective Environmental Management System pursuant to Executive Orders 13423/13514 and developing the NextGen environmental framework. APL is providing technical direction, oversight and support to the FAA in meeting these EO and NextGen environmental goals. The FAA EMS Steering Committee is led by AEE and is composed of the appropriate LOB's and staff offices. AEE will provide support to LOBs and staff offices in meetings, targets, developing FAA-wide training, and coordinating EMS performance reporting.

Core Initiative: FAA Environmental Management Systems (EMS)

APL is leading the FAA in maintaining an effective Environmental Management System pursuant to Executive Orders 13423/13514 and developing the NextGen environmental framework. APL is providing technical direction, oversight and support to the FAA in meeting these EO and NextGen environmental goals. The FAA EMS Steering Committee is led by AEE and is composed of the appropriate LOB's and staff offices. AEE will provide support to LOBs and staff offices in meetings, targets, developing FAA-wide training, and coordinating EMS performance reporting.

Core Activity: Tech Center Support for EMS

The ATO is fully committed to conducting all operations and activities in a manner that is protective of the environment. In keeping with this commitment, ACT management and staff work continuously to integrate environmental considerations into operations, conserve energy and resources, and to avoid or minimize the use of environmentally detrimental materials. This commitment extends to all FAA Technical Center facilities and operations and is implemented through an ACT-wide Environmental Management System.

Activity Target 1:
Conduct registration EMS audit and management review and report status to AEE. Due June 30, 2013

Activity Target 2:
Work with AEE to identify Greening Initiatives and NextGen-related environmental objectives that can be integrated into Environmental Management Plans, as appropriate. Due August 31, 2013

Core Measure: Noise Exposure

The U. S. population exposed to significant aircraft noise around airports has been reduced to less than 300,000 persons.

Core Initiative: SSE SD Operational Assessments (G07M.02-02) (CIP#:G07M.02-02)

The transition to NextGen requires NAS operational assessments to ensure that safety, environmental, and system performance considerations are addressed throughout the integration and implementation of NextGen.

Relationship to Measure: The program supports the transition to NextGen by providing comprehensive assessment of its environmental performance in terms of NAS-wide fuel efficiency improvement. By 2018, this program element will enhance assessment capability that will enable quantitative assessment of NAS-wide operational fuel efficiency. This assessment will provide guidance for adaptations and improvements in mitigation options needed towards achieving any shortfall in the performance metric.

Core Activity: NextGen Performance Assessment

Assess the operational impact of NextGen technologies and procedures.

Activity Target 1:
Customized PDARS dataset created for PBN analysis (ATAC). Memo to be delivered to ANG-D2 by ANG-5 on completion. Due June 30, 2013

Activity Target 2:
NextGen 2012 Performance Assessment Report (MITRE). Due September 30, 2013

Core Activity: NextGen Business Case

Conduct an integrated cost and benefit analysis of NextGen programs.

Activity Target 1:
Collect and analyze studies from constituent program offices to provide a comprehensive view of NextGen costs and benefits. Due March 31, 2013

Core Activity: SSE SD Operational Assessments (G07M.02-02)

The transition to NextGen requires NAS operational assessments to ensure that safety, environmental, and system performance considerations are addressed throughout the integration and implementation of NextGen.

Activity Target 1:
Monitor and report monthly on established milestones in PLA. Due September 30, 2013

Core Measure: Emissions Exposure

Aviation emissions contribute 50 percent less to significant health impacts and are on a trajectory for carbon neutral growth using a 2005 baseline.

Core Initiative: Flexible Terminal Env - System Development - Env & Energy Env Mgmt Sys & Noise/Emission Reduction (G06M.02-01) (CIP#:G06M.02-01)

Growth in aviation operations will likely result in increases in aircraft noise, fuel burn, and emissions. Environmental impacts could restrict capacity growth and prevent full realization of mobility envisioned by NextGen. NextGen environmental goals are to reduce the system wide aviation environmental impacts in absolute terms notwithstanding the growth of aviation. Environmental impacts of aviation can be reduced through new operational procedures, aircraft technologies, alternative fuels, policies, environmental standards and market based options to allow the desired increase in capacity and efficiency. The environmental and energy development efforts under this program will lead to the assessment of solutions to reduce emissions, fuel burn, and noise associated with NextGen. This effort specifically focuses on research, simple demonstrations, and other methods to integrate these environmental impact mitigation and energy efficiency options with the NextGen infrastructure in a cost-beneficial and verifiable manner. It will also provide ways to adapt the NAS infrastructure to fully exploit the benefits of these environmental mitigation and energy efficiency options. By 2018, this program will provide information necessary to develop, implement, and manage NextGen system alternatives to meet NextGen capacity growth demand. There are two environmental projects under this program. Environment and Energy' Environmental Management System Solutions to achieve NextGen environmental goals must be based on the application of knowledge of human health and welfare impacts of aviation noise and emissions to determine appropriate means to mitigate these environmental effects. The Environmental Management System (EMS) will manage, mitigate and verify progress towards achieving the environmental goals in an iterative manner based on planning, implementing, measuring the effects of, and adjusting solutions that are based on well developed and demonstrated environmental impacts metrics. The EMS provides a strategic framework to coordinate and optimize NextGen solutions (e.g. operational procedures, aircraft technology, alternative fuels, and policy) for noise, fuel burn, and emissions reduction as well as provide stakeholders with guidance and tools needed to manage their critical environmental issues and ultimately enable the air traffic system to handle growth in demand. Development and implementation of EMS must coincide with development of other components that are part of the NextGen System Development - Environment and Energy and NextGen Environment and Energy Research and Development programs. The Environment and Energy' Environmental Management System program integrates acquired knowledge from the other environmental programs to develop and demonstrate the elements of a NextGen wide EMS. Environment and Energy' Advanced Noise and Emission Reduction effective and proven capabilities as well as NAS-wide implementation of mitigation solutions through advanced aircraft (both engine and airframe) technologies, alternative aviation fuels and improved environmental and energy efficient operational procedures are the key to reduce significant environmental impacts while improving the energy efficiency of the system. Policy options, environmental standards and market based measures also provide mitigations that help meet environmental and energy efficiency goals. This program will focus on assessing the impacts of mitigation actions on the NAS and provide guidance on potential NAS adaptations needed in order to maximally benefit from the mitigation actions. This program provides an interface between the CLEEN (Continuous Lower Energy, Emissions and Noise) aircraft and alternative fuel technologies program being pursued under the NextGen Environment and Energy Research and Development program to develop noise and emissions reduction options as well as increase fuel efficiency and the EMS which will manage the NextGen environmental goals.

Relationship to Measure: This program supports the FAA Destination 2025 goal for Sustaining Our Future with an outcome of the US aviation sector being a model for sustainable growth. Progress and success of this program will be measured against the performance metric to improve NAS-wide energy efficiency by at least 2% per year. This program supports accelerated maturation of CLEEN aircraft technologies through testing, demonstration and assessment. In addition, it focuses on exploration of energy efficient and environmentally favorable operational procedures. Both of these advances lead to improved energy efficiency

which will be managed and tracked via the Environmental Management System. This program accelerates securing qualification of commercial alternative fuels through testing and demonstration as well as analysis of aviation environmental standards on NAS-wide operational environmental performance.

Core Activity: Flexible Terminal Env - System Development - Env & Energy □ Env Mgmt Sys & Noise/Emission Reduction (G06M.02-01)

Growth in aviation operations will likely result in increases in aircraft noise, fuel burn, and emissions. Environmental impacts could restrict capacity growth and prevent full realization of mobility envisioned by NextGen. NextGen environmental goals are to reduce the system wide aviation environmental impacts in absolute terms notwithstanding the growth of aviation. Environmental impacts of aviation can be reduced through new operational procedures, aircraft technologies, alternative fuels, policies, environmental standards and market based options to allow the desired increase in capacity and efficiency. The environmental and energy development efforts under this program will lead to the assessment of solutions to reduce emissions, fuel burn, and noise associated with NextGen. This effort specifically focuses on research, simple demonstrations, and other methods to integrate these environmental impact mitigation and energy efficiency options with the NextGen infrastructure in a cost-beneficial and verifiable manner. It will also provide ways to adapt the NAS infrastructure to fully exploit the benefits of these environmental mitigation and energy efficiency options. By 2018, this program will provide information necessary to develop, implement, and manage NextGen system alternatives to meet NextGen capacity growth demand. There are two environmental projects under this program. Environment and Energy - Environmental Management System Solutions to achieve NextGen environmental goals must be based on the application of knowledge of human health and welfare impacts of aviation noise and emissions to determine appropriate means to mitigate these environmental effects. The Environmental Management System (EMS) will manage, mitigate and verify progress towards achieving the environmental goals in an iterative manner based on planning, implementing, measuring the effects of, and adjusting solutions that are based on well developed and demonstrated environmental impacts metrics. The EMS provides a strategic framework to coordinate and optimize NextGen solutions (e.g. operational procedures, aircraft technology, alternative fuels, and policy) for noise, fuel burn, and emissions reduction as well as provide stakeholders with guidance and tools needed to manage their critical environmental issues and ultimately enable the air traffic system to handle growth in demand. Development and implementation of EMS must coincide with development of other components that are part of the NextGen System Development - Environment and Energy and NextGen Environment and Energy Research and Development programs. The Environment and Energy - Environmental Management System program integrates acquired knowledge from the other environmental programs to develop and demonstrate the elements of a NextGen wide EMS. Environment and Energy - Advanced Noise and Emission Reduction Effective and proven capabilities as well as NAS-wide implementation of mitigation solutions through advanced aircraft (both engine and airframe) technologies, alternative aviation fuels and improved environmental and energy efficient operational procedures are the key to reduce significant environmental impacts while improving the energy efficiency of the system. Policy options, environmental standards and market based measures also provide mitigations that help meet environmental and energy efficiency goals. This program will focus on assessing the impacts of mitigation actions on the NAS and provide guidance on potential NAS adaptations needed in order to maximally benefit from the mitigation actions. This program provides an interface between the CLEEN (Continuous Lower Energy, Emissions and Noise) aircraft and alternative fuel technologies program being pursued under the NextGen Environment and Energy Research and Development program to develop noise and emissions reduction options as well as increase fuel efficiency and the EMS which will manage the NextGen environmental goals.

Activity Target 1:
Monitor and report monthly on established milestones. Due September 30, 2013