



**Federal Aviation  
Administration**

**NextGen**

**Fiscal Year 2011 Business Plan**





























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## Core Business Measure: Average Daily Capacity

Maintain an average daily capacity for core airports of 58,166, or higher, arrivals and departures.

### Core Business 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.

## Core Activity: System-Wide Analysis Capability Enhancement

Implement enhancements to the FAA's System-Wide Analysis Capability (SWAC) fast-time model

### Activity Target 1:

Implement delay absorption post-processing algorithm in SWAC, to realistically modify flight trajectories to include such maneuvers as vectors, holding patterns, and speed control. Due February 28, 2014

### Activity Target 2:

Implement take-off weight computation algorithm in SWAC. Due July 1, 2014

### Activity Target 3:

Implement Airline Operations Center (AOC) model in SWAC, to simulate airline decision-making such as cancellations and re-routing. Due August 1, 2014

## Core Business Initiative: System Wide Information Management (SWIM) - Segment 2, Common Support Services, Phase 1, 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. System Wide Information Management (SWIM) Segment 2, Common Support Services, Phase 1, will be the first instance in the first phase of a NAS Common Support Services capability to disseminate aviation weather (CSS-Wx) and aeronautical information in a network enabled and global environment. CSS-Wx 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. CSS-Wx 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.

**Core Activity: Monitor, System Wide Information Management (SWIM) - Segment 2, Common Support Svcs, Phase 1, Network Enabled Weather (NNEW), G05C.01-06**

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**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

**Core Business Initiative: Demonstrations & Infrastructure Development, G08M.01-01 (CIP#:G08M.01-01)**

To support implementation of NextGen, analysis is required, to demonstrate and validate the benefits of system improvements and to determine which research and development (R&D) initiatives might be accelerated. By examining proposed NextGen

technologies, procedures, equipment and automation in integrated test bed environments with targeted demonstrations, the early benefits of NextGen Operational Improvements (OIs) can be determined and risk areas that require additional work can be identified. Demonstrations are also used to prove concept feasibility and support both validation and fast-time modeling. Furthermore, demonstrations provide data to support business case and investment decisions tied to the decision points in the NAS architecture and promote industry involvement. Rigorous demonstrations will help to ensure the integration and interoperability of systems. Demonstrations can reveal the need for rulemaking, policy changes, and training. NextGen Demonstration and Infrastructure Development generally supports 4-5 projects a year. Demonstrations normally last about 24 - 30 months. When the demonstration project is completed, the results will be assessed to determine whether to proceed, and the demonstrated capabilities will be included in solution sets for further engineering and maturation.

During the FY 2013 to FY 2017 time frame, demonstration, development, and validation results can lead to implementation of early improvements in the NAS while supporting long-term operational objectives. The initial segment initiatives provide:

- \* Integrated demonstrations of new capabilities as described below.
- \* End-to-end domain demonstration activities (Takeoff to landing).
- \* Near-term activities necessary to refine and integrate solution set capabilities with emerging technologies and /or stakeholder NAS initiatives.
- \* Integration of current technology with transformational technology demonstrations to achieve NextGen operational objectives as early as possible.

**Core Activity: Aircraft Access to SWIM (AAtS), G08M.01-01**

Aircraft Access to SWIM - This research and demonstration project aims at proving the feasibility and capability of commercial data link and data management services providing SWIM-compliant data from FAA to pilots in the cockpit. The project addresses case scenarios for both Part 121 and Part 135 operations and assesses technological solutions.

**Activity Target 1:**

Conduct an operational flight demonstration of bi-directional information exchange between the cockpit, airline operations center and air traffic control to enhance collaborative decision making in the NAS. Due September 30, 2014

**Activity Target 2:**

Complete NextGen implementation guidance document (V3) to include bi-directional emphasis. Due July 30, 2014

## **Core Activity: Airborne Execution of Flow Strategies G08M.01-01**

Global Harmonization of Flight Information and Exchange Strategies - The purpose of this demonstration is to continue to validate the Flight Object concept and the use of the Flight Information eXchange Model (FIXM) standard. The demonstration will show how ANSPs and flight operators, in both the Pacific and Atlantic regions, can leverage the FIXM standard as a means for sharing common flight information elements.

### **Activity Target 1:**

Deliver Final Scenarios document for Phase 2 activities. Due December 31, 2013

### **Activity Target 2:**

Complete Concept of Operations. Due August 30, 2014

### **Activity Target 3:**

Complete Airborne Execution of Flow Strategies (AEFS) Functional Analysis report. Due September 30, 2014

## **Core Activity: Monitor, Demonstrations & Infrastructure Development, G08M.01-01**

To support implementation of NextGen, analysis is required, to demonstrate and validate the benefits of system improvements and to determine which research and development (R&D) initiatives might be accelerated. By examining proposed NextGen technologies, procedures, equipment and automation in integrated test bed environments with targeted demonstrations, the early benefits of NextGen Operational Improvements (OIs) can be determined and risk areas that require additional work can be identified. Demonstrations are also used to prove concept feasibility and support both validation and fast-time modeling. Furthermore, demonstrations provide data to support business case and investment decisions tied to the decision points in the NAS architecture and promote industry involvement. Rigorous demonstrations will help to ensure the integration and interoperability of systems. Demonstrations can reveal the need for rulemaking, policy changes, and training. NextGen Demonstration and Infrastructure Development generally supports 4-5 projects a year. Demonstrations normally last about 24 - 30 months. When the demonstration project is completed, the results will be assessed to determine whether to proceed, and the demonstrated capabilities will be included in solution sets for further engineering and maturation.

During the FY 2013 to FY 2017 time frame, demonstration, development, and validation results can lead to implementation of early improvements in the NAS while supporting long-term operational objectives. The initial segment initiatives provide:

\* Integrated demonstrations of new capabilities as

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\* End-to-end domain demonstration activities (Takeoff to landing).

\* Near-term activities necessary to refine and integrate solution set capabilities with emerging technologies and /or stakeholder NAS initiatives.

\* Integration of current technology with transformational technology demonstrations to achieve NextGen operational objectives as early as possible.

### **Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

## **Core Activity: Mini-Global Demonstration, G08M.01-01**

FY 2014-2018 demonstration activities are planned to show how to reduce 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. Airborne Access to SWIM and Airborne Execution of Flow Strategies 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 2014 and beyond.

### **Activity Target 1:**

Complete a Flight Object Recommendations Report Due September 30, 2014

### **Activity Target 2:**

Develop and Deliver Risk Mitigation Demonstration Report. Due September 30, 2014

## **Core Activity: Key STI METRIC: Demonstration and Infrastructure Development**

Conduct five demonstrations in collaboration between industry and the FAA to expedite emerging technology to validate Next Gen concepts, aircraft technology, and ground system requirements.

### **Activity Target 1:**

Conduct five demonstrations in collaboration between industry and the FAA to expedite emerging technology to validate Next Gen concepts, aircraft technology, and ground system requirements. Due September 30, 2014

## **Core Business Initiative: ATC/Tech Ops Human Factors, G01M.02-01 (CIP#:G01M.02-01)**

This program examines human factors for air traffic controllers and maintenance personnel relating to the implementation of NextGen procedures and technologies. A significant feature of this program is the annual review and updates of the Human System Integration (HSI) Roadmap to complement and reflect

changes in the other roadmaps in the Enterprise Architecture. The HSI Roadmap will display the roles and responsibilities of the actors in the NAS (air traffic controllers, pilots, dispatchers, traffic managers, etc.), their interactions with NextGen technologies, and the required changes to personnel selection, training, and required research and development activities in the human factors area that are needed to realize the NextGen vision.

**Core Activity: Implement Human Factors Guidance and Products, ATC/Tech Ops Human Factors, G01M.02-01**

The Human Factors (HF) division will collaborate with ATO Safety, ANG-B, ANG-D and other stakeholders to identify program needs and human performance areas of interest, resulting in a five year NextGen Human Systems Integration (HSI) Strategic Plan.

**Activity Target 1:**

Deliver Segment Bravo Human Hazard Assessment Report. Due July 30, 2014

**Activity Target 2:**

Deliver Human Systems Integration (HSI) Roadmap with Improved Integration with Other Roadmaps. Due January 31, 2014

**Activity Target 3:**

Deliver NextGen Human Systems Integration Strategic Plan. Due April 30, 2014

**Core Activity: Monitor, ATC/Tech Ops Human Factors, G01M.02-01**

The Human Factors (HF) division will collaborate with stakeholders to identify program needs and human performance areas of interest, resulting in a five year NextGen Human Systems Integration (HSI) Strategic Plan. The HSI Strategic Plan addresses specific objectives, goals, and performance metrics to support human performance improvements across NextGen systems. The HF Division will work with the stakeholders to coordinate activities, align schedules and tailor the HSI Roadmap. In FY14, the primary goal for the roadmap is increased integration with other roadmaps through decision points. To address Human Performance in Safety, the HF division will conduct a NextGen Segment Bravo Human Hazard Assessment to proactively identify potential human performance hazards. To address Human Performance in Engineering, the HF division will complete an assessment of NextGen Operational Improvement Human Performance impacts and benefits. To address Human Performance in Training, the HF Division will identify the NextGen Mid-Term Drivers that affect the Technical Operations community

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

**Core Activity: Air Traffic Control/Technical Operations Human Factors Guidance for Acquisition Management System**

Develop guidance material to integrate human factors with NextGen technology and procedures to ensure safety.

**Activity Target 1:**

Develop human factors guidance that the Advanced Concepts and Technology Development organization will use to assist service organizations when preparing service analysis outputs and products in compliance with Acquisition Management Policy. Due September 30, 2014

**Activity Target 2:**

Develop human factors guidance for systems engineers who assist service organizations in concepts and requirements definition activities in accordance with Acquisition Management Policy and the System Engineering Manual. Due September 30, 2014

**Core Business Initiative: Ops Concept Validation Modeling, G01M.02-03 (CIP#:G01M.02-03)**

The Operations Concept Validation Program addresses developing and validating future gate to gate (flight planning through arrival) operational concepts with special emphasis on researching changes in roles and responsibilities between the FAA and airspace users (e.g., pilots and airlines), as well as the role of the human versus systems, that will increase capacity and improve efficiency and throughput. It will identify procedures that can decrease workload and increase reliance on automation for routine tasking to increase efficiency of the NAS. This program works toward developing operational methods that will meet the NextGen goal of expanding capacity by satisfying future growth in demand as well as reducing transit time.

**Core Activity: Increase efficiency, Ops Concept Validation Modeling, G01M.02-03**

The Operations Concept Validation Program addresses developing and validating future gate to gate (flight planning through arrival) operational concepts with special emphasis on researching changes in roles and responsibilities between the FAA and airspace users (e.g., pilots and airlines), as well as the role of the human versus systems, that will increase capacity and improve efficiency and throughput. It will identify procedures that can decrease workload and increase reliance on automation for routine tasking to increase efficiency of the NAS. This program works toward developing operational methods that will meet the NextGen goal

of expanding capacity by satisfying future growth in demand as well as reducing transit time.

**Activity Target 1:**

Develop NextGen Trajectory Negotiation Concept of Operations. Due September 30, 2014

**Activity Target 2:**

Develop Concept of Operations for Datalink of Complex Performance Based Navigation (PBN) Clearances. Due September 30, 2014

**Activity Target 3:**

Deliver Unmanned Aircraft Systems (UAS) Functional Analysis/Operational Requirements Report. Due January 15, 2014

**Activity Target 4:**

Deliver Bayesian Belief Network (BBN) of NAS Model. Due July 9, 2014

**Activity Target 5:**

Deliver Space Vehicle Operations (SVO) Concept of Operations in the NAS. Due August 1, 2014

**Core Activity: Monitor, Ops Concept Validation Modeling, G01M.02-03**

The Operations Concept Validation Program addresses developing and validating future gate to gate (flight planning through arrival) operational concepts with special emphasis on researching changes in roles and responsibilities between the FAA and airspace users (e.g., pilots and airlines), as well as the role of the human versus systems, that will increase capacity and improve efficiency and throughput. It will identify procedures that can decrease workload and increase reliance on automation for routine tasking to increase efficiency of the NAS. This program works toward developing operational methods that will meet the NextGen goal of expanding capacity by satisfying future growth in demand as well as reducing transit time.

The research provides evaluation of operational changes for NextGen solution sets including: Trajectory Based Operations (TBO); High Density Arrivals/Departures and Airports; Flexible Terminal and Airports; Collaborative Air Traffic Management; and Networked Facilities.

**Activity Target 1:**

Monitor and report monthly on established milestones in the PLA. Due September 30, 2014

**Core Business Initiative: Separation Mgmt - Modern Procedures, G01A.01-01 (CIP#:G01A.01-01)**

Separation Management - Modern Procedures will develop en route automation enhancements to support planned NextGen operational improvements. Enhancements will be developed by evaluating operational needs, developing operational concepts, developing requirements documents, testing and

prototyping of proposed enhancements and developing acquisition documents to support a decision for implementation.

**Core Activity: Monitor, Separation Mgmt - Modern Procedures, G01A.01-01**

Enhancements to ATC automation will allow controllers to make fuller use of available airspace by identifying complications along the aircraft's planned flight path and facilitating modification of the current trajectory. TBO requires this capability to increase airspace capacity and provide more efficient routes and altitudes to accommodate demand

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

**Core Business Initiative: Trajectory Mgmt - Oceanic Tactical Trajectory Mgmt, G01A.02-02 (CIP#:G01A.02-02)**

The Oceanic Tactical Trajectory Management (OTTM) seeks to optimize oceanic trajectories in four dimensions (4D). Aircraft will transmit and receive precise data, including aircraft routes and the times the aircraft will cross key airspace points. OTTM has adopted specific initiatives that address both the pre-departure and in-flight phases of oceanic flight, as well as projects that promote information sharing between the FAA and airspace users.

**Core Activity: Oceanic Tactical Trajectory Mgmt - Increase system precision and enhance automation**

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.

**Activity Target 1:**

Complete initial system architecture alternatives for providing System Wide Information Management (SWIM) compliance connection (both software and hardware). Due June 16, 2014

**Activity Target 2:**

Develop prototype requirements for weather and Special Activity Airspace (SAA) data in oceanic area. Due August 25, 2014

### **Core Activity: Monitor, Trajectory Mgmt - Oceanic Tactical Trajectory Mgmt, G01A.02-02**

The Oceanic Tactical Trajectory Management program addresses ATC enhancements that improve fuel efficiency and schedule reliability in the oceanic environment. Separation in oceanic airspace is handled by controllers using display screens that show aircraft locations based on data link or voice reporting by the pilot. Air Traffic Control (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 the tools to optimize individual flight trajectories, but lack the big picture showing potential conflicting traffic. Initial efforts will be expanded to cover other oceanic areas, perform additional operational trials, refine longer-term objectives, develop new initiatives to investigate separation assurance systems using Automatic Dependent Surveillance (ADS) technology, and begin development activities for changes to Oceanic Airspace Management.

#### **Activity Target 1:**

Monitor and report monthly on established milestones in the PLA Due September 30, 2014

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

Reduce Weather Impact (RWI) is a planning and development portfolio to ensure NextGen operational weather capabilities utilize a broad range of weather improvements and technologies to mitigate the effects of weather in future NAS operations. This portfolio has two major elements: weather observation improvements and weather forecast improvements

#### **Core Activity: Monitor Provide FTSN demonstration report (G04W.02-01)**

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

#### **Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014 Due September 30, 2014

### **Core Activity: Provide analysis and engineering to improve weather observations and forecasts, (G04W.02-01)**

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

#### **Activity Target 1:**

Deliver Assessment of Key Stakeholders' Prioritization of Feasible Near-term Candidate Weather Observation Improvements. Due July 30, 2014

#### **Activity Target 2:**

Deliver a Technical and Operational Risk Assessment of the Near-term Weather Observation Improvement for delivery of an Automated Capability to Discriminate and Report the Occurrence and Intensity of Rain, Snow, Ice Pellets, Freezing Drizzle and Combinations thereof. Due September 30, 2014

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

The RWI Weather Forecast Improvements (WFI) program addresses the need to improve weather prediction and the use of weather information in the future NAS. National Weather Service (NWS) forecast models will be integrated into models that forecast weather impacts for aviation purposes. In today's NAS, traffic managers and users must mentally interpret weather conditions and the potential impact of weather on ATC decisions. RWI-WFI will improve the accuracy of aviation weather information and incorporate into collaborative and dynamic decision-making.

#### **Core Activity: Monitor, RWI - Weather Forecast Improvements, G04W.03-01**

The RWI Weather Forecast Improvements (WFI) addresses the need to improve weather prediction and the use of weather information in the future NAS. National Weather Service (NWS) forecast models will be integrated into models that forecast weather impacts for aviation purposes. In today's NAS, traffic managers and users must mentally interpret weather conditions and the potential impact of weather on ATC decisions. RWI-WFI will improve the accuracy of aviation weather information and

incorporate into collaborative and dynamic decision-making.

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

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

Reduce Weather Impact provides improved weather observations and forecasts and tailors weather data for integration into decision support tools for collaborative and dynamic NAS decision making. It enhances capacity by making fuller use of weather information for operational decision-making. This supports the optimal selection of aircraft routing and precise spacing for arriving and departing aircraft. The increased accuracy of forecasts and improved observations enables the capability to provide individual trajectory-based profiles, which optimize the usage of available airspace.

**Activity Target 1:**

Deliver report on updated 'no-weather' impact baseline for avoidable/unavoidable weather delays at all core airports. Due March 31, 2014

**Activity Target 2:**

Deliver status report on implementation of CWSU QMS oversight pursuant to ICAO requirements. Due September 30, 2014

**Activity Target 3:**

Deliver report on results for identifying/partitioning contributions to "avoidable delay" for two airports and two weather phenomena. Due September 30, 2014

**Activity Target 4:**

Deliver interim progress report on status and description of CWSU QMS implementation pursuant to ICAO requirement. Due May 31, 2014

**Core Business Initiative: Flow Control Mgmt - Strategic Flow Mgmt Application, G05A.01-01 (CIP#:G05A.01-01)**

Strategic Flow Management Integration (SFMI) (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. These improvements include automatic identification to controllers of aircraft affected by Traffic Flow Management (TFM) Traffic Management Initiatives (TMIs). It also enables traffic managers to electronically transmit reroutes from TFM automation to ERAM for delivery to the airline operations center/flight operations center (AOC/FOC), flight crew, and the relevant air traffic control (ATC) operational positions. These decision support tools (DST) will help

monitor how well aircraft are conforming to the TMI, and suggest controller actions to achieve the flow strategy.

**Core Activity: Monitor, Flow Control Mgmt - Strategic Flow Mgmt Application, G05A.01-01**

This program addresses the CATM performance objectives of increased capacity and flexibility. Increased capacity is achieved by the integration of strategic flow management with Trajectory-Based Operations (TBO) which provides a more structured traffic flow so that the capacity of a given airspace increases to meet demand. Flexibility is improved by more frequent use of dynamic reroutes which allows controllers and pilots to react to changing operational conditions. New rerouting concept provides controllers, pilots, and flight operators with more choices when negotiating dynamic reroutes for active aircraft.

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

**Core Business Initiative: Flow Control Mgmt - Strategic Flow Management Engineering, G05A.01-02 (CIP#:G05A.01-02)**

The Flow Control Management - Strategic Flow Management Enhancement (SFME) program develops promising concepts to address operational Traffic Flow Management (TFM) shortfalls. In addition, the SFME program prepares analysis and documentation for the developed concepts in order to achieve Final Investment Decision for implementation.

**Core Activity: Monitor, Flow Control Mgmt - Strategic Flow Management Engineering, G05A.01-02**

Implementation of the capabilities in CATMT WP4 (and future TFM enhancements) will provide traffic managers with the tools and information they need to implement better, more efficient traffic management initiatives (TMIs). More efficient TMIs translates to the improved usage of available NAS resource capacity.

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

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

The Common Status and Structure program will establish the requirements and information flows for the collection, management, and maintenance of aeronautical information in a digital format for machine

to machine exchange. The common data and information services and integration activities enable improved flight planning and pilot briefing services, increased on-demand NAS operational performance information and better airspace management using timely schedule information and a common awareness of special activity airspace (SAA) status across the NAS. This program enables the FAA to improve situational awareness through improved access to aeronautical information and a common language so that external (DoD, AOC/FOCs, GA pilots) and ANSP (users of NAS automation systems ingesting the aeronautical information feeds - e.g. TFMS) end users can make more informed decisions and plans based on the most current information available with regard to SAA, airport configuration, static constraints, and NOTAMS affecting the NAS to support NextGen capabilities

**Core Activity: Monitor, Flight & State Data Mgmt - Common Status & Structure Data, G05A.02-01**

The Common Status and Structure program provides the mission analysis and pre-implementation support for achieving NextGen goals of "Shared Situational Awareness" and "Trajectory Based Operations". The integration activities include provision of comprehensive flight planning and pilot briefing services, on-demand NAS operational performance information and integrated airspace management. This program enables the FAA to provide integrated lifecycle management of the aeronautical information necessary to support NextGen capabilities. Key elements of the Common Status and Structure program include:

- \* Capturing and maintaining digital information about flow constraints, traffic management initiatives and other status information affecting operations,
- \* Publishing aeronautical status information digitally using international standards,
- \* Providing value added services using aeronautical status information such as improved flight planning and briefing services, and
- \* Using the status information to improve operational performance metrics calculations and forecasting of airspace system performance.

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

**Core Activity: Provide the information, systems and tools necessary to implement comprehensive NAS safety and capacity management, (G05A.02-01)**

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.

**Activity Target 1:**

Complete the draft Aeronautical Information Management Modernization (AIMM) Segment 2 (S2) Screening Information Request (SIR). Due December 31, 2013

**Activity Target 2:**

Complete the draft Aeronautical Information Management Modernization (AIMM) Segment 2 (S2) Final Investment Deliverables. Due September 30, 2014

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

The project objective is to enhance Traffic Flow Management (TFM) capabilities by integrating NAS data (e.g., weather, aeronautical, etc) and improving flight planning. This activity is structured into two parts - Unified Flight Planning and Filing (UFPF) and NAS Common Reference (NCR).

**Core Activity: Monitor, Flight & State Data Mgmt - Advanced Methods, G05A.02-02**

The project objective is to enhance Traffic Flow Management (TFM) capabilities by integrating NAS data (e.g., weather, aeronautical, etc) and improving flight planning. This activity is structured into two parts - Unified Flight Planning and Filing (UFPF) and NAS Common Reference (NCR).

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

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

NAS systems currently operate as separate entities servicing different flight domains (Preflight, Airport, Terminal, Enroute, Oceanic). Similarly, International Air Navigation Service Providers (ANSPs) also operate as separate entities servicing their own airspace. Even though flight data may be found in multiple NAS systems, a unified, complete, accurate, up-to-date, and easily-accessible picture of any and all flights does not exist today. The primary goal of the Flight Object program is to develop an International data standard, "FIXM" (Flight Information Exchange Model) and to support systems implementation of this data standard. This data standard will support the exchange of flight information between systems across

multiple domains (including both NAS and International systems).

**Core Activity: Monitor, Flight & State Data Mgmt - Flight Object, G05A.02-03**

NAS systems currently operate as separate entities servicing different flight domains. Similarly, International Air Navigation Service Providers (ANSPs) also operate as separate entities servicing their own airspaces. Whereas a flight may "exist" across the NAS and be found in NAS systems, a unified, complete, accurate, up-to-date, and easily-accessible picture of any and all flights does not exist today. The goal of the Flight Object program is to develop an International data standard, "FIXM" (Flight Information Exchange Model). This data standard will support the exchange of flight information between systems across multiple domains (including both NAS and International). The use of standardized flight data will increase data quality and availability between stakeholders, enabling operational benefits such as increased coordination, common situational awareness, and collaborative decision-making across all phases of flight, thereby improving planning, decision making, and NAS capacity. Additionally, as new technologies emerge and drive solution development, the use of FIXM will improve system-to-system interoperability and can alleviate integration challenges between legacy and future systems, reducing engineering and deployment costs.

The Flight Object is intended to be the standard medium for capturing and sharing the most up-to-date information on any flight, and will serve as the single common reference for all system information about that flight. A Flight Object will be created for each proposed flight, and the Flight Object information will be updated throughout the entire lifecycle as the flight progresses from gate to gate. The Flight Object will collect, manage and provide flight-specific data, such as aircraft identification, aircraft parameters, current flight plan information, operator preferences, flight capabilities, and security information. The Flight Object will not include environment or weather information, since these are system-wide elements that affect multiple flights. The total information contained in the Flight Object will be much richer than today's flight data construct. To support development of the FIXM standard, additional work efforts of the Flight Object program will include engineering for creation of the following artifacts: Flight Object Data Dictionary, data models and XML schema, engineering analysis reports, requirements documents, and AMS (Acquisition Management System) documents. Demonstrations will also be conducted to permit engineering evaluations of Flight Object in a laboratory environment. To facilitate these work efforts, continuous collaboration will occur with FAA stakeholders, International partners, and industry,

via multiple forums including the Flight Object Working Group (FOWG), International FIXM Forum, and FIXM conferences.

**Activity Target 1:**

Monitor and report monthly on established PLA milestones. Due September 30, 2014

**Core Activity: Engineering and planning of Flight Operations Management System (FOMS), G05A.02-03**

Use of Flight Information Exchange Model (FIXM) will provide a unified, complete, accurate, up-to-date, and easily-accessible picture of any and all flights. This use of standardized flight data will increase data quality and availability between stakeholders, enabling operational benefits such as increased coordination, common situational awareness, and collaborative decision-making across all phases of flight, thereby improving planning, decision making, and NAS capacity. Additionally, as new technologies emerge and drive solution development, the use of FIXM will improve system-to-system interoperability and can alleviate integration challenges between legacy and future systems, thereby reducing engineering and deployment costs

**Activity Target 1:**

Deliver the Flight Information Service (FIS) Software Development Kit (SDK) and FIS Engineering. Due September 30, 2014

**Activity Target 2:**

Support engineering and investment analysis in support of the utilization of the Flight Information Service (FIS) by the Tower Flight Data Manager program. Due September 30, 2014

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

Collaborative Information Management (CIM) is an information sharing capability that promotes inter-agency communication and collaboration through the use of modern network enabled tools, technologies, and operational procedures for terminal or en-route; envisioned to provide the stakeholders with the connectivity and interoperability necessary to rapidly and dynamically share information. Currently, flight data for Unmanned Aircraft Systems (UAS) during both normal and abnormal flight conditions is not readily available for Air Traffic Control (ATC). CIM aims to improve information flows to Air Traffic Control and assess the improvement provided to the controller. Utilizing enhanced flight data such as aircraft intent and trajectories, as well as advanced airspace coordination concepts, CIM will analyze controller workload and ease of coordination in both normal and abnormal UAS flight conditions.

**Core Activity: Monitor, Collaborative Information Management (CIM), G05M.02-01 (14C.24Y)**

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.

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014 Due September 30, 2014

**Core Activity: Collaborative Information Management (CIM) - Enhance Communication, G05M.02-01**

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.

**Activity Target 1:**

Report on validation of requirements of SOA-to-SOA interchange for interagency network and information exchange. Agencies such as DoD and DHS have SOA environment, this work will explore the requirements to connect and exchange information. Due September 30, 2014

**Core Business Initiative: System Development - Information Management, G05M.03-01 (CIP#:G05M.03-01)**

The Information Management Program addresses issues that arise when an agency moves from managing and sharing information in a legacy environment which is controlled through a physical connection into a network environment which only requires a simple subscription. Recent experience in sharing surface data information with users in the new service-oriented architecture approach using the FAA's FTI network capability highlighted the need to move from data sharing to full information management. This includes allocating information service by type and amount needed based on a business case analysis, establishing performance requirements for the delivery of the information and monitoring performance, establishing common protocols and standards across classes of information, and establishing the governance of how and when the information is provided. Information management is necessary to ensure the efficient use of FTI and SWIM as conduits of information.

The research on Information Management will identify the shortfalls in moving from data sharing to a network environment including: governance and evaluation techniques, criteria for managing standards, and performance monitoring techniques and policies to ensure compliance. After this analysis is complete, the activities will shift to development and implementation of the required capabilities and governance.

**Core Activity: Concept of Use Document, System Development - Information Management, G05M.03-01**

The Information Management Program addresses issues that arise when an agency moves from managing and sharing information in a legacy environment which is controlled through a physical connection into a network environment which only requires a simple subscription. Recent experience in sharing surface data information with users in the new service-oriented architecture approach using the FAA's FTI network capability highlighted the need to move from data sharing to full information management. This includes allocating information service by type and amount needed based on a business case analysis, establishing performance requirements for the delivery of the information and monitoring performance, establishing common protocols and standards across classes of information, and establishing the governance of how and when the information is provided. Information management is necessary to ensure the efficient use of FTI and SWIM as conduits of information. The research on Information Management will identify the shortfalls in moving from data sharing to a network environment including: governance and evaluation techniques, criteria for managing standards, and performance monitoring techniques and policies to ensure compliance. After this analysis is complete, the activities will shift to development and implementation of the required capabilities and governance.

**Activity Target 1:**

Information Management/NAS Enterprise Repository - Shortfalls Analysis. Complete assessment of NAS data, users, and current repository capabilities to identify gaps and needs. Due May 31, 2014

**Activity Target 2:**

Information Management/NAS Enterprise Repository - ConOps. Complete Concept of Operations document that will detail use case actors, scenarios, stakeholders, preconditions, post-conditions, flows of activities, and exception conditions identified for each use case. Due July 31, 2014

**Activity Target 3:**

Information Management/NAS Enterprise Repository - Governance.

Develop Governance document that detail a governance model for managing information and provide a framework for the access, processing, and delivery of data to its intended users. Due September 30, 2014

### **Core Activity: Monitor, System Development - Information Management, G05M.03-01**

The Information Management Program addresses issues that arise when an agency moves from managing and sharing information in a legacy environment which is controlled through a physical connection into a network environment which only requires a simple subscription. Recent experience in sharing surface data information with users in the new service-oriented architecture approach using the FAA's FTI network capability highlighted the need to move from data sharing to full information management. This includes allocating information service by type and amount needed based on a business case analysis, establishing performance requirements for the delivery of the information and monitoring performance, establishing common protocols and standards across classes of information, and establishing the governance of how and when the information is provided. Information management is necessary to ensure the efficient use of FTI and SWIM as conduits of information. The research on Information Management will identify the shortfalls in moving from data sharing to a network environment including: governance and evaluation techniques, criteria for managing standards, and performance monitoring techniques and policies to ensure compliance. After this analysis is complete, the activities will shift to development and implementation of the required capabilities and governance.

#### **Activity Target 1:**

Monitor and report on established milestones in PLA Due September 30, 2014

### **Core Business Initiative: Separation Mgmt - Approaches, Ground Based Augmentation System, G06N.01-01 (CIP#:G06N.01-01)**

The Ground Based Augmentation System (GBAS) augments the current Global Positioning System (GPS) service for terminal non-precision, and precision approaches in the NAS. GBAS is a cost effective alternative to ILS for Category II/III operations because a single facility can serve an entire airport versus multiple ILS facilities (one at each runway end). GBAS will eliminate the need to install ILS localizers, however approach lighting systems are required. The GBAS determines a correction to the GPS signal and that correction is transmitted for use by aircraft instrumentation to ensure the accuracy necessary for guidance to a runway end during limited visibility

conditions.

GBAS is a component of the FAA plan to transition from a ground-based navigation and landing system to a satellite-based navigation system. The strategy to achieve this capability is to initially develop and approve a single-frequency GBAS to provide Category I service and improve this architecture to provide Category II/III service. The FAA will not deploy Category I GBAS based on cost-benefit analysis as well as duplication of capabilities provided by WAAS but plans to deploy Category II/III GBAS at qualifying locations. The development efforts for GBAS to provide guidance for Category III approach and landing operations will be known as GBAS Approach Service Type D (GAST-D). Honeywell International proceeded with a non-federal GBAS development following the FAA decision, and submitted its Category I SLS-4000 GBAS station to the FAA for System Design Approval (SDA). The system was granted FAA approval in September 2009 and may be implemented by airport authorities based on their customer requests.

The Port Authority of New York and New Jersey (PANYNJ) purchased the first SLS-4000 unit for use in the United States. Service approval and initial operations of the GBAS station, installed at Newark (EWR), continues to be delayed due to excessive Radio Frequency Interference (RFI) in the GPS band at this location. The FAA is working cooperatively with the PANYNJ to address this issue. The FAA is also working cooperatively on a second SLS-4000 installation is planned for Houston (HOU) to support Continental/United Airlines efforts for Newark-Houston city pair operations. Boeing installed an additional SLS-4000 at Moses Lake Airport (MWH) in Washington for its flight validation efforts. The Department of Defense also plans to implement GBAS - Technology in their Joint Precision Approach and Landing System (JPALS) program. Civil interoperability is a "Key Performance Parameter" to this DoD system. Funding and implementation of the JPALS system will be primarily dependent on moving forward with the FAA's GBAS program.

### **Core Activity: Complete Prototype GBAS Approach Service Type D (GAST-D). Separation Mgmt - Approaches, Ground Based Augmentation System, G06N.01-01**

The Ground Based Augmentation System (GBAS) augments the current Global Positioning System (GPS) service for terminal non-precision, and precision approaches in the NAS. The GBAS determines a correction to the GPS signal and that correction is transmitted for use by aircraft instrumentation to ensure the accuracy necessary for guidance to a runway end during limited visibility conditions. GBAS is a cost effective alternative to ILS for Category II/III operations because a single facility can serve an entire airport versus multiple ILS facilities (one at each runway end). GBAS will

eliminate the need to install ILS equipment, however approach lighting systems are required. GBAS is a component of the FAA plan to transition from a ground-based navigation and landing system to a satellite-based navigation system. The strategy to achieve this capability is to initially develop and approve a single-frequency GBAS to provide Category I service and improve this architecture to provide Category II/III service. The development efforts for GBAS to provide guidance for Category III approach and landing operations will be known as GBAS Approach Service Type D (GAS-D). The FAA is not deploying Category I GBAS based on cost benefit analysis as well as duplication of capabilities provided by ILS and WAAS. Honeywell International proceeded with a non-federal GBAS development following the FAA decision, and submitted its Category I SLS-4000 GBAS station to the FAA for System Design Approval (SDA). The system was granted FAA approval in September 2012. The Port Authority of New York and New Jersey (PANYNJ) operate a public use GBAS at Newark Airport in New Jersey and the Houston Airport System (HAS) operate a public use GBAS in Houston, Texas. Boeing operates a private GBAS at Moses Lake Airport (MWH) in Washington for its flight validation efforts. An FAA-owned GBAS (SLS-4000) installed in Atlantic City International Airport (ACY) will continue to be used as an interim platform to validate Category III requirements under this project. This program will support activities necessary to complete the required integrity reviews and produce documentation describing the results. Also, the program will conduct specialized a research and development activities to address GPS degradation due to radio frequency interference (RFI) issues that were identified in the implementation of a non-FED LAAS (GBAS CAT III systems predecessor) in addition the program will identify and address GBAS development risk, refine system and ground station requirements, and investigate potential alternative architecture opportunities to provide future GNSS Category II/III services. The program will also work with the international community to identify standards for alternative systems using dual frequency and multi-constellation implementation options.

#### **Activity Target 1:**

Complete FAA prototype work and test report to support validation of compliance with the International Civil Aviation Organization (ICAO) Standards and Recommended Practices (SARPS) for the GBAS Category III system. Due September 30, 2014

### **Core Activity: Manage, Separation Mgmt - Approaches, Ground Based Augmentation System, G06N.01-01**

The Ground Based Augmentation System (GBAS) augments the current Global Positioning System

(GPS) service for terminal non-precision, and precision approaches in the NAS. GBAS is a cost effective alternative to ILS for Category II/III operations because a single facility can serve an entire airport versus multiple ILS facilities (one at each runway end). GBAS will eliminate the need to install ILS localizers, however approach lighting systems are required. The GBAS determines a correction to the GPS signal and that correction is transmitted for use by aircraft instrumentation to ensure the accuracy necessary for guidance to a runway end during limited visibility conditions. GBAS is a component of the FAA plan to transition from a ground-based navigation and landing system to a satellite-based navigation system. The strategy to achieve this capability is to initially develop and approve a single-frequency GBAS to provide Category I service and improve this architecture to provide Category II/III service. The FAA will not deploy Category I GBAS based on cost-benefit analysis as well as duplication of capabilities provided by WAAS but plans to deploy Category II/III GBAS at qualifying locations. The development efforts for GBAS to provide guidance for Category III approach and landing operations will be known as GBAS Approach Service Type D (GAST-D). Honeywell International proceeded with a non-federal GBAS development following the FAA decision, and submitted its Category I SLS-4000 GBAS station to the FAA for System Design Approval (SDA). The system was granted FAA approval in September 2009 and may be implemented by airport authorities based on their customer requests.

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#### **Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

## **Core Business Initiative: Separation Mgmt - Approaches, NextGen Navigation Initiatives, G06N.01-03 (CIP#:G06N.01-03)**

This program supports NextGen goals related to increasing capacity during Instrument Meteorological Conditions (IMC). It is laying the foundation to increase and improve use of area Navigation (RNAV) using Distance Measuring Equipment (DME) in the terminal domain, and improving situational awareness on the airport surface, especially during low visibility. The two main program elements address each of these areas.

### **Core Activity: Monitor, Separation Mgmt - Approaches, NextGen Navigation Initiatives, G06N.01-03**

This program supports NextGen goals related to increasing capacity during Instrument Meteorological Conditions (IMC). It is laying the foundation to increase and improve use of area Navigation (RNAV) using Distance Measuring Equipment (DME) in the terminal domain, and improving situational awareness on the airport surface, especially during low visibility. The two main program elements address each of these areas.

#### **Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

## **Core Business Initiative: Trajectory Mgmt - Time Based Flow Management (TBFM) - Work Package 2, G02A.01-03 (CIP#:G02A.01-03)**

"Traffic Management Advisor (TMA) is a vital part of the NAS and enhances air traffic operations, by reducing delays and increasing efficiency of airline operations. Currently, TMA is in daily use throughout the NAS. TMA is the only decision support tool that can support time-based metering. TMA has been field-tested over the past 10 plus years and is installed in the 20 Air Route Traffic Control Centers (ARTCC) with supporting equipment in most of the major airports served by those centers.

Time Based Flow Management (TBFM) is an evolution of the Traffic Management Advisor (TMA) Program. TBFM uses Time Based Metering (TBM) software to optimize the capacity in the NAS. TBFM determines specific time of arrival for waypoints in an aircraft's route and allows more precision in aircraft separation. TBFM will improve upon TMA and address Portfolios within the NextGen Implementation Plan.

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. The design, development and deployment of these concepts will be occurring during the 2010-2015 timeframe. These enhancements support the current NextGen Operational Initiatives. Initiatives include:

- Current Tactical Management of Flow in the En Route domain for Arrivals/Departures (NextGen Operational Improvement 104115)
- TMA displays are used for organizing traffic flows for tactical flow management of transition from en route to terminal airspace,
- Integrated Arrival/Departure Airspace Management (NextGen Operational Improvement 104122)
- Integrating and automating the departure capability with the TMA system (IDAC),
- Point-in-Space Metering (NextGen Operational Improvement 104120)
- Extended Metering
- Adding additional meter points for more efficient Time Based Metering, and
- Time-Based Metering Using Area Navigation (RNAV)/Required Navigation Performance (RNP) Route Assignments (NextGen Operational Improvement 104123)
- Automating the use of RNAV procedures in the Terminal environment for a more efficient modeling of an aircraft's trajectory.

TBFM WP2 will develop and deliver programs for other operational needs such as flexible scheduling that will take advantage of the partial slots that currently causes a loss of efficiency in capacity constrained areas. Also the system will be re-architected to reduce the space requirements of the TMA system. The system currently consists of two monitors, two keyboards and two mice requiring a significant amount of space which may not be available at all needed airports. The reduction will help to continue the expansion of the TMA system to other airports and the expansion of Time Based Metering.

TBFM will be deployed to 5 new sites (Teterboro (TEB), HPN, White Plains NJ, Cleveland-Hopkins (CLE), Ronald Reagan Washington National (DCA) and Baltimore/Washington International (BWI)) and 5 Adjacent Center Metering Sites (Washington Dulles International (IAD), Los Angeles International (LAX), San Diego International (SAN), Hartsfield-Jackson Atlanta International (ATL) and San Francisco International (SFO)).

TBFM Tech Refresh will replace the aged equipment that was deployed in 2012 with new modern equipment in the FY 2016-2017 time frame. This equipment will begin to reach its end of life/end of maintenance by 2017. The TBFM program office, starting in the FY 2015 time frame, will begin the acquisition management process to reach a Final Investment Decision to replace this hardware."

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

TBFM will expand time based metering solutions across additional phases of flight. This will increase daily airport capacity and improve flight efficiency by reducing last minute maneuvering of aircraft as they approach their destination airport. This will also improve controller efficiency in organizing the arrival stream for maximum use of that airport capacity. TMA has provided an average of 3-5% increase in throughput at the airports where it is installed.

**Activity Target 1:**

Monitor and report monthly on established milestones. Due September 30, 2014

**Core Business Initiative: Trajectory Based Operations - Separation Mgmt - En Route Automation Modernization (ERAM) DPosition (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. 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 programs'

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

**Core Activity: Monitor, Trajectory Based Operations - Separation Mgmt - En Route Automation Modernization (ERAM) DPosition (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.

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

**Core Business Initiative: Flexible Terminal Environment - Terminal Flight Data Manager (TFDM), G06A.03-01 (CIP#:G06A.03-01)**

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.

**Core Activity: Monitor, Flexible Terminal Environment - Terminal Flight Data Manager (TFDM), G06A.03-01**

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.

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

**Core Business Initiative: Colorado Wide Area Multilateration (WAM), G08M.03-01 (CIP#:G08M.03-01)**

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.

**Core Activity: Monitor, Colorado Wide Area Multilateration (WAM), G08M.03-01**

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 in PLA. Due September 30, 2014

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

The Data Communications program will provide data communications between air traffic control facilities and aircraft, and is the primary enabler for NextGen operational improvements. Data Communications will improve NAS operations by:  
Automating delivery of routine clearances to reduce controller workload and improve productivity,  
Allowing more effective use of NAS capacity and reducing flight delay because existing controller staffing will be able to handle increased traffic,  
Reducing operational errors associated with voice communications to enhance safety, and;  
Enabling many of the NextGen operational improvements that require negotiation or exchange of information that cannot be efficiently delivered via voice.

**Core Activity: Monitor, Data Communications - Segment 1 Phase 1 (G01C.01-05)**

The Data Communications program will provide data communications between air traffic control facilities and aircraft, and is the primary enabler for NextGen operational improvements. Data Communications will improve NAS operations by:  
Automating delivery of routine clearances to reduce controller workload and improve productivity,  
Allowing more effective use of NAS capacity and reducing flight delay because existing controller

staffing will be able to handle increased traffic, Reducing operational errors associated with voice communications to enhance safety, and; Enabling many of the NextGen operational improvements that require negotiation or exchange of information that cannot be efficiently delivered via voice.

**Activity Target 1:**

Monitor and report monthly on established PLA milestones. Due September 30, 2014

**Core Business Initiative: Data Communications - Segment 1 Phase 2 (G01C.01-06) (CIP#:G01C.01-06)**

The Data Communications program will provide data communications between air traffic control facilities and aircraft, and is the primary enabler for NextGen operational improvements. Data Communications will improve NAS operations by:

Automating delivery of routine clearances to reduce controller workload and improve productivity, Allowing more effective use of NAS capacity and reducing flight delay because existing controller staffing will be able to handle increased traffic, Reducing operational errors associated with voice communications to enhance safety, and; Enabling many of the NextGen operational improvements that require negotiation or exchange of information that cannot be efficiently delivered via voice

**Core Activity: Monitor, Data Communications - Segment 1 Phase 2 (G01C.01-06)**

The Data Communications program will provide data communications between air traffic control facilities and aircraft, and is the primary enabler for NextGen operational improvements. Data Communications will improve NAS operations by:

Automating delivery of routine clearances to reduce controller workload and improve productivity, Allowing more effective use of NAS capacity and reducing flight delay because existing controller staffing will be able to handle increased traffic, Reducing operational errors associated with voice communications to enhance safety, and; Enabling many of the NextGen operational improvements that require negotiation or exchange of information that cannot be efficiently delivered via voice

**Activity Target 1:**

Monitor and report monthly on established PLA milestones. Due September 30, 2014

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

The New ATM Requirements Program identifies new opportunities to improve the efficiency and effectiveness of air traffic management. It supports the NextGen goal of expanding capacity by developing decision support tools that improve the strategic management of operations in the NAS. New ATM requirements will explore the following areas for opportunities

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

The analysis and demonstration projects support the development of operational improvements that will increase the number of arrivals and departures at major airports

**Activity Target 1:**

Monitor and report monthly on established milestones. Due September 30, 2014

**Core Activity: New Radar Requirements, (G01M.02-02)**

The analysis and demonstration projects support the development of operational improvements that will increase the number of arrivals and departures at major airports

**Activity Target 1:**

Complete update to the Multi-function Phased Array Radar (MPAR) Rough Order Magnitude (ROM) Cost Estimate. Due August 31, 2014

**Activity Target 2:**

Deliver updated Multi-function Phased Array Radar (MPAR) functional analysis to AJV-7 for approval. Due September 30, 2014

**Activity Target 3:**

Deliver updated Multi-function Phased Array Radar (MPAR) Concept of Operations to AJV-7 for approval. Due June 30, 2014

**Core Activity: Trajectory Modeling, (G01M.02-02)**

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

**Activity Target 1:**

Finalize documentation of data elements needed to support trajectory modeling Due September 30, 2014

**Activity Target 2:**

Develop standard of use document for different classes of trajectories Due September 30, 2014

**Core Activity: Weather Transition, (G01M.02-02)**

The analysis and demonstration projects support the development of operational improvements that will increase the number of arrivals and departures at major airports

**Activity Target 1:**

Complete a report on Weather Service Analysis on TRACON Wind Compression. Due September 30, 2014

**Activity Target 2:**

Develop Validated Performance Requirements Methodology for Weather Information to be allocated to FAA and National Weather Services (NWS) Platforms. Due February 28, 2014

## **Core Business Initiative: Wake Turbulence Enhance of Arrival and Departure Rates (111-130)**

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, and processes.

**Activity Target 1:**

Develop addendum to 7110.308 SRMD to address effects of Wake Re-cat Phase I separations. Due September 30, 2014

**Activity Target 2:**

Develop initial comparative wake analysis of Airbus A320 NEO with similar size aircraft. Due September 30, 2014

## **Core Business 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 include error detection and automation, instrument procedures design and use, ADS-B applications, air carrier training, data communications, and advanced vision technologies for low visibility operations.

**Activity Target 1:**

Develop FY2014 NextGen Flight Deck Human Factors R&D Plan in coordination with NextGen Lifecycle Integration Office (ANG-D) and sponsor (AVS). Due April 30, 2014

## **Core Business Initiative: Facility System Development - Staffed NextGen Towers (SNT), 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 case ATC services at a staffed terminal facility are interrupted for a limited time.

### **Core Activity: Monitor, Facility System Development - Staffed NextGen Towers (SNT), G03M.04-01**

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#### **Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

## **Core Business Measure: Adverse Weather Efficiency (ATO Core Work)**

Improve efficiency at core airports during adverse weather. FY14 Target: Quarterly reports to the ATO Officers Group and FAA Performance Subcommittee on progress and next steps.

### **Core Business Initiative: Weather Forecast Improvements - NextGen Weather Processors (G04W.03-02) (CIP#:G04W.03-02)**

The goal of the NextGen Weather Processor (NWP) program is to establish a common weather processing platform that will functionally replace three of the legacy FAA weather processor systems and host new capabilities. As an input, NWP will use information from the FAA and National Oceanic and Atmospheric Administration (NOAA) radar and sensors and NOAA forecast models. NWP will use sophisticated algorithms to create aviation-specific current and predicted weather information that will not require meteorological interpretation. NWP will create value-added weather information for publishing via Common Support Services-Weather (CSS-Wx). It will perform Weather Translation, which will enable the use of weather information by automated decision-support tools (DST). NWP will also provide aviation safety related windshear, microburst, gust fronts, storm motion and speed products. Altogether, these features will aid in reducing the rising operations and maintenance costs by consolidating the following systems over its lifecycle:

- Corridor Integrated Weather System (CIWS): Provides 0 - 2 hour aviation forecast information to the Traffic Flow Management System (TFMS),
- Weather and Radar Processor (WARP): Provides weather radar information to en route air traffic controllers, and
- Integrated Terminal Weather System (ITWS): Provides weather radar information to terminal air traffic controllers.

Future activities will provide improved aviation weather information and tailored weather data for integration into decision support tools and processes for collaborative and dynamic NAS decision making. This will enhance capacity by making fuller use of weather information for operational decision-making. This supports the optimal selection of aircraft routing and precise spacing for arriving and departing aircraft. The increased accuracy of forecasts and improved observations enables the capability to provide individual trajectory-based profiles, which optimize the usage of available airspace. Delays in the NAS are primarily attributable to weather. Over the last five-year period, over 70% of delays of 15 minutes or more, on average, were caused by weather, based on Aviation System Performance Metrics and Operations Network data. Initial estimates of airline and passenger cost savings (including fuel costs, downstream connection delays for passengers, etc.) attributed to these advanced en route weather applications exceed \$290M per year.

### **Core Activity: Monitor, Weather Forecast Improvements - NextGen Weather Processors (G04W.03-02)**

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**Activity Target 1:**

Monitor and report monthly on established PLA milestones Due September 30, 2014

**Core Business Measure:  
NextGen Critical Decisions**

Identify key NextGen milestones by mid-March 2014 after NSIP ratification (anticipated NSIP ratification is February 2014) and meet 90% of these milestones by 09/30/2014

**Core Business Initiative: William J. Hughes Technical Center Office (CTG710000) (CIP#:X01.00-00)**

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

**Core Activity: Effective Executive Leadership**

Provide executive leadership to oversee NextGen operations. Executes the mission of the FAA and NextGen organization 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 monitoring of programmatic targets to ensure that activities are on schedule and meet ninety-five (95%) of the targeted goals. Due September 30, 2014

**Activity Target 2:**

Develop and report on a quarterly basis to both internal FAA and external constituents, FAA Research Program milestones and accomplishments. Due September 30, 2014

**Activity Target 3:**

Provide Monthly status updates on ANG-E Business Plan. Due September 30, 2014

**Core Activity: NextGen Pathways Student Internship Program**

The NextGen Pathways Student Internship Program serves as one of the agencies' succession planning programs intended to assist in the need for leadership continuity by employing outstanding students that are enrolled in a major that leads to a degree in Science, Technology, Engineering and math (S.T.E.M). The program provides students, in accredited colleges and universities, with paid opportunities to explore Federal Careers while completing their education.

**Activity Target 1:**

To recruit a minimum of 10 new students into the NextGen Pathways Student Internship Program Due August 31, 2014

**Activity Target 2:**

To convert 30% of the program participants to full-time permanent employees, without further competition, after successful completion of the program. Due July 31, 2014

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

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

**Activity Target 1:**

Assure the ninety percent (90%) of the William J. Hughes Technical Center's T&E products associated with the T&E Handbook receive independent review. Due September 30, 2014

**Activity Target 2:**

Conduct the annual V&V Summit. Due September 30, 2014

**Core Business Initiative: Assistant Administrator for NextGen (WA9Z10000) (CIP#:X01.00-00)**

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

### **Core Activity: Effective Executive Leadership**

Provide executive leadership to oversee NextGen operations. Executes the mission of the FAA and NextGen organization 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 monitoring of programmatic targets to ensure that activities are on schedule and meet ninety-five (95%) of the targeted goals. Due September 30, 2014

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

Enable performance of ANG's mission by providing effective and integrated human capital, procurement, information resources, program planning, budget formulation and execution management services.

### **Core Activity: Operational Efficiency and Effectiveness**

Implement process improvement and best practices to enhance ANG information management and service delivery

#### **Activity Target 1:**

Implement the ANG master file plan and assist each ANG directorate to create and finalize their official file plan, including identifying all ANG vital records. Due February 28, 2014

#### **Activity Target 2:**

Establish online systems/tool for submitting and tracking service requests of ANG-A3 from ANG. Due March 31, 2014

#### **Activity Target 3:**

Configure a Share Point Records Center for ANG to manage ANG's records, develop pilot procedures and training, and schedule SharePoint

Training for key SME's. Due May 31, 2014

#### **Activity Target 4:**

Develop and complete implementation of a survey tool to obtain feedback from ANG directorates on quality of and satisfaction with ANG-A3 services. Due June 30, 2014

#### **Activity Target 5:**

Conduct SharePoint Records Center pilots with several ANG organizations already using SharePoint to manage their records. Due August 31, 2014

### **Core Activity: ANG Financial Management**

Provide financial management reporting for ANG, including the allocation of resources, reprogramming actions, and obligational performance

#### **Activity Target 1:**

: Prepare quarterly reviews that provide a comprehensive overview and financial analysis on the current fiscal year status of ANG resources, and submit for presentation to senior ANG management by the 20th business day following the end of the quarter. Due September 30, 2014

#### **Activity Target 2:**

Prepare monthly ANG Capital Improvement program (CIP) financial status reports and submit for review by 15th business day following month-end. Due September 30, 2014

#### **Activity Target 3:**

Establish, coordinate and prepare Monthly Allowance Spend Plans for ANG's Operating Accounts which provide timely Directorate level planning and obligational performance metrics, submitted for review by the 15th business day following month-end. Due September 30, 2014

#### **Activity Target 4:**

Ensure the accuracy of obligations and undelivered orders by conducting quarterly reviews as directed by Internal Controls Division, AFR-200 Office of Financial Reporting and Accountability. Due September 30, 2014

### **Core Activity: Effective Executive Leadership**

Provide executive leadership to oversee NextGen operations. Executes the mission of the FAA, and NextGen organization 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.

#### **Activity Target 1:**

Conduct assessments through program reviews

for the monitoring of programmatic targets to ensure that activities are on schedule and meet ninety-five (95%) of the targeted goals Due September 30, 2014

### **Core Business Initiative: Advanced Concepts & Technology Development Office (WAG210000) (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.

#### **Core Activity: Effective Executive Leadership**

Provide executive leadership to oversee NextGen operations. Executes the mission of the FAA and NextGen organization 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.

#### **Activity Target 1:**

Conduct assessments through program reviews for the monitoring of programmatic targets to ensure that activities are on schedule and meet ninety-five percent (95%) of the targeted goals. Due September 30, 2014

### **Core Business Initiative: NAS Lifecycle Integration Office (WA9G01000) (CIP#:X01.00-00)**

The Lifecycle Integration Division's initiative is to execute the mission of NextGen. Establish integrated goals, strategies, budgets, and priorities. Allocate and manages resources, meet performance targets, and supplies services to meet requirements. The initiative also includes responsibility for enterprise-level integration of NAS lifecycle products that drive the evolution of the FAA into the NextGen environment. Ensures that appropriate integration of systems, capabilities, and programs occurs across and within FAA staff offices and lines of business in support of NextGen. If required, establishes service level agreements with research partners and Agency staff offices and lines of business to conduct NextGen Implementation Plan activities and deliver required products.

#### **Core Activity: Effective Executive Leadership**

Provide executive leadership to oversee NextGen operations. Executes the mission of the FAA and NextGen organization 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.

#### **Activity Target 1:**

Conduct assessments through program reviews for the monitoring of programmatic targets to ensure that activities are on schedule and meet ninety-five percent (95%) of the targeted goals Due September 30, 2014

### **Core Business Initiative: NextGen Performance & Outreach Office (WA9G32000) (CIP#:X01.00-00)**

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

#### **Core Activity: Effective Executive Leadership**

Provide executive leadership to oversee NextGen operations. Executes the mission of the FAA and NextGen organization 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.

#### **Activity Target 1:**

Conduct assessments through program reviews for the monitoring of programmatic targets to ensure the activities are on schedule and meet ninety-five percent (95%) of the targeted goals, Due September 30, 2014

### **Core Business Initiative: NAS Business Solutions Division (WAG7X3100) (CIP#:M03.03-01)**

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: ANG Business Operations**

Provide resource vehicles and services to ensure

NextGen and its customers have the resource support needed to meet their NextGen goals and initiatives. Implement process improvement and best practices to optimize ANG acquisition procurement.

**Activity Target 1:**

Perform oversight and/or management of NextGen contracts and agreements and submit ANG Contract Status to ANG Management quarterly. Maintain ongoing awareness of all existing and projected ANG Support Service requirements in order to ensure necessary forward-looking procurement planning and forecasts. Due September 30, 2014

**Activity Target 2:**

Initiate action regarding all ANG Acquisition Support Service requests within 10 business days after submission and provide monthly report to ANG Management regarding pending, ongoing and completed procurement actions. Due September 30, 2014

**Activity Target 3:**

Process documents to the Federal Register after receipt of notification from RTCA 30 days in advance of a public committee meeting to include 15 day mandated window and provide monthly Publication Processing Tracking report to ANG Management. Due September 30, 2014

**Activity Target 4:**

Provide RTCA committee meeting data and ANG committee representation to ANG management monthly Due September 30, 2014

**Activity Target 5:**

Execute Cooperative Agreements on Centers of Excellence (COE) within 90 days after FAA Administrator makes team selection and report COE status and achievements quarterly. Due September 30, 2014

**Activity Target 6:**

Coordinate development of Policy and Practice Framework for NAS Business Solutions and provide quarterly status report Due September 30, 2014

**Core Activity: NBS Business Management**

Perform in-depth budget analysis, financial forecasting, budget resource planning, organizational and program budget formulation, as well as financial execution of NAS Business Solutions.

**Activity Target 1:**

Provide financial contract management services for all NextGen contracts and produce monthly NBS Contract & Financial Status report monthly to ANG Senior Management. Due September 30, 2014

**Activity Target 2:**

Produce monthly Directorate reports that provide financial status of contracts, including awarded contracts, pre-award contract status, and estimated depletion dates of current funding for each directorate under ANG-1. Due September 30, 2014

**Activity Target 3:**

Manage and maintain the ANG-A CIP line (2020) within 10% budget and provide monthly status to ANG Executives and ANG-A Management. Due September 30, 2014

**Activity Target 4:**

: On a quarterly basis, report the 2020 current and future Task Order award status including financial obligations, expenditures and remaining balances. Due September 30, 2014

**Activity Target 5:**

Monitor, track and manage SE2020 program execution, allocations, commitments and obligation to ensure available funding is distributed to projects. Due September 30, 2014

**Core Business 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: ANG Financial Management**

Support long range NextGen and ANG capital budgets and strategic planning, formulation, execution, and reporting. NAS Programming and Financial Management Office conducts analysis, coordinates and collaborates with various LOBs and integrates all capital program planning and formulation artifacts. It also ensures the execution of funds aligns with all planning and formulation documentation and reports on the status of NextGen budget.

**Activity Target 1:**

Coordinate and collaborate with various LOBs to support development of NextGen Resource Planning Documents, Capital Investment Plan, OMB Exhibit 53, OMB Exhibit 300, and multi-year plans. Provides monthly reporting of formulation activities for ANG Directorates. Due September 30, 2014

**Activity Target 2:**

Conduct analysis of Project Level Agreement

(PLA) financial data for accuracy and provides monthly briefing of capital investment program expenditures for ANG Directorates. Due September 30, 2014

**Activity Target 3:**

Provide quarterly financial briefing for ANG Directorates. Due September 30, 2014

**Core Business Initiative: NAS Requirements Services Division, ANG-B1 (WAG5640000) (CIP#:X01.00-00)**

Develops and maintains the NAS-RD-2014 series of documents and manages allocation of NAS level requirements to acquisitions in support of NAS Enterprise Architecture and NextGen; in addition to supporting the development of functional analysis, operational requirements, system requirements and managing associated data.

**Core Activity: NAS Requirements Services Division, ANG-B1: FY-14 Revised Products**

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

**Activity Target 1:**

Incorporate 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, 2014

**Activity Target 2:**

Address all comments submitted and obtain approval by the appropriate governing officials. Due September 30, 2014

**Core Activity: Requirements Services Branch, ANG-B11: SE Support Services for Data Comm**

Provide systems engineering (SE) services to the analysis and development of requirements, specifications, interface documents, safety and performance standards support, and sustainment of the DataComm laboratory environment.

**Activity Target 1:**

Complete final Systems Engineering System Threads Document (v3.0) for Segment 1 Data Comm services. Due June 30, 2014

**Activity Target 2:**

Complete final Systems Engineering Performance and Loading Document (v4.0) for Segment 1 Data Comm services. Due July 31, 2014

**Core Activity: ANG-B1 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, 2014

**Activity Target 2:**

Determine if programs seeking Final Investment Decision have documented traceability between their final requirements document and acquisition specification before approval of the Requirements Document. 90% of the time the final requirements document will meet this signature criteria. Due September 30, 2014

**Core Activity: Requirements Services Branch, ANG-B11: NAS Requirements Documents (RDs)**

Generate the 2014 and 2025 NAS Requirements Documents (RDs) to define the current NAS service baseline and the target end state NextGen service baseline, respectively.

**Activity Target 1:**

Develop the 2014 NAS RD and incorporate, as appropriate, the feedback from the FY13 verification and validation activity on the document. Due September 30, 2014

**Activity Target 2:**

Develop the 2025 NAS RD including traceability to the appropriate sources. Due September 30, 2014

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

Develops and maintains 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.

**Core Activity: NAS EA Services Division, ANG-B2: NAS EA Architecture Views**

Develop the Enterprise Architecture (EA) products necessary to describe the evolution of the National Airspace mission over time and include the results in the National Airspace System (NAS) Enterprise Architecture repository to promote effective use of the NAS EA across the Agency.

**Activity Target 1:**

Incorporate updates in FY2014 to develop and build out the NAS EA roadmaps to support NextGen implementation and enterprise level architectural decisions. Due September 30, 2014

**Activity Target 2:**

Incorporate updates in FY2014 to develop and build out of NAS Enterprise Architecture Framework views to support NextGen implementation and enterprise level architectural decisions. Due September 30, 2014

### **Core Activity: Architecture Services Branch, ANG-B21: Systems Engineering Support Services for NextGen EA**

Develop NextGen Enterprise Risk Management (ERM) Framework for identifying, analyzing, and managing enterprise level risks for the implementation of NextGen. The framework will provide governance, strategy, and a plan for ERM. The governance will provide guidance on the procedures for communicating, reporting and approving identified risks and recommended mitigations. The strategy will provide scope of the enterprise aspect of risk management, what sources will be monitored, and the details of the risk management process. The plan will provide details on the task and schedule for the ERM effort. This plan will include a work breakdown structure and identify dates risk reports will be produced in accordance with the strategy document and delivered to the appropriate entities in accordance with the governance document.

**Activity Target 1:**

Develop an Enterprise Risk Management (ERM) strategy. Due July 30, 2014

**Activity Target 2:**

Develop an ERM governance document. Due August 30, 2014

### **Core Activity: NAS EA Services Division, ANG-B2: Program Level EA Views**

Support the development of program level EA artifacts and review for consistency with program requirements and enterprise level artifacts.

**Activity Target 1:**

Ensure that 90% of programs seeking Investment Analysis Readiness, Initial Investment, and Final Investment decisions have the necessary EA Artifacts completed on time to support the scheduled decision points. Due September 30, 2014

**Activity Target 2:**

Review and assess program level EA artifacts for consistency with initial, preliminary and final

Program Requirements documents to ensure 90% compliance with program requirements. Due September 30, 2014

### **Core Activity: NAS System Engineering Research and Analysis**

Undertake NAS studies and analyses in support of International and Interagency systems engineering initiatives.

**Activity Target 1:**

Continue analysis and testing for international harmonization of AeroMACS standards and implementation. Due September 30, 2014

**Activity Target 2:**

Continue testing and interagency investigation of solutions to wind farm interference with NAS surveillance assets. Due September 30, 2014

### **Core Activity: Integrated Systems Engineering Framework**

Develop and maintain an Integrated Systems Engineering Framework to ensure consistency, harmonization, and integration of ANG-B systems engineering products.

**Activity Target 1:**

Update the Integrated Systems Engineering Framework to include integration of safety and security products, and requirements and architecture products. Due September 30, 2014

**Activity Target 2:**

Update the Integrated Systems Engineering Framework to include appendices for the metamodel and configuration management plan. Due April 30, 2014

### **Core Business Initiative: Engineering Services Business Operations Division, ANG-B5 (WAG56B0000) (CIP#:X01.00-00)**

Manage Engineering Services tools and processes, including configuration management, and development of systems engineering and enterprise architecture training and support of NAS Enterprise Architecture and NextGen acquisitions.

### **Core Activity: Engineering Services Business Operations Division, ANG-B5: Develop strategy to improve customer service.**

Deliver life-cycle application support to capabilities hosted within the Capability Architecture Toolset (CATS) environment and additional applications assigned to ANG-B.

**Activity Target 1:**

Develop and deploy NextGen Integrated Master Schedule "Tube Chart" report Due March 31, 2014

**Activity Target 2:**

Execute software license renewals for assorted software applications used by ANG-B and ANG-D. Due September 30, 2014

**Activity Target 3:**

Resolve NAS Planning Support customer feedback using the SE Toolset Configuration Management Process. Due September 30, 2014

**Activity Target 4:**

Complete ISS related work products for the CATS environment. Due September 30, 2014

**Core Activity: Engineering Services Support Branch, ANG-B51: Technical Training Support**

Support the development of Systems Engineering and Enterprise Architecture technical training to facilitate the acquisition Management System (AMS) and the application of system engineering discipline throughout the life-cycle of FAA systems.

**Activity Target 1:**

Develop measures to capture the impact of training and recommend improvements. Due June 30, 2014

**Activity Target 2:**

Ensure that at least 90% of all Systems Engineering and Enterprise Architecture courses include pre-and post-training measures. Due September 30, 2014

**Core Activity: Support process improvement of ANG-B processes.**

Deliver process improvement support to targeted systems engineering areas.

**Activity Target 1:**

Develop and deliver Tools Management Process. Due March 30, 2014

**Core Business Initiative: NAS Systems Engineering Services Office (WAG560000)**

Provide executive leadership in maintaining the NAS architecture to ensure it meets current and future service requirements and provide systems engineering support to initial and final investment decisions ensuring that activities are on schedule and that 95% of targeted goals are met.

**Core Activity: Effective Executive Leadership**

Provides executive leadership to oversee NextGen operations. Executes the mission of the FAA and NextGen organization 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.

**Activity Target 1:**

Conduct assessments through program reviews for monitoring programmatic targets to ensure that activities are on schedule and meet ninety-five (95%) of the targeted goals Due September 30, 2014

**Core Business Initiative: Safety & Information Security Services Division, ANG-B3 (WAG5610000)**

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; develops concepts of use, functional analysis and architecture, security risk assessments, requirements and ISS architecture, and operational requirements for NAS systems.

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

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

**Activity Target 1:**

Continue ANG implementation of SMS by providing ANG Safety Assurance guidance and processes. Due March 30, 2014

**Activity Target 2:**

Conduct at least one operational demo/test SRMD audit and one project audit. Due September 30, 2014

**Activity Target 3:**

Conduct at least one SMS promotional activity. Due September 30, 2014

**Core Activity: Information Security Branch, ANG-B31: Support Services for**

Provide Information System Security (ISS) services and develop an 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:**

Develop and validate enterprise level Information System Security requirements, architecture, and standards. Due September 30, 2014

**Activity Target 2:**

Review and provide security guidance for

Requirements Documents (pPR, iPR, fPR) for NAS systems in support of Concept and Requirements Definition (CRD) engineering activities. Due September 30, 2014

## Core Business Measure: NAS Planning Environment (NPE)

Develop and demonstrate, by September 2014, a NAS Planning Environment that demonstrates for 75% of the NextGen Alpha capabilities the ability to identify impacts of program schedule changes to NextGen capabilities.

### Core Business Initiative: NAS Planning Environment

Develop and demonstrate, by September 2014, a NAS Planning Environment initial capability that supports corporate decision making.

#### Core Activity: NAS Planning Environment (NPE) Development

Develop an NPE design recommendation and demonstrate an initial NPE capability.

##### Activity Target 1:

Deliver an NPE architectural design recommendation to guide the development of NPE. Due May 31, 2014

##### Activity Target 2:

Demonstrate the ability to link PMO and NextGen schedule dependencies in the Corporate Work Plan system. Due March 31, 2014

##### Activity Target 3:

Demonstrate for 75% of the NextGen Alpha capabilities the ability to identify impacts of program schedule changes to NextGen capabilities. Due September 30, 2014

## Core Business Measure: Major System Investments

Maintain 90 percent of major system investments within 10 percent variance of current baseline total budget at completion.

### Core Business Initiative: Air Traffic Systems Test and Evaluation (CTG7B40000) (CIP#:X01.00-00)

Provide quality T&E and analysis products and services to ensure the current NAS and future air transportation systems are verified and validated using best practices and quality standards.

#### Core Activity: Test Protocol and Documentation

Provide the successful execution of test plans, test procedures, and analysis. Deliver test results in final test reports, analyses reports, and technical working papers.

##### Activity Target 1:

Provide deliverables and services as per the agreements with program offices. Provide project summary status reports monthly and division level biannual portfolio reviews. Due September 30, 2014

### Core Business Initiative: Enterprise Services T&E Division (CTG7B30000) (CIP#:X01.00-00)

Provide analytical studies and related safety monitoring services 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.

#### Core Activity: Air Transportation System Analytical Studies and Safety

Conduct biannual review of the performance of Reduced Vertical Separation Minimum in North America (U.S., Canada and Mexico) cast against ICAO Recommended Requirements at FAA hosted meetings.

##### Activity Target 1:

Collaborate in meeting logistics, supporting analyses and reports. Due September 30, 2014

#### Core Activity: Separation Standards

Participate in Separation Standards related meetings, providing subject matter expertise that supports ICAO panels and working groups.

##### Activity Target 1:

Provide information for the development of ICAO Separation Standards Reports and Technical Working Papers. Due September 30, 2014

#### Core Activity: Test Protocol and Documentation

Provide the successful execution of test plans, test procedures and analysis. Deliver test results in final test reports analyses and technical working papers.

##### Activity Target 1:

Provide deliverables and services as per the agreements with program offices. Provide project summary reports monthly and division level biannual portfolio reviews. Due September 30, 2014

### Core Business Initiative: NextGen Performance Division (WA9G320000)

This initiative covers NextGen Performance & Outreach Office on-going development, management

and maintenance of an operating metrics dashboard that will report on investments to see if we get the benefits we projected at time of investment. Stakeholders include NMB, and all others who need to be aware of NextGen Progress.

### **Core Activity: NextGen Strategic Messaging**

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

#### **Activity Target 1:**

Perform outreach activities such as NextGen Web site, brochures and other informational material, and face to face communication at aviation community conferences and meeting to detail how we are measuring NextGen's operational performance impacts. Due September 30, 2014

#### **Activity Target 2:**

Survey our external stakeholders to understand potential and desirable changes in the content and design of the NPS. Due March 31, 2014

#### **Activity Target 3:**

Meet with the external stakeholders and present a mockup. Discuss changes and needs in NPS content. Craft NPS messaging accordingly. Due June 30, 2014

#### **Activity Target 4:**

Implement discussion outcomes in the NPS Due September 30, 2014

## **Core Business Initiative: Stakeholder Collaboration Division (WA9G320000)**

Executes the mission of the NextGen Performance and Outreach Office. Keeps senior management, oversight organizations, the aviation community, and the public informed of NextGen outcome performance and progress toward established goals.

### **Core Activity: Collaboration Support**

Enable successful NextGen collaboration and decision-making with internal and external stakeholders.

#### **Activity Target 1:**

Facilitate monthly NextGen Management Board meetings, including developing agendas with ADA and ANG-1. Due September 30, 2014

#### **Activity Target 2:**

Facilitate FAA participation in NextGen Advisory Committee's June 2014 meeting. Due June 30, 2014

#### **Activity Target 3:**

Prepare FAA participation for October 2014 NAC Meeting. Due September 30, 2014

## **Core Business Initiative: Outreach & Reporting Division (WA9G320000)**

Executes the mission of the NextGen Performance and Outreach Office. Keeps senior management, oversight organizations, the aviation community, and the public informed of NextGen outcome performance and progress toward established goals.

### **Core Activity: Update, Report and Publish NextGen Operational Performance Metrics**

This initiative covers NP&R's on going development, management and maintenance of the Web-enabled NextGen Performance Snapshots 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.

#### **Activity Target 1:**

Update NextGen Operational Metrics with input from stakeholders and Industry. Winter NPS Release. Due January 31, 2014

#### **Activity Target 2:**

Update NextGen Operational Metrics with input from stakeholders and Industry. Spring NPS Release. Due May 31, 2014

#### **Activity Target 3:**

Update NextGen Operational Metrics with input from stakeholders and Industry. Fall NPS Release. Due September 30 2014 Due September 30, 2014

## **Core Business Measure: Drive Continuous Efficiency Improvement & Cost Control**

Achieve documented cost savings and cost avoidance of \$41.53 million in FY 2014.

### **Core Business Initiative: Productivity and Financial Metrics**

Each FAA organization will develop, track, and report quarterly on a comprehensive measure of its operating efficiency or financial performance. These measures will include: ATO cost per controlled flight, staff office overhead rates and cost per accounting transaction.

### **Core Activity: ANG 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 4th quarter FY 2013 to ABA on results of System Planning and Resource Management Budget. Due October 31, 2013

**Activity Target 2:**

Report 1st quarter FY 2014 ABA on results of System Planning and Resource Management budget. Due January 31, 2014

**Activity Target 3:**

Report 2nd quarter FY 2014 ABA on results of System Planning and Resource Management budget. Due April 30, 2014

**Activity Target 4:**

Report 3rd quarter FY 2014 to ABA on results of System Planning and Resource Management budget. Due July 31, 2014

**Activity Target 5:**

Provide updated FY 2015 template for review and approval in time to be included in the FY 2015 Business Plan. Due May 15, 2014

### **Core Activity: ANG 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 4th quarter FY 2013 result to ABA on the percentage of the management workforce comprising the overall RE&D workforce. Due October 31, 2013

**Activity Target 2:**

Report 1st quarter FY 2014 to ABA on the percentage of the management workforce comprising the overall RE&D workforce. Due January 31, 2014

**Activity Target 3:**

Report 2nd quarter FY 2014 to ABA on the percentage of the management workforce comprising the overall RE&D workforce. Due April 30, 2014

**Activity Target 4:**

Report 3rd quarter FY 2014 to ABA on the percentage of the management workforce comprising the overall RE&D workforce. Due July 31, 2014

**Activity Target 5:**

Provide updated FY 2015 template for review and approval in time to be included in the FY 2015 Business Plan. Due May 15, 2014

### **Core Business Initiative: LABORATORY SERVICES DIVISION (CTG7B80000)**

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

#### **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 as needed. Due September 30, 2014

**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 as needed. Due September 30, 2014

**Activity Target 3:**

Conduct site visits, conferences and/or meetings to maintain currency with NAS and NextGen programs as needed. Due September 30, 2014

### **Core Business 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 by September 30, 2014.

#### **Core Business 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-owned, and service-disabled veteran-owned businesses.

**Activity Target 1:**

Participate in one outreach event or program. Due September 30, 2014

**Activity Target 2:**

In accordance with P.L. 95-507 and the agency's Small Business goal: FAA will award at least 25% of the total agency's direct procurement dollars to Small Businesses. Due September 30, 2014

### **Core Business 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.

## Core Business Initiative: Airspace Optimization (Metroplex)

Optimize airspace and procedures in the Metroplex.

### Core Activity: Collaborative ATM (CATM) - NextGen Performance Based Navigation (PBN) - Metroplex Area Navigation (RNAV)/Required Navigation Performance (RNP), G05N.01-01

NextGen Performance Based Navigation - Metroplex RNAV/Required Navigation Performance (RNP) will develop procedures at Metroplexes to improve airspace efficiency. 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 developing PBN initiatives.

#### Activity Target 1:

Monitor and report monthly on established milestones in established PLA. Due September 30, 2014

## Core Business 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.

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

NextGen Performance Based Navigation - Metroplex RNAV/Required Navigation Performance (RNP) will develop procedures at Metroplexes to improve airspace efficiency. 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 developing PBN initiatives. Airspace and procedure integration for Metroplexes allows:

- examining use of additional transition access/egress points not tied to ground-based navigation aids;
- concurrent development and implementation of arrival and departure procedures;
- ensuring an integrated approach to optimizing procedures;
- decoupling conflicting operations to and from

primary and secondary/satellite airports serviced by the same complex terminal airspace; and

- developing high altitude routes through congested airspace to create more efficient routes between major metropolitan areas.

#### Activity Target 1:

Monitor and report monthly on established milestones in established PLA. Due September 30, 2014

## Core Business Initiative: NAVLean

Advance the completion of NAV Lean by 2015 Navigation (NAV) Procedures Project (or NAV Lean) consists of recommendations for improving and streamlining our Instrument Flight Procedure (IFP) processes. The goal for Fiscal Year 2014 is to accomplish 70% of the NAV Lean FY2014 activities to streamline Instrument Flight Procedures (IFP)

### Core Activity: NAVLean Support - Monitor and Report

Advance the completion of NAV Lean by 2015 Navigation (NAV) Procedures Project (or NAV Lean) consists of recommendations for improving and streamlining our Instrument Flight Procedure (IFP) processes. The goal for Fiscal Year 2014 is to implement 80% of the NAVLean 2014 activities to streamline Instrument Flight Procedures (IFP).

#### Activity Target 1:

Monitor and report monthly on established milestones in established PLA. Due September 30, 2014

## Core Business Measure: Average Daily Capacity

Maintain an average daily capacity for core airports of 58,166, or higher, arrivals and departures.

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

Determine requirements for Integrated Enterprise Solution (IES)

### Core Activity: (Monitor) Continue to provide complete time-based metering solutions across all phases of flight

The TBFM Work Package 3 will continue 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 and assist controllers and traffic management coordinators/specialists in organizing the arrival stream for maximum use of that airport capacity.

### Activity Target 1:

Monitor and report monthly on established milestones in PLA. Due September 30, 2014 Due September 30, 2014

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

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

### **Core Activity: CATM Flight & State Data Mgmt - Integrated NAS - Delivering Aviation Access through Innovation**

The program objective is to develop and assess airspace procedures that would allow implementation of NextGen's best equipped best served concept of operations. This concept would allow for the future NAS-wide implementation of Established-on-RNP Instrument Approach Procedures (IAPs). Established-on-RNP will allow air traffic controllers to clear aircraft on an RNP approach with a turn to final without providing standard radar separation between aircraft that are established on approaches to parallel runways. The program supports RTCA Task Force 5 recommendations and integrates industry and agency efforts to maximize utility of aircraft performance capabilities, Standard Terminal Arrivals (STARs) and Optimum Profile Descents (OPDs). The primary focus of the program is to conduct design, safety analysis and implementation of various Established-on-RNP IAPs in an effort to provide shorter, repeatable and stabilized paths to runway for RNP aircraft. In addition, Established-on-RNP is expected to provide opportunities for increased efficiency including reduced track length, fuel burn, environmental footprint and noise exposure. Furthermore, Established-on-RNP may be able to provide opportunities for increased capacity via reduced standard separation. Fast time modeling and human in the loop simulation of proposed airspace and procedures will be used to validate the proposed changes. In the NAS today, not all aircraft and crew are equal in regards to their level of RNP equipage and certification. To design, validate and implement procedures that are usable in the operational NAS, especially at high volume airports, the program will consider aircraft with mixed equipage such that a high percentage of the arriving fleet can participate resulting in manageable, repeatable and predictable operations.

### Activity Target 1:

Develop the NAS-wide Established-on-RNP

Modeling and Simulation report for Dependent Approaches. Due September 30, 2014

### Activity Target 2:

Develop the PBN Initiatives Atlanta Established-on-RNP Concept of Operations. Due September 30, 2014

## **Core Activity: (Monitor) Delivering Aviation Access through Innovation**

The program objective is to develop and assess airspace procedures that would allow implementation of NextGen's best equipped best served concept of operations. This concept would allow FAA to use certain altitudes and routes for those aircraft with the navigational system accuracy and the flight performance to comply with traffic management efforts to maximize the use of airspace capacity. It would also refine airport approach procedures so well equipped aircraft use more efficient descent profiles.

When some aircraft are NextGen equipped and others are not, both types of aircraft can use the airspace in different ways. To accommodate this many challenges must be addressed. It may be possible to vary separation standards based on the accuracy of the equipment aircraft use to fly approaches and departures.

Development activities will include enhancing existing fast time models and testing of alternative airspace and procedures changes using the simulators and models. Fast time modeling and human in the loop simulation of proposed airspace and procedures will be used to validate the proposed changes.

### Activity Target 1:

Monitor and report from established PLA. Due September 30, 2014

## **Core Business Initiative: FLEX Separation Mgmt - WTMD (G06A.01-01) (CIP#: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.

### **Core Activity: (Monitor) 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 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. When the

runway crosswind is favorable, WTMD will allow waiving the 2 or 3 minute wake mitigation departure delay imposed on aircraft that are departing after a Boeing 757 or "heavy" wake category aircraft takes off from the adjacent CSPR. This provides 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 "Heavy" aircraft departure demand. 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 (and passengers) spend in the runway departure queue and by reducing the missed connections at the next airport. WTMD is also one of the first NextGen tools 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.

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014 Due September 30, 2014

**Core Business Initiative: FLEX Separation Mgmt - WTMA (G06A.01-02) (CIP#: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.

**Core Activity: (Monitor) G06A.01-02 FLEX Separation Mgmt - WTMA**

The procedures and technology 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 equipment 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.

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

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

**Core Activity: Monitor - G06M.02-02 FLEX SD - Wake Turbulence Re-Categorization**

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 core airports. The Wake Turbulence Re-Categorization program is expected to yield additional arrival and departure slots for each of these airports which will directly increase the average daily airport arrival and departure capacity. The end goal of the project is to increase the core airports' hourly arrival rate, during instrument flight rules (IFR) operations, by as much as 7% to 10% - which equates to about 60 to 90 more arrivals/departures per day per airport. The 6 Category wake separation standards already developed by the project and projected to be fully available in the NAS in FY 2014 are expected to yield a 4 to 7% increase in core airport arrival rate capacity. The first operational use of the 6 Category standards is expected to occur in the first quarter of FY 2013 at the Memphis International Airport. The increased capacity is achieved by reduction in many of the in-trail separation distances of aircraft that are currently required. The proposed continued development of Leader/Follower Pair-Wise Static wake separations will allow, when implemented, an additional 4-7% increase in airport arrival capacity when the airport is operating using instrument flight rules procedures. It is projected that the Leader/Follower Pair-Wise Static wake separation standards will be implemented by the FAA in FY 2017.

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

## **Core Business Initiative: FLEX Separation Mgmt - Closely Spaced Parallel Rwy (G06N.01-02)**

**(CIP#:G06N.01-02) (CIP#:G06N.01-**

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

**Core Activity: Research to find 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**

The Separation Management - Closely Spaced Parallel Runway Operations (CSPO) initiative will improve capacity by reducing separation standards and enabling new operations in lower visibility conditions. This initiative will develop and refine procedures and perform the requisite analyses that enable operations for closely spaced parallel runways (runway centerlines spaced less than 4300 feet laterally) in reduced visibility weather conditions. Reduced separation procedures will include both dependent and simultaneous independent parallel instrument approaches to runways between 2,500 and 4,300 feet, as well as paired approaches for runways spaced less than 2500 feet.

**Activity Target 1:**

Deliver report on analysis of required separations for triple simultaneous independent parallel instrument approaches. Due September 30, 2014

**Activity Target 2:**

Partner with AFS-400 to deliver a white paper on the High Update Rate surveillance and ADS-B with FUSION controller data collection event. Due September 30, 2014

**Activity Target 3:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014 Due September 30, 2014

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

Demonstrate surface collaborative decision making at NAS airports.

**Core Activity: (Monitor) Increase efficiency and capacity while reducing controller workload through the**

## **automated assignment of runways, taxi routes, and departure queues.**

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.

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014 Due September 30, 2014

## **Core Business Measure: Major System Investments**

90% of major baselined acquisition programs must be maintained within 10% of their current acquisition cost, schedule and technical performance baseline as of the end of fiscal year 2014. Due September 30, 2014

## **Core Business Initiative: NextGen Implementation Plan**

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

### **Core 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 18, 2013

**Activity Target 2:**

Working through the cross-agency workgroup, develop, review, and provide comments on draft 1 NextGen Implementation Plan. Due January 17, 2014

**Activity Target 3:**

Working through the cross-agency workgroup, develop, review, provide comments, and resolve comments on draft 2 NextGen Implementation Plan. Due March 3, 2014

**Activity Target 4:**

Provide all final comments and clearances necessary for the NextGen Organization to provide NextGen Implementation Plan to OMB thirty days after the president's budget submission to Congress. Due April 25, 2014

### **Core 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 18, 2013

**Activity Target 2:**

Working through the cross-agency workgroup, develop, review, and provide comments on draft 1 NextGen Implementation Plan. Due January 17, 2014

**Activity Target 3:**

Working through the cross-agency workgroup, develop, review, provide comments, and resolve comments on draft 2 NextGen Implementation Plan. Due March 3, 2014

**Activity Target 4:**

Provide all final comments and clearances necessary for the NextGen Organization to provide NextGen Implementation Plan to OMB thirty days after the president's budget submission to Congress. Due April 25, 2014

**Core Activity: KEY STI METRIC NextGen Implementation Plan**

Provide final draft of NextGen Implementation Plan to OMB by April 30, 2014. 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 milestone is the marker for the success of a year-long effort to arrive at this data set.

**Activity Target 1:**

Provide final draft of NextGen Implementation Plan to OMB by April 30, 2014. 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 milestone is the marker for the success of a year-long effort to arrive at this data set. Due September 30, 2014

**Core Business 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 the commitments.

**Core Activity: NextGen Milestones**

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

**Activity Target 1:**

Establish FY14 list of Initiatives including, Research Demos and selected milestones. Due March 21, 2014

**Activity Target 2:**

Monitor and report monthly on established program schedule activities and dates. Due September 30, 2014

**Core 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, 2013

**Activity Target 2:**

EA roadmap approval. Due January 31, 2014

**Core Activity: KEY STI METRIC NextGen Segment Implementation Plan Milestone Selection**

Identify key NextGen milestones by mid-March 2014 after NSIP ratification (anticipated NSIP ratification is February 2014) and meet 90% of the these milestones by 09/30/2014.

**Activity Target 1:**

Identify key NextGen milestones by mid-March 2014 after NSIP ratification (anticipated NSIP ratification is February 2014) and meet 90% of the these milestones by 09/30/2014 Due September 30, 2014

**Core Business Initiative: Sustain 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.

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

Implement and annually update FAA's Acquisition Workforce Plan.

**Activity Target 1:**

Contribute information to be published in the annual update of FAA's Acquisition Workforce Plan. Due September 30, 2014

## **Core Activity: Train and Certify FAA's Acquisition Workforce**

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

### **Activity Target 1:**

90% of program managers managing ACAT 1-3 programs and/or major acquisition programs as defined by FAA and OMB Circular A-11 attain/maintain certification requirements in accordance with AMS policy. Due September 30, 2014

### **Activity Target 2:**

Increase by 5% the number of FAA CORs that attain COR certification. Due September 30, 2014

## **Core Business Measure: NAS Energy Efficiency**

Improve NAS energy efficiency (fuel burned per revenue ton mile) by at least 1 percent annually.

### **Core Business Initiative: Environment & Energy, (CIP#:G06M.02-01) (CIP#:G06M.02-**

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 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.

### **Core Activity: Monitor, Environment & Energy, (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.

#### **Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

### **Core Business Initiative: Safety, Security, Environment - System Development - 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. Such assessments are particularly important as the NextGen program evaluates current airspace design and develops new procedures to be implemented within the NAS. This project will conduct performance assessments, benefits modeling, cost/benefit data synthesis, NAS-wide environmental-specific assessments, system performance evaluations, and risk management activities. This research will include initial NAS-wide assessment of methods within Aviation Environment Design tool (AEDT) and Aviation Portfolio Management Tool (APMT) to mitigate NextGen environmental impacts and developing cost-beneficial options to support decision making. This research will also continue to explore integration of advanced performance assessment capability with NAS models for other NextGen programs. This project will contribute to system safety enhancements across the NAS, reducing aircraft emissions and noise, and improving capacity, efficiency, and delay reduction.

**Core Activity: Assess the operational impact of NextGen technologies and procedures. G07M.02-02**

Assess the operational impact of NextGen technologies and procedures.

**Activity Target 1:**

Analysis of Advanced Procedures and Equipage. Due August 30, 2014

**Activity Target 2:**

NextGen 2013 Performance Assessment Report (MITRE). Due September 30, 2014

**Core Activity: Monitor, Safety, Security, Environment - System Development - Operational Assessments, G07M.02-02 (14F.3B)**

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. Such assessments are particularly important as the NextGen program evaluates current airspace design and develops new procedures to be implemented within the NAS. This project will conduct performance assessments, benefits modeling, cost/benefit data synthesis, NAS-wide environmental-specific assessments, system performance evaluations, and risk management activities. This research will include initial NAS-wide assessment of methods within Aviation Environment Design tool (AEDT) and Aviation Portfolio Management Tool (APMT) to mitigate NextGen environmental impacts and developing cost-beneficial options to support decision making. This research will also continue to explore integration of advanced performance assessment capability with NAS models for other NextGen programs. This project will contribute to system safety enhancements across the NAS, reducing aircraft

emissions and noise, and improving capacity, efficiency, and delay reduction.

**Activity Target 1:**

Monitor and report monthly on established milestones in PLA. Due September 30, 2014

**Core Business 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 Business 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: ANG-E support to implement elements of the FAA Greening Initiative**

ANG-E support to implement elements of the FAA Greening Initiative

**Activity Target 1:**

Provide AEE with ANG-E data for the following FAA FY 2013 reports: Annual Greenhouse Gas and Sustainability Data Report, Annual Energy Management Report Summary. Due October 31, 2013

**Activity Target 2:**

Provide AEE with ANG-E data for the Leadership in Sustainability Scorecard on a quarterly basis, based on agreed upon schedule. Due September 30, 2014

**Activity Target 3:**

Provide AEE with ANG-E data for performance based contracting efforts on a monthly basis, based on agreed upon schedule. Due September 30, 2014

**Activity Target 4:**

Make quantifiable progress in completing Energy Independence and Security Act (EISA) 432 required evaluations at ANG-E covered facilities, document results in the EISA 432 Compliance Tracking System (CTS), and provide AEE with supporting documentation. Due June 30, 2014

**Activity Target 5:**

Make quantifiable progress in installing building level advanced gas, electric, and water meters at buildings included in ANG-E'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, 2014

**Activity Target 6:**

Support efforts to enter ANG-E data related to meeting the Guiding Principles for High Performance Sustainable Buildings into Energy Star Portfolio Manager. Due September 30, 2014

## Core Business 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 providing technical direction, oversight and support to the FAA in meeting these EO and environmental goals. The FAA EMS Steering Committee is led by AEE and is composed of the appropriate LOB's and staff offices. AEE will develop FAA-wide training, and coordinate EMS performance reporting.

### Core Business Initiative: FAA Environmental Management System (EMS)

APL is leading the FAA in maintaining an effective Environmental Management System pursuant to Executive Orders 13423/13514 and providing technical direction, oversight and support to the FAA in meeting these EO and environmental goals. The FAA EMS Steering Committee is led by AEE and is composed of the appropriate LOB's and staff offices. AEE will develop FAA-wide training, and coordinate 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:**

Support the EMS Steering Committee to assist in the updates to applicable Orders, training, Environmental Management Plans, and Procedures as necessary. Due September 30,

2014

**Activity Target 2:**

Conduct internal EMS Audit and management review, provide results to AEE. Due August 31, 2014

## Core Business Measure: Support Sustainability and Environmental Objectives

Achieve at least 3 out of 4 initiatives in the FY14 business plan: 1) ARC: Fleet Management, 2) ARC: Water Management, 3) AIT: IT Greening and 4) ACQ: Green Purchasing. Due September 30, 2014

### Core Business Initiative: NAT: Fleet Management

Reduce FY-2014 agency petroleum consumption by government fleet vehicles by 18% from the FY-2005 baseline, a maximum consumption of 2,286,254 gasoline-equivalent units. In accordance with Executive Order 13514, federal agencies must reduce vehicle fleet petroleum consumption at a minimum of 2% annually through FY-2020, relative to a FY-2005 baseline.

#### Core Activity: Fleet Management

In accordance with Executive Order 13514, support the Agency to achieve an 18% decrease in vehicle fleet petroleum consumption over the FY2005 baseline.

**Activity Target 1:**

The FY14 Target is not to exceed the maximum petroleum consumption of 11,670 gasoline gallon equivalents (GGEs). Due September 30, 2014

## Enhance Global Leadership

NextGen supports the Destination 2025 international 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 the ATO service organizations on technical issues, international processes, and ICAO Standards and Recommended Practices (SARPs).

### Core Business Measure: Policy Outreach

Promote FAA international policies by providing diplomatic, representational, and programmatic support globally

### Core Business 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.

### **Core Activity: ANG Support for NextGen Interoperability Cooperative Efforts and Implementation of Regional Plans**

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

#### **Activity Target 1:**

Provide advice and guidance on modernization on behalf of the FAA at major international events, such as ICAO meetings, panels and working groups, international delegation visits to the FAA and the Department of Transportation, the Future Air Transportation Systems Working Group, agency international strategic plans, and other events. Due September 30, 2014

#### **Activity Target 2:**

Provide leadership and support of the FAA/EU MOU by working with other air traffic systems and regional efforts to promote the implementation of NextGen interoperable technologies and procedures. Due September 30, 2014

## **Empower and Innovate with the FAA's People**

NextGen supports the Destination 2025 Organizational Excellence initiatives with activities that include efforts to align ANG revenues with costs, reduce the number of ANG plans, updating the Operational Evolution Plan, reducing the management expenses associated with the RE&D program, measuring and reporting ANG performance, completing the Strategic Management Process through the Executive Level, and linking performance plans to NextGen and Destination 2025 goals.

### **Core Business Measure: Hiring and Accommodating People with Disabilities**

Support the Department of Transportation's hiring and onboard goal to increase the representation of people with targeted (severe) disabilities in the workforce by ensuring that at least 1.67% of all FAA new hires are PWTD and reporting quarterly on the specific number of new PWTD hires. Additionally, LOBs/SOs will work collaboratively to improve the efficiency and timeliness of reasonable accommodation by processing 90% of reasonable accommodation requests within 25 business days from the date received.

### **Core Business Initiative: Hiring and Accommodating People with Disabilities**

Ensure that 1.67% of all new hires are PWTD (severe disabilities) and that 90% of reasonable accommodation requests are processed within 25 business days from date received.

### **Core Activity: Hiring and Accommodating People with Disabilities**

Ensure that 1.67% of all new hires are PWTD (severe disabilities) and that 90% of reasonable accommodation requests are processed within 25 business days from date received.

#### **Activity Target 1:**

Report quarterly on the specific number of new PWTD hired and the actions taken to ensure that at least 1.67% of all new hires are people with targeted (severe) disabilities. Due September 30, 2014

#### **Activity Target 2:**

Process 90% of reasonable accommodation requests within 25 business days from date received. Due September 30, 2014

## **Core Business Measure: EEO Training**

Assist Agency efforts to create a FAA culture in which managers and employees understand their role in creating and maintaining an inclusive workplace, by ensuring that 60% of management and 10% of employees complete EEO Training.

### **Core Business Initiative: Prevent Discrimination through EEO Training**

Ensure that 60% of management and 10% of employees complete EEO Training. Managers and employees are encouraged to complete EEO Training courses that are listed as part of the Diversity and Inclusion Core Curriculum. EEO training will be offered through various methodologies, including on-site, instructor-led training when funding permits.

#### **Core Activity: EEO Training**

Ensure that 60% of management and 10% of employees complete EEO Training. Managers and employees are encouraged to complete EEO Training courses that are listed as part of the Diversity and Inclusion Core Curriculum. EEO training will be offered through various methodologies, including on-site, instructor-led training when funding permits.

#### **Activity Target 1:**

Ensure that 60% of managers and 10% of employees complete EEO Training. Due September 30, 2014

## **Core Business 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.

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### **Core Business Initiative: FAA Congressional Correspondence Response**

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 System (CCMS).

#### **Core Activity: FAA Congressional Correspondence Response**

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

##### **Activity Target 1:**

90% of 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). Due September 30, 2014

## **Core Business Measure: EEO/Diversity and Inclusion Action Committee**

In collaboration with the LOBs/SOs, ACR will identify recommendations and strategies regarding EEO and diversity efforts within the FAA workplace. Each LOB/SO will analyze and present demographic data at the EEO Action Committee and conduct a self-assessment in compliance with the MD-715.

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### **Core Business Initiative: EEO/Diversity and Inclusion Action Committee**

In collaboration with the LOB/SOs, ACR will identify recommendations and strategies regarding EEO and diversity efforts within the FAA workplace. Each LOB/SO will analyze and present demographic data at the EEO Action Committee; conduct a self-assessment in compliance with the MD-715; and assist with implementing or revising evaluation methods for the managers EEO performance

standard.

### **Core Activity: EEO/Diversity and Inclusion Action Committee**

Each LOB/SO will analyze and present demographic data at the EEO Action Committee; conduct a self-assessment in compliance with the MD-715; and assist with implementing or revising evaluation methods for the managers EEO performance standard.

##### **Activity Target 1:**

Conduct an internal MD 715 self-assessment (Part G Checklist) as required by EEOC. Due October 15, 2013

##### **Activity Target 2:**

Analyze and present demographic data in comparison to the civilian labor force statistics, to the EEO Action Committee and identify strategies and actions for improving groups with lower than expected participation rates. Due December 31, 2013

##### **Activity Target 3:**

Support agency efforts to implement and/or revise evaluation methods to the managers EEO performance standard. Due December 31, 2013

## **Core Business Measure: Alternative Dispute Resolution (ADR)**

ACR, in coordination with the LOBs/SOs, will ensure that 60% of all managers engage in mediation when requested by employees.

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### **Core Business Initiative: Alternative Dispute Resolution (ADR)**

LOB/SOs will ensure that 60% of all managers engage in mediation when requested by employees.

#### **Core Activity: Alternative Dispute Resolution (ADR)**

LOB/SOs will ensure that 60% of all managers engage in mediation when requested by employees.

##### **Activity Target 1:**

Ensure that 60% of all managers engage in mediation when requested by employees. Due September 30, 2014

## **Core Business Measure: Systems Engineering Best Practices**

By June 2014, complete the update of the Systems Engineering Manual to include, as a minimum, four (4) systems engineering best practices and provide leadership across the FAA to gain concurrence to the updated manual.

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## Core Business Initiative: Update Systems Engineering Manual

Provide leadership across the FAA to gain concurrence on an updated Systems Engineering Manual (SEM) ensuring systems engineering best practices are represented in the manual.

### Core Activity: Update the Systems Engineering Manual

Update the Systems Engineering Manual and socialize with stakeholders across the FAA to gain concurrence.

#### Activity Target 1:

Complete the update of the Systems Engineering Manual and include, as a minimum, four (4) systems engineering best practices and provide leadership across the FAA to gain concurrence to the updated manual. Due June 30, 2014

## Core Business Measure: Human Capital Management

85% of key leadership and mission performance positions are permanently filled and the average gap between departure and backfill of those positions does not exceed 90 days.

## Core Business Initiative: Succession Planning

Develop succession planning framework to sustain ANG mission performance.

### Core Activity: Succession Planning

Identify key leadership and mission performance positions in NextGen, ANG and develop a strategy to ensure continued supply and development of these positions within ANG.

#### Activity Target 1:

Identify key leadership and mission performance positions needed for ANG to fulfill its NAS stewardship and evolution planning mission Due January 31, 2014

#### Activity Target 2:

Identify the competency sets needed to fulfill key leadership and mission performance positions Due February 28, 2014

#### Activity Target 3:

Create development paths and mechanisms by which the required competency sets for key leadership and mission performance positions can be enhanced and fostered Due July 31, 2014

#### Activity Target 4:

Identify sources of candidates, both internal and external to the agency and form the initial and intermediate pools of talent from which the key positions can be filled Due July 31, 2014

#### Activity Target 5:

Document strategy and seek corporate

commitment Due September 30, 2014

#### Activity Target 6:

Identify key leadership and mission performance positions required for the NextGen Organization to fulfill its NAS stewardship and evolution planning mission Due January 31, 2014

#### Activity Target 7:

Identify core competencies required for key leadership and mission performance positions Due February 28, 2014

#### Activity Target 8:

Identify key leadership and mission performance positions required for the NextGen Organization to fulfill its NAS stewardship and evolution planning mission. Due January 31, 2014

#### Activity Target 9:

Identify core competencies required for key leadership and mission performance positions. Due February 28, 2014

#### Activity Target 10:

Identify key leadership and mission performance positions required for the NextGen Organization to fulfill its NAS stewardship and evolution planning mission. Due January 31, 2014

#### Activity Target 11:

Identify core competencies required for key leadership and mission performance positions. Due February 28, 2014

#### Activity Target 12:

Identify key leadership and mission performance positions required for the NextGen Organization to fulfill its NAS stewardship and evolution planning mission. Due January 31, 2014

#### Activity Target 13:

Identify core competencies required for key leadership and mission performance positions. Due February 28, 2014

#### Activity Target 14:

Identify key leadership and mission performance positions required for the NextGen Organization to fulfill its NAS stewardship and evolution planning mission. Due January 31, 2014

#### Activity Target 15:

Identify core competencies required for key leadership and mission performance positions. Due February 28, 2014