



U.S. Department
of Transportation
**Federal Aviation
Administration**

June 2011

Dear Members of the Aviation Community:

Less than a year ago, we published the *Navigation (NAV) Procedures Project (or NAV Lean) Final Report, September 2010* that contained recommendations for improving and streamlining our instrument flight procedure (IFP) processes. Completion of the report was an exciting first step toward significantly improving the IFP development process. Since then, we established a Federal Aviation Administration team to define implementation activities and to assess the resources required to fulfill the potential of the NAV Lean Final Report. Its goals were to provide action plans for changing business processes to be more efficient and to bring economies of scale to the production process.

The framework for implementing the NAV Lean recommendations is attached, in the *Navigation Procedures Implementation Plan (NAV Lean), version 1.0*. This implementation plan is a living document, and will be refined as we establish follow-on milestones and delivery dates. Using existing resources, some of the recommendations have already been completed while work is underway on others. For those that require new investment, we will be reviewing options to secure that funding and will update the implementation plan accordingly.

The advent of the NAV Lean project has garnered unprecedented support throughout both FAA and industry. We believe full implementation of NAV Lean is a key component to the success of the Next Generation Air Transportation System (NextGen). Accordingly, it is critical to apply the appropriate level of oversight, performance metrics, and resources required for achieving our goals.

Thank you for your continued support and active participation in this program.



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6/1/11
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Navigation Procedures Implementation Plan (NAV Lean)

June 1, 2011

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Overview

The Navigation (NAV) Procedures Project Final Report (commonly referred to as NAV Lean) was approved and published in September 2010. The report contained 21 recommendations for improving and streamlining the process of developing and implementing instrument flight procedures (IFP). The Air Traffic Organization (ATO) and Aviation Safety (AVS) sponsors subsequently directed the development of an Implementation Plan for the NAV Lean recommendations.

In January 2011, the implementation phase of the project was initiated with the formation of the Navigation Procedures Implementation Plan Development Team, which was chartered to develop this Navigation Procedures Implementation Plan (NAV Lean).

The implementation plan provides initial detailed Action Plans to the respective Offices of Primary Responsibility (OPRs) that describe the phases, timelines, actions, metrics, and estimated costs associated with implementing the recommendations. Action Plans will be assigned to OPRs to create final detailed milestones, timelines, metrics, and costs associated with execution. OPRs will be responsible for identifying funding requirements and allocating resources to achieve project goals. All the recommendations are interrelated and will need to be implemented as a whole to achieve maximum benefit. Full implementation will benefit the FAA as well as aviation stakeholders and service providers that rely on consistent and prompt development of IFPs.

While some of the recommendations from the Navigation (NAV) Procedures Project Final Report are already underway as part of other FAA initiatives, others commence with this plan and some will require additional resources before they can begin. Cost and timelines will vary widely between the recommendations. Full implementation of all 21 recommendations should take an estimated five years to complete. Although some initiatives can be accomplished within existing operations budgets, some will require new funding.

Background

In September 2009, the RTCA NextGen Mid-Term Implementation Task Force recommended that the FAA identify and resolve operational approval and certification issues that may impede adoption and acceleration of NextGen capabilities. In response, the FAA completed the first phase of the NAV Lean Project in September 2010, which included a review of all applicable processes, tools, and procedures related to standards; policies, development, approval, publication, and utilization of IFP; the identification of overarching issues, and the development of recommendations to streamline the process. This was a joint project sponsored by the ATO and AVS. A cross-agency Navigation Procedures Team was created, consisting of a Steering Committee, Project Leads, and six Working Groups. Through application of methods from the “Lean Management Process” the Working Groups identified nine overarching issues and cooperatively developed 21 recommendations to resolve the issues. The nine issues identified by the Working Groups are listed below:

1. Minor amendments of IFPs result in added workload and delayed implementation.
2. The Terminal Area Route Generation, Evaluation, and Traffic Simulation (TARGETS) automation [used to design Area Navigation (RNAV) Standard Terminal Arrivals (STAR)] is not an approved Aeronautical Products tool and cannot be used to electronically communicate with Aeronautical Products software, leading to manual rework of STARs by Aeronautical Products.
3. Databases used in IFP design are not standardized and are not available to all service providers.
4. Manual IFP data transfer creates human error and wasted time.
5. FAA guidance on preparation of Environmental Assessments (EA) does not address situations where the environment analysis is narrowly focused on only certain potential environmental impacts (“focused EA” approach).
6. Inconsistent interpretation of FAA environmental policy/guidance is causing delays in developing and implementing IFPs.
7. No systems approach to IFP criteria development and implementation; competing agency initiatives impede criteria requirements definition; implementation aspects of criteria development are not currently addressed.
8. Inconsistent application of FAA Safety Management System (SMS) policy regarding the need to develop a Safety Risk Management Document (SRMD) or a Safety Risk Management Decision Memorandum (SRMDM) for every new or amended IFP causes delays.
9. Processing delays occur because there is no standardized process to accept input from all IFP proponents/stakeholders, to access, request, track, edit, store, and manage information throughout the IFP development process.

Navigation Procedures Implementation Plan Development Team

The NAV Lean Implementation Plan Development Team was established by the NAV Lean Sponsors with the selection of a Lead and Co-Lead. Eight individuals were selected based on their respective subject matter expertise in the appropriate field to work closely with the primary FAA stakeholders responsible for implementation of the recommendations and partner with them to develop this implementation plan (*see Appendix A*). This plan will be distributed to the applicable OPRs for implementation. Execution of this plan will be a cross-agency effort led by ATO and AVS. A lead and co-lead will remain in place to oversee and track implementation progress and provide periodic reports to the Steering Committee throughout the duration of the project. Upon execution of this implementation plan the Steering Committee will identify an oversight

system that will monitor and report progress on all major milestones and deliverables contained within this plan to the appropriate FAA governance body.

Future IFP Process

Implementation of the future IFP process is expected to significantly reduce the average time required to implement IFPs. This positions the FAA to meet the increased demand for approval of instrument flight procedures, which are the cornerstone of the Next Generation Air Transportation System (NextGen). Achieving this optimal future process and all of its benefits will require implementation of all of the recommendations proposed in this report. However, incremental benefits may be realized as elements of the future process are implemented.

As described in the *Navigation (NAV) Procedures Project Final Report, September 2010*, the entire IFP life cycle will be documented in a revision to FAA Order 8260.19, *Flight Procedures and Airspace*, to address all aspects of the IFP process in a single location. The process will be better managed by having all IFP requests submitted through an authorized web-based portal established as the single entry point into a system for requesting, processing, tracking, and managing the IFP development life cycle. The system will provide controlled access to all users with established credentials, and will provide the minimum information requirements to initiate an IFP request.

The system will allow participants to obtain up-to-date information concerning IFP status; exchange information with other system users, and provide an archive function and audit trail. This system will also serve as a “gateway” to databases required for IFP design and development, applicable publications, and forms and templates. Use of this system will facilitate early screening of requests to ensure completeness and prioritization of requests, leading to transparency for users. It will also ensure that safety, airspace, operational approval, and environmental aspects are all considered early in the process. Use of this common portal will also facilitate the early recognition of potential requirements for new or modified criteria.

The future process will be flexible. It will be designed with a “fast track” path for minor amendments to existing IFPs and will accommodate the movement of air traffic control (ATC)-designed STARs directly to quality control (QC), thereby eliminating much of the duplication of effort found in the current process.

Approved Recommendation for Implementation

This section contains the NAV Lean recommendation action plans presented in a standard format. They provide a step-by-step plan for implementing each recommendation along with information concerning the linkage between recommendations, where applicable, and may serve as a simple tracking tool to measure progress.

Some recommendations included in this plan either mirror or are very similar to other FAA initiatives already planned or underway. This allows potential to leverage existing program resources to meet the recommendations outlined by the Navigation Procedures Project. However, schedules will have to be coordinated closely, and in some instances, the NAV Lean project schedules may have to be modified to conform to other FAA plans. The action plans, in conjunction with the project schedule, will provide adequate information and level of granularity to guide implementation team members and OPRs representatives through completion of the NAV Lean initiative. They will also provide a yardstick by which to monitor implementation progress.

Recommendation 1: Identify conditions and amend policy (FAA Orders 8260.19 *Flight Procedures and Airspace* and 8260.43 *Flight Procedures Management Program*) to allow expedited processing and clear definition of minor revisions to IFPs.

Product	Revisions to FAA Orders 8260.19 and 8260.43 that will define, allow for, and describe the process to expedite minor revisions to IFPs, and a revision to the Procedures Tracking System (PTS) software to support these process changes.		
Related Recommendations	1, 3, 4, and 19.		
Action #	ACTION ITEM	OPR	
1.1	Develop clear definition of minor revisions to IFPs. (90 days)	AFS-400	
Action Plan			
<ol style="list-style-type: none"> 1. Flight Standards (AFS) Flight Technologies and Procedures Division (AFS-400) to form a working group of subject matter experts (SME) and supporting/accountable OPRs to establish a clear definition of what constitutes a minor revision to IFPs including air traffic services (ATS) routes. This group should review existing FAA Orders as a starting point. <i>For example, see FAA Order 8260.19, Paragraphs 2-22.b, 8-13, and 8-58.e.</i> 2. Develop concept and framework for a “fast track” workflow process for minor amendments for incorporation into applicable Order(s). <p>Note: Minor amendments have also been termed abbreviated amendments.</p>			
Action #	ACTION ITEM	OPR	
1.2	Revise Policy. (360 days from completion of 1.1.)	AFS-400	
Action Plan			
<ol style="list-style-type: none"> 1. Amend applicable orders to include the results of Action Item 1.1. 2. Designate authority to classify revisions as “minor.” 3. Office of Environment and Energy (AEE) review changes for potential impact to environmental processes and recommendations. 			
Action #	ACTION ITEM	OPR	Support
1.3	Implement expedited processing of minor amendments. A formalized process to accelerate procedure amendments for all types of IFPs including ATS routes. (90 days; may begin during 1.2.)	AFS-400	AJV-(E,C,W)2, AJV-3

Action Plan			
<ol style="list-style-type: none"> 1. Implement fast track workflow process with a work group of the OPRs [Mission Support Services (AJV) Operations Support Group (OSG) and Aeronautical Products (AJV-3)]. AFS ensures the workflow process meets the intent of the criteria established via amended FAA Orders in Action Item 1.2. <ol style="list-style-type: none"> a. Establish external flow process of how work will flow between OPRs. b. Each OPR establishes their internal workflow process. 2. AJV-0 establishes service level agreement (SLA) with Technical Operations Services (AJW-0) for flight inspection requirements if required. (90 days) 			
	ACTION ITEM	OPR	
1.4	Identify automation requirements and enhance software. (360 days; concurrent with 1.3.)	AJV-3	
Action Plan			
<ol style="list-style-type: none"> 1. Identify proposed automation change requirements needed to support the fast track workflow established in 1.3. 2. Coordinate proposed changes with OSG, Terminal and En Route Procedures Publication Groups, Flight Inspection, and Charting Groups. 3. Coordinate final requirement changes with AFS. 4. Design and plan automation enhancements to the Procedures Tracking System (PTS). 5. Establish an implementation schedule that includes training and education requirements. 			
Comments			
<p>* STARS are covered under <i>Recommendation 4</i>. To avoid extra costs and accelerate implementation, consideration should be given to including the Performance-Based Navigation Integration Group (AJV-14) at this point and completing as much of <i>Recommendation 4</i>, Action Item 4.1 as possible.</p> <p>Working groups include OSG/ Flight Procedures Teams (FPTs), Instrument Flight Procedure Automation (IFPA), and Development Branches (Terminal and En Route).</p>			
Safety Risk Management (SRM) Plan			
N/A			
Timeline to Complete		Estimated Cost	
2 to 3 years		\$655,000	

Detailed Discussion

Implementing this recommendation will require establishment of clear definitions of “minor” revisions; designation of authority to designate revisions as minor; a clear

description of how such revisions are to be processed; revision of the internal and external work-process flow, and a revision to PTS that facilitates the fast track workflow.

Metrics

Action Item 1.1 will need to be completed before a baseline can be established. The metric will measure the total number of days a product (that meets the minor amendment definition) spends in the system from request to publication. Once Action Item 1.3 is complete and implemented, the metric will then measure a new average of how long new requests for amended products remain in the system and the total number of products published. Tangible benefits are anticipated to be a reduction in processing time of minor amendments of a minimum of 45 days each and an increased total capacity. Metrics will validate the benefit of this recommendation.

Recommendation 2: Approve TARGETS-developed STAR output for electronic transfer of data to the Aeronautical Products procedure production database.

Product		Approval of TARGETS as a software tool for the development of STARs, updated TARGETS program documentation, an amended FAA Order 7100.9 <i>Standard Terminal Arrival Program and Procedures</i> , and associated software changes to TARGETS and Instrument Flight Procedure Automation (IFPA).		
Related Recommendations		1, 3, 4, and 19.		
Action #	ACTION ITEM	OPR		
2.1	Approve TARGETS as a platform for STARs development. (245 days)	AFS-400		
Action Plan				
<ol style="list-style-type: none"> 1. Refresh program documentation requirements. 2. Develop an approval plan for the TARGETS platform. 3. Develop test sets for platform validation. 4. Execute test. 5. Provide test results. 6. Review results for validation. 7. Approve TARGETS for STAR development. 				
Action #	ACTION ITEM	OPR		
2.2	Amend FAA Order 7100.9. (360 days; may start concurrent with 2.1.)	AJV-14		
Action Plan				
Amend FAA Order 7100.9.				
Action #	ACTION ITEM	OPR	Support	
2.3	Implement electronic transfer. (3 years; may start concurrent with 2.1.)	AJV-14	AFS-400, AJV-3	
Action Plan				
<ol style="list-style-type: none"> 1. Identify data format. 2. Identify software requirements for TARGETS and IFPA. 3. Refresh TARGETS program documentation requirements. 4. Develop an approval plan for TARGETS and IFPA platform software changes. 5. Enhance TARGETS and IFPA software to support electronic transfer. 				

6. Develop and approve test sets for validation of the new data transfer process. 7. Execute test. 8. Document test. 9. Review test results for validation. 10. Electronic transfer implemented.	
Comments	
“Electronic transfer” in this recommendation could be done incrementally to support this recommendation. Since Aeronautical Products will not have STARS in their database for some time, TARGETS .tgs files could be provided to Aeronautical Products so that they could edit the *.tgs files and produce updated forms without waiting for the change to IFPA software.	
Safety Risk Management Plan	
An SRMD will be completed for each proposed FAA Order change, when required.	
Timeline to Complete	Estimated Cost
3 to 4 years	\$615,000

Detailed Discussion

Implementation of this recommendation will require testing TARGETS to ensure it meets the intent of criteria. This will be accomplished through a refresh of the program documentation requirements, developing and executing a TARGETS platform test, and the validation of the requirements and test results. This recommendation also requires an amendment to the STAR Order (7100.9) to reflect the use of TARGETS as an AFS-approved STAR development tool. The final step to implementing this recommendation is to develop and establish the ability to electronically transfer TARGETS data to the Aeronautical Products IFPA database through changes to the IFPA software to accept TARGETS data as a direct input. The modification to TARGETS and the IFPA platforms must be synchronized in order to accomplish this.

Metrics

The metric for this recommendation would be the ability to track the reduction in Aeronautical Products production time after the successful implementation of electronically transferring data for procedure packages.

Recommendation 3: Implement a “Direct to Quality Control” process for STARs when developed in TARGETS.

Product	Approved (direct to QC) STAR production workflow process that is supported by the use of TARGETS.		
Related Recommendations	1, 2, 4, and 19.		
Action #	ACTION ITEM	OPR	
3.1	OSG establishes direct to QC process. (90 days)	AJV-(E,C,W)2	
Action Plan			
<ol style="list-style-type: none"> 1. OSG define and establish internal policy and project flow process. The process must be mirrored in each Service Area. <ol style="list-style-type: none"> a. Define and establish workflow process between facility and OSG. b. Define and establish FAA Form 8260-2 <i>Radio Fix and Holding Data Record</i> input process. 2. Coordinate mutual agreement with AJV-3 for project transfer process. 			
Action #	ACTION ITEM	OPR	
3.2	Establish internal direct to QC process. (60 days; concurrent with 3.1.)	AJV-3	
Action Plan			
<ol style="list-style-type: none"> 1. Establish internal policy and project flow process-define and establish Production Integration processes. 2. Coordinate mutual agreement with OSG for project transfer process. 			
Action #	ACTION ITEM	OPR	Support
3.3	Validate process. (7 days; starts after completion of 3.2.)	AJV-(E,C,W)2	AJV-3, AFS-460
Action Plan			
<ol style="list-style-type: none"> 1. Coordinate the validation process. 2. Validate and approve the process. 3. Document process in amendment to FAA Order 7100.9 and related publications. <p>Note: Amendment to FAA Order 7100.9 should be accomplished in conjunction with <i>Recommendations 1, 2, and 4.</i> (360 days)</p>			
Action #	ACTION ITEM	OPR	
3.4	Install TARGETS to support direct to QC process. (30 days; concurrent with 3.1.)	AJV-3	

Action Plan			
1. Install TARGETS for QC use. 2. Test TARGETS software to ensure no operational/hardware problem exists.			
Action #	ACTION ITEM	OPR	
3.5	Conduct QC Training. (270 days: begins after completion of 3.4.)	AJV-3	
Action Plan			
1. Determine training requirements. 2. Develop training material. 3. Train QC specialists in TARGETS use.			
Note: Given its on-going QC function, mass training of QC specialists will not be possible. Up to six months will be needed to complete training for all QC specialists.			
Action #	ACTION ITEM	OPR	Support
3.6	Implement direct to QC. (150 days; may begin once a sufficient number of QC specialists have been trained, see 3.5.)	AJV-(E,C,W)2	AJV-3
Action Plan			
1. Test workflow. 2. Implement amended workflow.			
Comments			
SRM Plan			
An SRMD will be completed for each proposed FAA Order change, when required.			
		Estimated Cost	
1 to 2 years		\$560,000	

Detailed Discussion

Once TARGETS is approved as an IFP design tool, STARS produced by TARGETS will be ready for Aeronautical Products QC, which would consist of verifying that the correct data sources were used and, if necessary, a flight inspection could then be conducted. There would be no need for Aeronautical Products to rework the design calculations. This could be accomplished prior to, or in conjunction with, the development of an interface to allow TARGETS data to be electronically imported into the Aeronautical Products system.

Metrics

To measure the effectiveness of implementing this recommendation, a baseline of “time required from delivery to the FPT to publication” will have to be established. This will be accomplished by measuring the total number of days a STAR spends in the system from the time they were delivered to the FPT to publication. The baseline will return an average number of days a STAR remained active in the system. The baseline should include the past two fiscal years. Once established, this baseline will need to be kept up to date. Once this recommendation is implemented, the baseline will be frozen and a new metric started to reflect the total number of days each STAR remains in the system from the date transferred to QC to publication. *As of that date, STARS currently in the system beyond the FPT action item will be excluded.* This will result in a measurement of how many days, on average, a STAR remains in the system. This measurement will determine the effectiveness of implementing this recommendation. Breaking the metric down into individual action items will enable trend analysis and indicate the need to possibly (further) refine the process. Additional metrics may be developed as deemed necessary. It is anticipated that tangible benefits include a minimum reduction of 45 days in the processing time of each STAR.

Recommendation 4: Establish process within FAA Orders 7100.9 and 8260.19 to allow abbreviated amendments for STARs.

Product	Revisions to applicable FAA Orders.		
Related Recommendations	1, 2, 3, and 19.		
Action #	ACTION ITEM	OPR	Support
4.1	Define abbreviated STAR amendment. (180 days)	AJV-14	AFS-400
Action Plan			
<ol style="list-style-type: none"> 1. Define abbreviated STAR amendment. 2. Identify actions that may not necessitate a flight inspection. 			
Action #	ACTION ITEM	OPR	Support
4.2	Establish STAR naming conventions. (540 days; may begin concurrent with 4.1.)	AJV-14	AFS-400, AJV-3
Action Plan			
Establish STAR naming and numbering conventions. (This step needs to be presented to the Aeronautical Charting Forum (ACF) and Communications, Navigation, and Surveillance (CNS) Task Force.)			
Action #	ACTION ITEM	OPR	
4.3	Amend applicable FAA Orders. (360 days; begin after completion of 4.1.)	AJV-14	
Action Plan			
<ol style="list-style-type: none"> 1. Amend FAA Order 7100.9 and related publications. (360 days) 2. AEE will review changes for potential impact to environmental processes. 			
Action #	ACTION ITEM	OPR	Support
4.4	Establish OSG workflow process. (90 days; may begin during draft of Action Item 4.3.)	AJV-(E,C,W)2	AJV-14, AJV-3
Action Plan			
<ol style="list-style-type: none"> 1. Define and establish internal policy and project flow process for OSG. The process must be mirrored in each Service Area. <ol style="list-style-type: none"> a. Define and establish workflow process between facility and OSG. b. Complete <i>Recommendation 3</i>, Action Item 3.1, number 2. 2. Coordinate project transfer process. 			

Action #	ACTION ITEM	OPR	
4.5	Establish AJV workflow process. (90 days; may start during draft Action Item of 4.3.)	AJV-3	
Action Plan			
<ol style="list-style-type: none"> 1. Establish internal policy and project flow process. 2. Coordinate project transfer process. 			
Action #	ACTION ITEM	OPR	
4.6	Notify industry and develop/deliver training and education. (180 days; begins after completion of 4.5.)	AJV-0	
Action Plan			
<ol style="list-style-type: none"> 1. Prepare and coordinate process changes with industry. 2. Develop training and education for all stakeholders. 3. Deliver training. 			
Comments			
SRM Plan			
An SRMD will be completed for each proposed FAA Order change, when required.			
Timeline to Complete		Estimated Cost	
3 years		\$225,000	

Detailed Discussion

We need to define what constitutes an abbreviated amendment to a STAR. The Flight Inspection workflow process will also be reviewed and determinations made as to which abbreviated STAR amendments do not require flight inspection. AJV-14 will need to amend FAA Order 7100.9 to incorporate the abbreviated STAR definition and to establish policy and process. AJV-14, AJV-3, and the AJV- (E,C,W) 2 will need to establish internal workflow processes and coordinate the transfer of abbreviated STAR amendments between the OSG and AJV-3 consistent with the updated guidance in Order 7100.9. The STAR naming convention must be revisited to explore the use of amendment numbers similar to what exists today for instrument approach procedures. Finally, as STARs are very important to users, industry outreach is essential to this recommendation.

Metrics

In order to establish a baseline for metrics to measure the effectiveness of implementing this recommendation, the clear definition of an abbreviated amendment for STARs will need to be completed. Once completed, a baseline can then be established that measures the total number of days required to process a STAR product (amendment) from the date of request to the date of publication. This will require an evaluation of those STAR

amendments currently published that, although already published, meet the (new) definition of an abbreviated amendment. This baseline time period should include the current fiscal year and two previous fiscal years. The baseline should only include amendments that have been published and should not include any amendments currently approved by a Regional Airspace and Procedure Team (RAPT) and/or currently in PTS. Those amendments, if meeting the definition of an abbreviated amendment, will be tracked and the baseline updated with each passing publication cycle. The baseline will return an average number of days a STAR remained in the system.

Once *Recommendation 4* is complete and implemented, the metric will then track each STAR processed as an abbreviated amendment. This will return an average of how long (from request to publication) a STAR submitted for an abbreviated amendment under the new process remains in the system. This should be broken down and reported first as a total number then by individual action items in the system. Breaking the metric down into individual action items will enable trend analysis and indicate the need to possibly (further) refine the process. Additional metrics may be developed as deemed necessary. A tangible benefit from this recommendation will be the reduction in processing time of up to 50 percent.

Recommendations 5: Establish a standardized set of databases with custodianship and data stewards to maintain data integrity.

Product	Develop and implement a standardized architecture of databases and/or data sets with unified non-redundant subject areas, data elements, standardized naming conventions, data types and formats for use in IFP development and implementation. This will prevent duplicate records within a database and across other databases. The intent is to provide a single version of non-redundant data to design and implement IFPs. Additionally, a centralized access point will have to be developed. The implementation of a centralized database portal, for use by all IFP Service Providers, will keep data synchronized and reduce process delay and rework time. Establish policy specifying data steward and custodian roles and responsibilities as well as databases and/or data sets for use in IFP development.		
Related Recommendations	6, 7, 8, 9, 15, and 19.		
Action #	ACTION ITEM	OPR	Support
5.1	Identify data subject areas needed for IFP design by all service providers [FAA, Department of Defense (DoD), and third party]. (30 days)	AJV-3	AJF, AFS-400
Action Plan			
<ol style="list-style-type: none"> 1. Identify data subject list through review of existing orders/advisory circulars (ACs), IFP tools, and reports. 2. Coordinate/work through the United States–Instrument Flight Procedure Panel (US-IFPP) Database Working Group (WG). 			
Action #	ACTION ITEM	OPR	Support
5.2	Identify information (data) flow for IFP development lifecycle for each data subject area. (450 days; may be concurrent with 5.1.)	AJV-3	AJF, AFS-400
Action Plan			
<ol style="list-style-type: none"> 1. Review Future State IFP Process. 2. Identify and review scenarios to be used for information flows. 3. Follow Air Traffic Organization Finance (AJF-0) data management information flow process. 4. Develop process/data mapping (create, read, update, and delete). 			
Action #	ACTION ITEM	OPR	Support
5.3	Using the information flow, capture existing	AJV-3	AJF,

	databases and flight procedure products used in IFP development and identify any high level gaps that may exist. (60 days; may be concurrent with above actions.)		AFS-400
Action Plan			
<ol style="list-style-type: none"> 1. Document information flow. 2. Identify existing databases and products. 3. Identify gaps in needed databases. 			
Action #	ACTION ITEM	OPR	Support
5.4	Determine precision and tolerance requirements needed in data elements used in IFP development. (90 days; may be concurrent with above actions.)	AFS-400	AJV-3, AJF
Action Plan			
Using <i>Recommendation 9</i> , map requirements to the national airspace system (NAS) data architecture.			
Action #	ACTION ITEM	OPR	Support
5.5	Map existing databases to match identified data standards. (540 days; may be concurrent with above actions.)	AJF	AJV-2, AFS-400
Action Plan			
<ol style="list-style-type: none"> 1. Using output from 5.3 and 5.4 analyze data residing in each database. 2. Determine gaps. 			
Action #	ACTION ITEM	OPR	Support
5.6	Identify stewards, custodians, authoritative sources and approved replicated sources based on information flow and database mapping. (210 days; may be concurrent with above actions.)	AJV-2	AJF, AFS-400
Action Plan			
<ol style="list-style-type: none"> 1. Analyze redundancies. 2. Identify and recommend proper stewards and custodians. 			
Action #	ACTION ITEM	OPR	Support
5.7	Define transition plan (end state, interim steps, segmented implementation, etc.), to include timeline and costs. (150 days; may be concurrent with above actions.)	AJV-2	AJF, AFS-400

Action Plan	
<p>Recommend output and mid-term data architecture and data flow.</p> <ol style="list-style-type: none"> a. Analyze output of Action Plans 5.1 thru 5.6 – develop an interim and end-state information flow. b. Develop an implementation plan (process flow). c. Associate timelines and costs to plans. 	
Comments	
<p>Note: The information flow process will identify where data and information are created, where value is added, and products are produced. It also identifies sources used throughout business processes. This process will help identify authoritative sources of master data (master data can be thought of as the data shared throughout the process: airport data, navigational aid (NAVAID) data, procedure data).</p>	
SRM Plan	
<p>An SRMD will be completed for each proposed FAA Order change, when required.</p>	
Timeline to Complete	Estimated Cost
3 years	\$2,500,000

Detailed Discussion

Working through the US-IFPP, Database WG, the data subject areas needed for IFP design by all service providers (FAA, DoD, and third party) will be identified as well as the information (data) flow for IFP development lifecycle for each data subject area. Using the information flow, existing databases and flight procedure products will be captured that are used in IFP development and identify any high level gaps that may exist. The precision and tolerance requirements needed in data elements used in IFP development (*Recommendation 9*) will be determined and the requirements mapped to the NAS data architecture. Once this is complete, databases will be mapped to identified data stewards. Based on information flow and database mapping, the appropriate data stewards, custodians, authoritative and approved replicated data sources will be identified.

The information flow process mentioned above will identify where data and information are created, where value is added and products are produced. This process will help identify authoritative sources of master data. A transition plan will need to be created that will cause some changes to existing applications. Production of products will be done by referencing the master data.

Metrics

Measuring over time the change in number of databases maintained for IFP.

Recommendation 6: Provide access to, and mandate use of, a single set of data for all IFP service providers.

Product	New FAA policy (Orders and Advisory Circulars) to provide access to and mandate the use of a standardized set of databases for the design and implementation of an IFP. The new formulated FAA policy (Orders and Advisory Circular) will guide the FAA to provide controlled and protected access to the contents of standardized databases and preserve the integrity, consistency, and the quality of data. In addition, it will address the discretionary access controls and the identification and authentication criteria necessary to ensure that the access to standardized databases are effectively managed and controlled.		
Related Recommendations	5, 7, 8, 9, and 19.		
Action #	ACTION ITEM	OPR	Support
6.1	Enable service providers (external to FAA), access to databases. (36 months; may begin 12-18 months after action item 5.1 begins.)	AJV-2	ARP, AFS-400
Action Plan			
<ol style="list-style-type: none"> 1. Coordinate/work through US-IFPP Database WG. 2. Determine need for new or necessary changes to existing FAA Orders/Advisory Circulars. 3. Establish implementation timeline. 			
Action #	ACTION ITEM	OPR	Support
6.2	Identify/resolve security issues and work to establish third party access to databases. (36 months; may be concurrent with 6.1.)	AJV-2	ARP, AFS-400
Action Plan			
<ol style="list-style-type: none"> 1. Coordinate/work through US-IFPP Database WG. 2. Identify security issues associated with remote access to FAA databases and resolve. 3. Determine need for new or necessary changes to existing FAA Orders/Advisory Circulars. 4. Establish implementation timeline. 			
Comments			

SRM Plan	
An SRMD will be completed for each proposed FAA Order change, when required.	
Timeline to Complete	Estimated Cost
3 years	\$200,000

Detailed Discussion

There are multiple databases containing the same subject areas and data elements. Data from the same infrastructure is collected redundantly from multiple projects and input into multiple databases. This leads to different users accessing the same data elements from multiple sources. The US-IFPP Database WG will play a key role in this process and will direct and oversee the implementation.

Metrics

Measuring over time the change in number of databases and data sets maintained for IFP development.

Recommendation 7: Develop, implement, and ensure standards to electronically communicate, transfer, and integrate data among tools.

Product		FAA policy (Orders and Advisory Circulars) specifying standards to electronically communicate, transfer and integrate data among all instrument procedure design systems. These systems and tools across FAA and third party service providers will communicate with each other and have a set of standards where all data is handled in the same way.	
Related Recommendations		2, 3, 5, 6, 8, 9, 15, and 19.	
Action #	ACTION ITEM	OPR	
7.1	Develop and identify standards for means to electronically transfer data. (6 months; may begin 12-18 months after action item 5.1 begins.)	AJF	
Action Plan			
<ol style="list-style-type: none"> 1. Coordinate/work through US-IFPP Database WG. 2. Establish/standardize an Extensible Markup Language (XML) schema for data [Aeronautical Information Exchange Model (AIXM) compliant with necessary IFP unique extensions and other standards as identified]. 3. Determine need for new recommendations for next release of AIXM and other standards as identified. 4. Determine need for new or necessary changes to FAA Orders/Advisory Circulars. 5. Establish implementation timeline. 			
Action #	ACTION ITEM	OPR	
7.2	Provide internal and external access to recommended standard databases (<i>Recommendation 5</i>) using standard exchange formats defined in 7.1. (3 months; may begin concurrent with 7.1.)	AJF	
Action Plan			
<ol style="list-style-type: none"> 1. Coordinate/work through US-IFPP Coding WG. 2. Establish/standardize an XML schema for data (AIXM compliant with necessary IFP unique extensions). 3. Determine need for new or necessary changes to FAA Orders/Advisory Circulars. 4. Establish implementation timeline. 			

Comments	
SRM Plan	
An SRMD will be completed for each proposed FAA Order change, when required.	
Timeline to Complete	Estimated Cost
3 years	\$3,500,000

Detailed Discussion

This recommendation is an extension of *Recommendation 2* which was confined to electronic transfer of TARGETS-generated STAR data. It expands the concept to consider all tools used in the IFP process. Automated tools are an essential component in processing and managing data used in the IFP process, and as such they should be capable of communicating electronically where there is a need for direct interface.

To implement this recommendation, standards will need to be developed so electronic data is transferred throughout the procedure design process the same way and allow multiple systems to integrate. The standards will comply with the AIXM and changes to existing or new FAA guidance will be developed to implement this process. The US-IFPP Database WG will play a key role in this process; the WG will direct and oversee the implementation.

Metrics

Measuring over time the reduction in instances where users have to manually input data for IFP development.

Recommendation 8: Standardize software and data formats that allow auto-population/extraction of data to produce, populate, and edit documents that are accessible to all parties for review.

Product	Develop FAA policy (Orders and Advisory Circulars) specifying standards to electronically communicate, transfer and integrate data among documents and forms. Implement capability for electronic transfer of data and auto-population of forms using established policy.		
Related Recommendations	5, 6, 7, 9, 15, and 19.		
Action #	ACTION ITEM	OPR	Support
8.1	Establish capability for the electronic transfer of data and the auto population of forms. (3 years)	AJV-0	AJF
Action Plan			
<ol style="list-style-type: none"> 1. Coordinate/work through US-IFPP Database and Coding WG. 2. Standardize design for auto population of forms. 3. Determine need for new or necessary changes to FAA Orders/Advisory Circulars. 4. Establish implementation timeline. 			
Comments			
SRM Plan			
An SRMD will be completed for each proposed FAA Order change, when required.			
Timeline to Complete		Estimated Cost	
3 years		\$1,500,000	

Detailed Discussion

Through the US-IFPP Database WG, FAA policy will be developed to address the electronic transfer of data throughout the procedure design process, thereby eliminating the need to manually enter data.

Metrics

Measuring over time the increase in number of systems that use digital transfer of data via a centralized access point, using XML schemas that are AIXM compliant, with necessary IFP unique extensions.

Recommendation 9: Standardize precision, resolution, and rounding values that are needed for each IFP application to alleviate disparity.

Product	Develop or amend FAA policy (Orders and Advisory Circulars) specifying standards for data precision, resolution and rounding in IFP development and the exchange/dissemination of data. Implement standards for data precision to ensure the integrity of the data used in IFP development is maintained.
Related Recommendations	5, 6, 7, 8, and 19.

Action #	ACTION ITEM	OPR	
9.1	Determine the applications that use data for IFP design, storage and dissemination. (12 months)	AFS-400	
Action Plan			
<ol style="list-style-type: none"> 1. Develop list of databases, software applications and documentation products that store, manipulate, or disseminate IFP data throughout the IFP lifecycle. 2. Determine input and output data requirements. 3. Analyze list, check for overlap and conflicts, and consolidate items. <p>Note: Leverage output from <i>Recommendation 5</i>.</p>			
Action #	ACTION ITEM	OPR	
9.2	Identify the mathematical precision, tolerance, and resolution standards needed for each application. (180 days; may be concurrent with 9.1.)	AFS-400	
Action Plan			
<ol style="list-style-type: none"> 1. Capture known tolerances by reviewing orders and develop a list containing precision requirements for each data subject and application. 2. Capture how each application manipulates or rounds data. <p>Note: Focus on highest precision requirement, work toward lower precision data items.</p>			
Action #	ACTION ITEM	OPR	
9.3	Determine need for new or necessary changes to FAA Orders/Advisory Circulars. (60 days; may be concurrent with 9.1.)	AFS-400	
Action Plan			
Include applicable non-FAA Orders, including executive orders, DoD, etc.			

Action #	Action Item	OPR	
9.4	Determine strategy for changing national datum standard from North American Datum of 1983 (NAD83)/North American Vertical Datum of 1988 (NAVD88) to World Geodetic System of 1984 (WGS84)/International Earth Rotation Service of 2005 (ITRF2005). (3 years; may be concurrent with 9.1.)	AFS-400	
Action Plan			
<ol style="list-style-type: none"> 1. Analyze specific requirements of current Executive Order 12906, <i>Coordinating Geographic Data Acquisition and Access: The National Spatial Data Infrastructure</i>. 2. Identify office or department responsible for new datum standard and get buy-in for new change. 3. Identify office or department responsible to draft document (FAA Order, Executive Order, etc. as appropriate) specifying new Federal policy for aviation. 			
Action #	ACTION ITEM	OPR	
9.5	Establish an interim policy for providing WGS84 data to all IFP applications. (18 months; may be concurrent with 9.1.)	AFS-400	
Action Plan			
Define requirements or steps for retrieving WGS84-referenced data or converting from NAD83 to WGS84 as appropriate.			
Action #	ACTION ITEM	OPR	
9.6	Coordinate outputs with US-IFPP. (120 days: may be concurrent with 9.1.)	AFS-400	
Action Plan			
Coordinate with the US-IFPP through the Database WG.			
Comments			
SRM Plan			
An SRMD will be completed for each proposed FAA Order change, when required			
Timeline to Complete		Estimated Cost	
4 to 5 years		\$200,000	

Detailed Discussion

With the evolving nature of performance-based navigation and the requirement for greater precision and data integrity, data precision must be standardized across the spectrum of data collection, management, dissemination, use in the development of IFPs and documentation/storage of IFPs in databases and forms.

Stakeholders must be queried to develop a list of applications (including both tools and data repositories) that should be considered. Each application must be analyzed for input and output data requirements. Develop consolidated list of data requirements that meet stakeholder's needs. The process of consolidating this list will include identifying overlaps (i.e., similar data items that should be identified under one data requirement), and identifying conflicts (data items that are similar but cannot be captured under one data requirement). There must be consensus on resolutions identified by stakeholders.

The mathematical precision, tolerance, and resolution standards will need to be assessed for each application. Known tolerances will be captured by reviewing orders. Each application will also be analyzed to determine how it manipulates or rounds data that must be captured. Standard methods for translating data stored in legacy datums (NAD83, etc.), to newly required datums (WGS84) will be identified and made available, at least in the interim until data can be upgraded to new conventions. Requirements will be vetted through the US-IFPP. Once a consensus is reached, tools and data stores must then be modified to correctly store and transfer data with an appropriate level of quality and integrity. As the process continues, requirements will emerge for new or necessary changes to FAA Orders and Advisory Circulars.

Metrics

Measure the increase in the number of IFP development systems that use data precision standards developed to ensure data integrity.

Recommendations 10: Amend FAA Order 1050.1E, *Policies and Procedures for Considering Environmental Impacts*, to provide guidance to environmental specialists on using the focused EA approach and use of radar track data for noise analysis in lieu of an existing procedure.

Product	Modify FAA Order 1050.1E to provide additional guidance to environmental specialists on using the focused EA approach and the use of radar track data in assessing potential environmental impacts of proposed IFPs. This order is currently be revised by AEE and these changes will be provided as part of that revision.		
Related Recommendations	11 and 12		
Action #	ACTION ITEM	OPR	
10.1	Revise FAA Order 1050.1E to reflect new information concerning the use of radar track for noise data and clarify the use of the focused EA approach for environmental review process. (2 years)	AEE	
Action Plan			
<ol style="list-style-type: none"> 1. Revise FAA Order 1050.1E (underway). Major milestones are: <ol style="list-style-type: none"> a. Draft revised order for public review and comment. b. Final Order signed by the Administrator and subsequently published in the Federal Register and distributed within the agency. 2. Draft Guidance Memo to address the use of radar tracks for noise data (completed). 			
Comments			
<p>The recommendation to revise FAA Order 1050.1E resulted from discussions among ATO environmental specialists concerning interpretation of environmental requirements outlined in FAA Order 1050.1E as they relate to documentation and interpretation of certain Categorical Exclusions (CATEX).</p> <p>In the area of documentation requirements, some ATO environmental specialists misinterpreted FAA Order 1050.1E to require that every impact category listed in Appendix A of the Order needed to be mentioned and analyzed separately, to some degree, in an EA even if it was not impacted by the proposed action. This misinterpretation and practice resulted in expending more time and resources than necessary when evaluating the potential environmental impacts of new IFPs.</p> <p>Because completion of this Order revision is a several-year process, AEE has issued an interim guidance memo to address these two issues prior to finalization of FAA Order 1050.1F (see <i>Recommendation 11</i>).</p>			

SRM Plan	
N/A	
Timeline to Complete	Estimated Cost
2 years	\$1,000,000

Detailed Discussion

The recommendation to revise FAA Order 1050.1E resulted from discussions among ATO environmental specialists concerning interpretation of environmental requirements outlined in FAA Order 1050.1E as they relate to the level of detail in environmental documentation and interpretation of certain CATEXs.

In the area of level of detail in environmental documentation, some ATO environmental specialists have misinterpreted FAA Order 1050.1E to require that every impact category listed in Appendix A of the Order needed to be mentioned and analyzed separately, to some degree, in an EA even if it was not impacted by the proposed action. This misinterpretation and practice resulted in expending more time and resources than necessary when evaluating the potential environmental impacts of new IFPs. The FAA Office of Environment and Energy issued a clarifying Guidance Memorandum that reiterates the Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA).

Because of the inconsistent interpretation and application of CATEXs (311g and 311i), clarifications to FAA Order 1050.1E were requested to reduce misunderstanding and provide consistent understanding across the ATO. The request resulted in Interim Guidance being issued until FAA Order 1050.1E can be finalized and published. Clarifying text revisions will be incorporated into Order 1050.1F to reflect the true intent of the language. *Recommendation 11* specifically addresses the Interim Guidance that will provide the near-term clarification needed to efficiently and effectively process new IFP requests until the revised Order can be finalized and published.

Metrics

Time required to complete environmental assessments for IFPs that do not qualify for a CATEX will be used as the metric. To measure the effectiveness of this product the baseline or current processing time would need to be compared to the proposed or future processing time. The current state, as identified in the Airspace and Environmental WG Report, is that an “EA normally takes a minimum of 12 months and costs a minimum of \$250K. FAA time and cost minimums depend on the nature of the action.”

Recommendation 11: Issue interim operating guidance for FAA Order 1050.1E to enable the use of the focused EA approach for analyzing environmental impacts.

Product	The Guidance Memorandum clarifying and further outlining the preparation of focused and timely environmental assessments for proposed new IFPs is complete and has been distributed throughout the agency. It is currently being used by environmental practitioners. This recommendation is complete and no additional products are required.		
Related Recommendations	10 and 12.		
Action #	ACTION ITEM	OPR	
11.1	Draft Guidance Memo directing the use of the focused EA approach when analyzing environmental impacts.	AEE	
Action Plan			
None, Action completed.			
Comments			
<p>FAA Order 1050.1E, Change 1 Guidance Memo 2 was developed to promote the preparation of focused, concise and timely Environmental Assessments for proposed FAA actions. While this practice is already included in the Order and used by many FAA environmental specialists, additional guidance was needed to further facilitate and promote its use, particularly for ATO environmental specialists.</p> <p>The recommendation to revise FAA Order 1050.1E resulted from discussions among ATO environmental specialists concerning interpretation of environmental requirements outlined in the Order as they relate to documentation and interpretation of certain CATEXs. Some ATO environmental specialists misinterpreted FAA Order 1050.1E to require that every impact category listed in Appendix A of the Order needed to be mentioned and analyzed separately, to some degree, in an EA even if it was not impacted by the proposed action. This misinterpretation and practice resulted in expending more time and resources than necessary when evaluating the potential environmental impacts of new IFPs.</p> <p>Time required to complete environmental assessments for IFPs that do not qualify for a CATEX can be used as the metric. To measure the effectiveness of this product the baseline or current processing time would need to be compared to the proposed or future processing time. The current state, as identified in the Airspace and Environmental WG Report, is that an “EA normally takes a minimum of 12 months and costs a minimum of \$250K. FAA time and costs minimums depend on the nature of the action.” The main goal is to reduce the amount of processing time, which would also reduce the cost. Leaning the environmental review process for IFPs resulted in a reduction in processing time. This focused approach to analyzing environmental impacts of proposed IFPs will reduce not only the size of the document but will reduce the amount of time it takes to complete the environmental review process.</p>			

SRM Plan	
N/A	
Timeline to Complete	Estimated Cost
Completed	None

Detailed Discussion

FAA Order 1050.1E Change 1, Guidance Memo 2 was developed to promote the preparation of focused, concise and timely Environmental Assessments for proposed FAA actions. While this practice is already included in the Order and used by many FAA environmental specialists, additional guidance was needed to further facilitate and promote its use, particularly for ATO environmental specialists. The previous discussion under *Recommendation 10* outlines the basis for this Recommendation.

Metrics

N/A, Metric will be measured under *Recommendation 10* when revised Order is published.

Recommendation 12: Enhance noise and air quality screening tools to make initial screening more efficient for FAA environmental specialists.

Product	Improved/enhanced aviation environmental tools to accommodate all types of air traffic procedures, including conventional and RNAV departure, arrival, and IAPs, developing a screening tool for the FAA’s noise and emissions model, the Aviation Environmental Design Tool (AEDT), and ultimately incorporating or linking these features into the web-based portal for all procedure requests.		
Related Recommendations	10, 11, 13, 14 and 18.		
Action #	ACTION ITEM	OPR	
12.1	Enhance Noise Screening Guidance Document.	AJV-12	
Action Plan			
<p>Include pre-screening analysis capabilities for smaller aircraft operations below 3,000 ft above ground level (AGL).</p> <ul style="list-style-type: none"> a. Requested by the Business Process Re-engineering Environmental Workgroup. b. Develop screening guidance that can be used for these types of procedures. c. Included as a MITRE work plan deliverable. d. Revised document due August 2011. 			
Action #	ACTION ITEM	OPR	
12.2	Enhance capabilities of the Noise Integrated Routing System (NIRS) Screening Tool (NST).	AJV-12	
Action Plan			
<p>This tool developed is currently used to screen a small number of procedures that qualify for CATEX to determine their potential for extraordinary circumstances. This tool has been in use and will be enhanced and improved to allow for screening any number of procedures and incorporate the following:</p> <ul style="list-style-type: none"> 1. Phase 1 – (Completed) <ul style="list-style-type: none"> a. Incorporate Screening Guidance Document pre-screening functions into the NIRS Screening Tool (NST). b. Include ability to compute fuel burn. c. Include ability to bundle radar tracks. d. Continue integration with AEDT. 2. Phase 2 – (Estimated Completion Date March 2012) 			

	<ul style="list-style-type: none"> a. Continue integration with AEDT. b. Include initial environmental screening/review. c. Initially include the environmental screening/review filter functionality described in <i>Recommendation 14</i>. d. Identify actions that are eligible for a CATEX and will not require review by an Environmental Specialist. e. Filter's flow will also identify what level of environmental review and documentation required. (<i>See Recommendation 14.</i>) 		
Action #	ACTION ITEM	OPR	
12.3	Enhance capabilities of the TARGETS Noise Plug-In.	AEE	
Action Plan			
Integrate TARGETS Noise Plug-In with Aviation Environmental Design Tool (AEDT).			
<ul style="list-style-type: none"> a. Include ability to create custom profiles. b. Include ability to group analyses by cases and scenarios. c. Include ability to compute fuel burn, carbon dioxide (CO2), and other gaseous emissions. d. Include a draft user guide. e. Revise TARGETS Environmental Plug-In (Estimated Completion Date March 2012). 			
Action #	ACTION ITEM	OPR	
12.4	Develop a screening tool for the Aviation Environmental Design Tool (AEDT).	AJV-12	
Action Plan			
<ul style="list-style-type: none"> 1. Develop a screening tool that combines the ease of use of NST with the data management and environmental computations of AEDT. 2. Will screen noise, air emissions, and fuel burn/CO2 impacts. 3. Design and develop Aviation Environmental Screening Tool (AEST). 			
Note: AEST design begins this fiscal year and development will begin after release of AEDT in January 2012.			

Action #	ACTION ITEM	OPR	
12.5	Incorporate environmental screening/review filter into the planned web-based procedure portal.	AJV-12	
Action Plan			
<ol style="list-style-type: none"> 1. Develop initial environmental screening/review filter, based on recommendations by the Mission Support Services (MSS) Environmental Process Re-engineering Workgroup. 2. Initially include this initial environmental screening/review filter functionality as part of NST (<i>see Item 12.2</i>). 3. Develop the ability to access environmental screening capabilities through the web-based procedure portal. 4. Develop the ability to produce a CATEX document based on information entered through the planned web-based portal. 5. Incorporate functionality into the planned web-based procedure portal after it is developed. 			
Comments			
<p>The following tools are currently being used for noise screening of procedures that qualify for a CATEX to determine the potential for extraordinary circumstances:</p> <ol style="list-style-type: none"> a. Guidance for Noise Screening Air Traffic Actions (<u><i>MITRE Document MP090164</i></u>). b. NIRS Screening Tool (NST) – A tool for noise screening based on the NIRS. c. TARGETS Noise Plug-In – The TARGETS program is used for the design and evaluation of RNAV procedures interfaced with the Integrated Noise Model (INM) and in the future with Aviation Environmental Design Tool (AEDT). <p>Although the above are typically used for screening, depending on the size of the project, both INM and NIRS could also be used to screen larger projects. Additionally, the new AEDT will incorporate the functionalities of INM and NIRS and eventually replace them. AEDT will be released in two phases. Phase I is scheduled for release in January 2012 and will replace NIRS capabilities. A new screening tool will be developed based on it. The INM functionality will be replaced in Phase II and will be released mid-2013.</p>			
SRM Plan			
N/A			
Timeline to Complete		Estimated Cost	
3 years		\$2,000,000	

Detailed Discussion

Currently there are two different environmental review processes for procedures. To provide more consistent screening procedures for environmental review, we will enhance capabilities and cross functionality of noise screening tools.

The TARGETS Noise Plug-In provides capability for screening for noise impacts by invoking the Integrated Noise Model (INM). However, there is not a similar tool to screen for air quality/climate change impacts. The FAA is developing AEDT, which contains fuel burn and air/noise emissions evaluation capability, to replace its current emissions models. AEDT will provide information to allow a better understanding of the trade-offs between climate change, air quality, and noise effects of changes in airspace and procedures. A project began in FY11 under AEE to modify TARGETS software to use AEDT for emissions analyses. Once the TARGETS-AEDT connection is matured, air quality, climate change, and noise impacts can be screened as part of the procedure development process.

Implementing this recommendation will require the following:

- Enhance the Noise Screening Guidance Document;
- Enhance capabilities of the NST;
- Enhance capabilities of the TARGETS Noise Plug-in;
- Develop screening tool for AEDT,
- Incorporate the initial environmental screening/review filter into the planned web-based procedure portal.

Metrics

Compare the number of IFPs that have been processed to the number of IFPs processed using the enhanced toolset and compare the amount of time required for environmental processing of IFPs under existing process to the time required for environmental processing using the enhanced toolset.

Recommendation 13: Standardize management and environmental specialist training to ensure consistent compliance for all IFPs within FAA Order 1050.1E.

Product		Develop basic NEPA training, training on the planned environmental process for procedures, and training on the FAA-approved environmental screening tools.	
Related Recommendations		10, 11, 12, and 14.	
Action #	ACTION ITEM	OPR	
13.1	Develop NEPA 101 Training.	AJV-12	
Action Plan			
<ol style="list-style-type: none"> 1. Develop NEPA computer-based training. 2. Design course for new environmental specialists, airspace/procedure specialists, and managers. 3. Provide basic understanding of the NEPA, its relationship to FAA Order 1050.1, and how it applies to air traffic actions. 4. Outline specific NEPA nuances with regard to procedure design including Metroplex airspace design/redesign, arrival and departure routing, RNAV procedures and routing. 5. Include airspace utilization such as Class designations and Special Use Airspace. 6. Provide access to NEPA training through the FAA online training system (electronic Learning Management System - eLMS). 7. Provide course on CD/DVD. 8. Establish as NEPA 101 eLMS course (ECD September 2011). 			
Action #	ACTION ITEM	OPR	
13.2	Develop Procedure Environmental Processing Training.	AJV-12	
Action Plan			
<ol style="list-style-type: none"> 1. Follow-on to the NEPA 101 course. 2. Training will be based on the Environmental Process Re-engineering Workgroup recommendations. 3. Design course for new environmental specialists, airspace/procedure specialists, and managers. 4. Include guidance for combined environmental screening/analysis of all types of procedures. 5. Develop computer-based training specific to the procedures environmental process. 			

6. Provide access to procedure environmental process training through the FAA eLMS online training system.			
7. Provide course on CD/DVD.			
Action #	ACTION ITEM	OPR	
13.3	Develop Environmental Tools Training.	AJV-12	
Action Plan			
<ol style="list-style-type: none"> 1. Supplement NEPA 101 course and Procedure Environmental Processing Training. 2. Design for new environmental specialists and airspace/procedure specialists with responsibility for environmental screening or reviewing the results of environmental tools. 3. Develop NST training. 4. Develop TARGETS Environmental Plug-In training. 5. Develop AEST training. 6. Include all training guidance for combined environmental analysis of all types of procedures. 			
Comments			
There needs to be one consistent process for environmental review. All persons with environmental responsibilities need to be trained on this one process to ensure consistent application of environmental laws, regulations, policies, orders, and guidance.			
SRM Plan			
N/A			
Timeline to Complete		Estimated Cost	
4.5 years (18 months per course)		\$255,000	

Detailed Discussion

There needs to be one consistent process for environmental review within Mission Support Services. All persons with environmental responsibilities need to be trained on this one process to ensure consistent application of environmental laws, regulations, policies, orders, and guidance. This will help to ensure the uniform application of environmental impact assessment requirements across all the organizations involved in IFP development and implementation.

The following training will be developed for MSS environmental specialists to ensure environmental review of all types of procedures is handled consistently:

- NEPA 101 Training
- Procedure Environmental Processing Training
- Environmental Tools Training

Metrics

Compare the number of IFPs that have been processed to the number of IFPs processed using the enhanced toolset and compare the amount of time required for environmental processing of IFPs under existing process to the time required for environmental processing using the enhanced toolset.

Recommendation 14: Revise FAA Orders 8260.19 (*paragraph 2-8*) and 7400.2, *Procedures for Handling Airspace Matters, (chapter 32)*, to clearly define responsible federal official authorized to sign applicable environmental documents.

Product		Review and revise, as needed, FAA Orders 7400.2 and 8260.19.	
Related Recommendations		10, 11, 12, and 13.	
Action #	ACTION ITEM	OPR	
14.1	Establish a workgroup to review IFP environmental responsibilities.	AJV-3	
Action Plan			
<ol style="list-style-type: none"> 1. Establish the Environmental Process Re-engineering Workgroup. 2. Develop an environmental Screening Filter that will identify actions that are eligible for a CATEX and will not require review by and Environmental Specialist. 			
Action #	ACTION ITEM	OPR	
14.2	Clarify environmental responsibilities in FAA Order 8260.19, <i>Flight Procedures and Airspace</i> .	AFS-400	
Action Plan			
Revise FAA Order 8260.19E to clarify FAA environmental Orders that should be followed. Include guidance for combined environmental analysis of all types of procedures.			
Action #	ACTION ITEM	OPR	
14.3	Clarify environmental responsibilities in FAA Order 7400.2, <i>Procedures for Handling Airspace Matters</i> .	AJV-12	
Action Plan			
<ol style="list-style-type: none"> 1. Revise FAA Order 7400.2 to clearly define and clarify environmental responsibilities for all procedures. 2. Include in FAA Order 7400.2 guidance for combined environmental analysis of all types of procedures. 			
Comments			
SRM Plan			
N/A			
Timeline to Complete		Estimated Cost	
2 years		\$250,000	

Detailed Discussion

Identify persons with responsibility and the authority to sign environmental documents for all types of procedures to ensure environmental review is consistent.

Implementing this recommendation requires the following:

- Establishing a workgroup to review IFP environmental responsibilities
- Clarifying environmental responsibilities in FAA Order 8260.19, *Flight Procedures and Airspace*
- Clarifying environmental responsibilities in FAA Order 7400.2, chapter 32.

Metrics

Compare the number of IFPs that have been processed to the number of IFPs processed using the enhanced toolset and compare the amount of time required for environmental processing of IFPs under existing process to the time required for environmental processing using the enhanced toolset.

Recommendation 15: Establish the US-IFPP as the focal point for criteria changes and new requests.

Product	Policy establishing the US-IFPP as the focal point for all IFP criteria changes and new requests as well as specifying the roles, responsibilities and the inter/intra working practices of the US-IFPP.		
Related Recommendations	3, 7, 8, and 19.		
Action #	ACTION ITEM	OPR	
15.1	Amend the draft US-IFPP Charter (Order 8260.IFPP)	AFS-400	
Action Plan			
<ul style="list-style-type: none"> a. Rescind the draft Order 8260.IFPP currently for coordination. (Complete) b. Amend draft charter to include recommendations from Navigation (NAV) Procedures Project Final Report. (Complete) c. Present amended draft charter to the US-IFPP plenary. (Complete) d. US-IFPP approves final draft. (60 days) e. Circulate amended Order 8260.IFPP for coordination. (60 days) f. Implement signed order. (180 days) 			
Comments			
SRM Plan			
N/A			
Timeline to Complete		Estimated Cost	
1 year		None	

Detailed Discussion

Currently, there is no systems approach to IFP criteria development and implementation. Competing agency initiatives impede criteria requirements definition which results in implementation delays. The establishment of the US-IFPP provides a forum to coordinate the relevant facets of governmental aviation regulatory authority at an appropriate level to assure the safest, most economical and efficient maintenance of the conventional NAS, and the establishment and implementation of the Performance-Based Navigation (PBN)-based NAS.

Metrics

Considered complete when US-IFPP functions as the focal point for all criteria changes and new requests.

Recommendations 16: Publish a new FAA Order that addresses a standardized SMS process for implementation of IFPs within the NAS.

Product	Develop guidance material that will address a standardized SMS/SRM-compliant process for the development and implementation of PBN IFPs and routes within the NAS, to be followed by guidance for all IFPs and routes that will be incorporated into a future FAA Order.		
Related Recommendations	17		
Action #	ACTION ITEM	OPR	Support
16.1	Incorporate Safety Guidance into new FAA Order that addresses a standardized SMS process for implementation of IFPs within the NAS.	AJS-5	AJV-14, AFS-400
Action Plan			
<ol style="list-style-type: none"> 1. Determine which development and implementation processes for routes and IFPs are currently SMS compliant. (<i>In Progress - December 2011.</i>) 2. Develop SMS compliant templates/checklists for all IFP and route development and implementation efforts and appended to ATO Order 1030.1A <i>ATO Safety Guidance..</i> – Underway. (<i>Estimated completion date – 2012.</i>) 3. Incorporate SMS approved IFP and route review checklists (Safety Assurance) for ATO Service Areas and facilities that are repeatable, traceable and auditable which include safety performance targets through the Orders 7210.3 and 8260.43B. (<i>June 2012.</i>) 4. Ensure that the new PBN Routes and Procedures Development and Implementation Order incorporates SMS compliant/standardized checklists, with lessons learned from earlier Safety Guidance implementations. (<i>June 2012.</i>) 5. Ensure that a future new order that addresses all routes and procedure development incorporates SMS compliant/standardized checklists, with lessons learned from earlier Safety Guidance implementations. (<i>June 2012.</i>) 			
Comments			
SRM Plan			
All deliverables will fall under current and future SMS compliance.			
Timeline to Complete		Estimated Cost	
1 to 3 years		\$500,000	

Detailed Discussion

Determine which development and implementation processes for routes and IFPs are currently SMS compliant. (*In Progress - December 2011.*)

Develop SMS compliant templates/checklists for **all** IFP and route development and implementation efforts and append to FAA Order 1030.1A *ATO Safety Guidance* – Underway. (*Estimated completion date – 2012.*)

Incorporate SMS approved IFP and route review checklists (Safety Assurance) for ATO Service Areas and facilities that are repeatable, traceable and auditable which include safety performance targets through the Orders 7210.3 and 8260.43B. (*June 2012.*)

Ensure that the new PBN Routes and Procedures Development and Implementation Order incorporates SMS compliant/standardized checklists, with lessons learned from earlier safety guidance (SG) implementations. (*June 2012.*)

Ensure that a future new order that addresses all routes and procedure development incorporates SMS compliant/standardized checklists, with lessons learned from earlier implementations. (*June 2012.*)

Metrics

Track the number of IFPs implemented using the new SMS checklist versus the number of IFPs requiring an SRMD.

Recommendation 17: Interim safety guidance should be developed by the Office of Safety (AJS) that addresses SRM compliance in reference to IFP development and implementation and distributed to all service providers.

Development of interim safety guidance to address IFPs developed prior to deployment of an SMS-compliant Process for Development and Implementation of PBN Procedures will serve as a bridge from the current to the future process.

Product		Interim safety guidance that addresses Safety Risk Management compliance in reference to IFP development and implementation. The safety guidance will include policy, requirements, and checklists.	
Related Recommendations		16	
Action #	ACTION ITEM	OPR	Support
17.1	Develop interim SMS SG to address IFPs developed prior to deployment of an SMS-compliant Process for development and implementation of PBN procedures to bridge current to future process.	AJS-5	AJV-14
Action Plan			
<p>1. Interim SG pertaining to the development and implementation of RNAV STARS has been distributed by AJS and has been in place since September 2009 and has been validated for SMS compliance. <i>(Completed)</i></p> <p>Approve Interim Safety Guidance for PBN (STARs/ Standard Instrument Departures (SID). Safety Guidance will be incorporated into the new PBN Procedures and Route Integration Order. <i>(Oct– June 2011.)</i></p> <p>Note: Currently drafting a comprehensive interim safety guidance document, which addresses development of all PBN related routes and procedures in terms of SMS compliance. <i>(Dec 2011.)</i></p> <p>2. Draft, review and approve the PBN Procedures and Route Integration Order <i>(October 2012.)</i></p>			
Action #	ACTION ITEM	OPR	
17.2	Establish interim SMS Safety Guidance to address current non-PBN IFPs.	AJS-5	
Action Plan			
<p>1. Determine what IFP development and implementation processes for conventional route and procedure development and implementation are currently SMS compliant. <i>(In Progress- September 2011.)</i></p> <p>2. Develop interim SMS compliant templates/checklist for use in the development of non-PBN routes and procedures. <i>(October 2012.)</i></p>			

Comments	
SRM Plan	
All deliverables will fall under current and future SRM and SMS compliance.	
Timeline to Complete	Estimated Cost
1 to 2 years	\$250,000

Detailed Discussion

ATO Safety will develop a SMS-compliant interim safety process to implement IFPs in the NAS. The existing FAA SMS Order will serve as policy guidance. ATO SMS Manual v2.1 (currently undergoing revision to v3.0) will be used to determine checklist development. Guidance will be modified and consolidated into a draft PBN Procedures and Route Integration Order. FAA Order 1030.1A *ATO Safety Guidance* will provide guidance to implementing interim templates/checklists that will be SMS compliant for all IFP development.

Metrics

N/A

Recommendation 18: Establish and implement a Web-based request and access portal as the mandatory entry point for all IFP requests and/or inquiries.

Product	Institute a web-based entry portal that standardizes the process for submitting requests and for initial processing of IFP. This single FAA site will be the point where a stakeholder or proponent will enter the procedure development process. The portal will help ensure that the new IFP process is followed. It will also enable stakeholders and managers to track the progress of each IFP request. This will result in less rework, lost time, and failure to maximize potential benefits.		
Related Recommendations	19, 20, and 21.		
Action #	ACTION ITEM	OPR	Support
18.1	Based on overarching IFP process defined for <i>Recommendation 19</i> ; define new IFP workflow to be modeled by web portal. (<i>See Recommendation 19</i>)	AJV-0	AJF-A
Action Plan			
<ol style="list-style-type: none"> 1. Map out business processes from entry to publication, including data flow. 2. Identify relationship between portal and existing/future sub-process tracking tools (e.g., PTS, AFS-420 criteria tracking tool, others). Define data transfer protocols as needed. 3. Determine who [or which line of business (LOB)] will move IFP requests through portal. 4. Make decision on where to host the portal. 5. Capture workflow in portal requirements documents. 			
Action #	ACTION ITEM	OPR	Support
18.2	Define and document portal software requirements.	AJV-0	AJF-A
Action Plan			
<ol style="list-style-type: none"> 1. Define user classes (e.g., external, manager, administrator, etc.). 2. Determine what IFP data elements (status, projected dates, design information, communications, etc.) will be available to each user class. 3. Define detailed data flow. 4. Determine access limitations and security requirements. 5. Document use cases for each user class. 6. Generate portal requirements document. 			
Action #	ACTION ITEM	OPR	Support
18.3	Define portal test plan.	AJV-0	AJF-A

Action Plan			
<ol style="list-style-type: none"> 1. Using requirements document, define test requirements. 2. Define test cases to exercise all test requirements. 3. Write test case scripts and generate required test data. 			
Action #	ACTION ITEM	OPR	Support
18.4	Develop and test portal.	AJV-0	AJF-A
Action Plan			
<ol style="list-style-type: none"> 1. Identify FAA and contractor resources. 2. Develop test and demonstration portal. 3. Execute test plan and use portal for test IFP requests. 4. Revise requirements as needed. 5. Develop and test production portal. 6. Develop training and education on the use of the portal. 7. Deliver training on process and relationship to portal. 			
Comments			
SRM Plan			
This initiative is an information technology (IT) solution either establishing or combining current ATO IT programs to implement <i>Recommendation 18</i> . This has no operational impact on the NAS and therefore no SRM Plan needs to be considered.			
Timeline to Complete		Estimated Cost	
3-4 years		\$1,500,000	

Detailed Discussion

The current IFP process does not identify a single office or entry point designated to receive all IFP requests. Some requests arrive at the PBN Integration Group, some are submitted to a FPT, and some may be delivered to an ATC facility. There is also a separate FAA website for IFP requests. The lack of standardization for submitting, tracking, storing, and transferring IFP request information results in frequent rework, potential human error, loss of data, and duplication of effort. Stakeholders often do not clearly understand their role in the IFP process.

The portal will be the first stop for users who wish to submit a request for a new or revised IFP and will mark the entrance to a web-based system that will help standardize the IFP process and make it more transparent to users. Any authorized user (i.e., an individual or organization with a user ID and password) will have access to the system.

There may be varying levels of permissions assigned to user IDs which will establish the limits of what a specific user may do or see through the system.

The system will provide templates and specify minimum required information for submissions so that all requests are sufficiently well-defined to allow processing. The standardization of submissions is required to enable the portal to enforce the new IFP lifecycle process, as determined in response to *Recommendation 19*. As requests progress through the IFP lifecycle, the system will provide checkpoints for persons involved in IFP development and implementation to help ensure that all necessary activities are completed at the appropriate life cycle Action Item. Users will be able to view IFPs in progress and communicate with other users via a system-provided messaging service. All actions and communications through the system will be archived and there will be an audit trail.

Metrics

Metrics will need to be defined, developed, to document the baseline and the future state of this recommendation.

Recommendation 19: Amend FAA Order 8260.19 to define the life cycle policy for IFP development to include: environmental requirements; SMS requirements; Operations and Aircraft Approval requirements; criteria revisions; revisions as necessary by other LOBs such as Airports and Air Traffic; and definition of “minor” amendments (i.e., changes to existing IFPs that are eligible for “fast tracking”).

Product	A revision to FAA Order 8260.19 that clearly defines the full IFP life cycle policy.		
Related Recommendations	1, 4, 5, 6, 10, 11, 12, 15, 16, 17, 18, 19, 20, and 21.		
Action #	ACTION ITEM	OPR	
19.1	Establish working group to define IFP lifecycle processes.	AFS-400	
Action Plan			
<ol style="list-style-type: none"> 1. Clearly define supporting OPRs. 2. Establish clear definition of what needs to be done and who needs to assist with implementation. 3. Add/refine action items. 			
Action #	ACTION ITEM	OPR	
19.2	Define the life cycle and process (<i>see Recommendation 18</i>).	AFS-400	
Action Plan			
<ol style="list-style-type: none"> 1. Define clearly what are considered minor revisions to IFPs. 2. Designate authority to designate revisions as “minor” (<i>Rec 1</i>). 3. Describe how minor revisions are to be processed (<i>Rec 1</i>). 4. Describe how environmental is processed (<i>Rec 10, 11, and 12</i>). 5. Describe how SMS should be addressed (<i>Rec 16 and 17</i>). 6. Describe how Ops Approvals should be addressed (<i>Rec 21</i>). 7. Describe how criteria revisions should be addressed (<i>Rec 15</i>). 8. Describe how other LOBs revisions should be addressed. 9. Identify any other criteria in supporting orders (environmental, airports, etc.) which need to be addressed in the applicable orders (i.e., 8260.19, 8260.43, etc.). 			

Action #	ACTION ITEM	OPR	
19.3	Amend applicable orders.	AFS-400	
Action Plan			
<ol style="list-style-type: none"> 1. Identify which existing order(s) need to be updated. 2. Determine scope and schedule for update of standards. 3. Implement changes to order(s). 			
Comments			
SRM Plan			
This is an administrative recommendation/initiative doing more with the processing of IFP rather than the operational aspect and or impact on the NAS. Even though SMS requirements are one of the sub areas to be defined for the “Life Cycle,” there are no safety implications or impacts that need to be considered for this recommendation.			
Timeline to Complete		Estimated Cost	
2 - 3 years		\$200,000	

Detailed Discussion

Historically, stakeholders have voiced concern that there is considerable disagreement on exactly how to describe the IFP life cycle and what the life cycle includes. Basically, the IFP request determines the starting point for the life cycle; however, the IFP process does not consider the IFP in the cycle until the request reaches the RAPT. Furthermore, the policy and guidance for IFP development are currently found in a number of national and regional orders, policy documents, memoranda, guidelines, and checklists. Coordination of requirements with auxiliary processes, such as SMS, criteria development, operational approval, and environmental, are also not well defined. Clearly defining an IFP life cycle and formalizing it in FAA Order 8260.19 should eliminate confusion; therefore, reduce the time required to develop and implement IFPs. The work to accomplish this task will require that AFS amend FAA Order 8260.19 to define the life cycle policy for IFP development to include environmental requirements; SMS requirements; Operations and Aircraft Approval requirements; criteria revisions, and revisions as necessary by other LOBs such as Airports and Air Traffic and definition of “minor” amendments (i.e., changes to existing IFPs that are eligible for “fast tracking”).

Metrics

Metrics will be need to be defined, developed, and document the baseline and the future state of this recommendation.

Recommendation 20: Develop an outreach/communication plan to educate users on the use of the portal.

Product	The product will include an outreach strategy and training materials to ensure that all stakeholders are aware of the requirement to use the portal for IFP requests and that they are technically able to do so.		
Related Recommendations	18, 19 and 21.		
Action #	ACTION ITEM	OPR	
20.1	Devise outreach and training plan.	AJV-0	
Action Plan			
<ol style="list-style-type: none"> 1. Coordinate with and work with AJV, AFS, and AJF (Communications) to determine process for publication. 2. Identify user groups for targeted outreach and training. Outreach must ensure that all pertinent lines of business are aware of their specialized portal-related responsibilities. 3. Establish the different types of media that will be used, i.e., video, PowerPoint, pamphlets, broadcast e-mail, etc. (Booths at events, video, web, press release, etc.). 4. Devise schedule to ensure all stakeholders and lines of business have access to training. 5. Establish metrics to measure effectiveness of outreach. 6. Develop outreach and training materials. 7. Execute outreach and training plan. 			
Comments			
SRM Plan			
Since this is an educational, informational, and outreach recommendation/initiative; there are no safety implications or impacts that need to be considered.			
Timeline to Complete		Estimated Cost	
39 months		\$800,000	

Detailed Discussion

Prior to actual implementation of the portal, it is imperative that user input, both internal and external to the FAA, be solicited. This would ensure the outreach plan and any associated training for the portal is implemented prior to release of the portal for

stakeholder usage. For instance, this outreach plan can be also used to inform stakeholders of other associated NAV Lean enhancements, to include the Operations Approval portal and updates the environmental and database recommendations. Various FAA/industry working groups should be consulted during development. Once completed, a User Guide should be published, possibly in the form of an Advisory Circular.

Metrics

Metrics will be need to be defined, developed, and document the baseline and the future state of this recommendation.

Recommendation 21: Establish a Web-based Operations Approval entry portal and a Web-based work package to accommodate the needs of LOBs.

Processing delays occur because there is no standardized process to accept input from all IFP proponents/stakeholder, to access, request, track, edit, store, and manage information throughout the IFP development process. *Recommendation 21* will establish a web-based Operations (Ops) Approval entry portal and a web-based work package to accommodate the needs of LOBs.

The Ops Portal System will have features that improve access, assignments, levels of authority, data entry, tracking during the process, and final approval. The underlying system will be a relational database with the capabilities of archiving all documents during the approval process. Quality improvements include standard checklists, templates to ensure standardization, provisions for international coordination and the ability for stakeholder interaction during the process. Improvements in expediting approvals will be part of the Ops Portal by allowing the capability of bundling data for similar approvals and the ability to fast-track approvals for those aircraft that already have an aircraft-based approval. Stakeholder training on the Ops Portal will be developed.

Product	A Web-based Operations Approval entry portal and Web-based work and training packages to accommodate the needs of all LOBs.		
Related Recommendations	18 and 20.		
Action #	ACTION ITEM	OPR	Support
21.1	Establish a web-based Operations Approval entry portal and a web-based work package to accommodate the needs of LOBs, including the following: Action Item 21.1 – 21.11.	AFS-400	AJV-2, AJF-A, AFS-100, AFS-200
Action Plan			
<p>AVS establishes a working group that consists of the OPR and supporting offices to develop a business process for the web portal and develop and implement Action Items 21-1 – 21.10. The working group will:</p> <ol style="list-style-type: none"> a. Consist of members from AFS-130, AFS-260, AFS-410, AFS-460, and AFS-470. b. Coordinate and work with AJV (part of over-all portal, subset of <i>Recommendation 18</i>). c. Review existing and planned Web Based Operations Safety System (WebOPSS) functional requirements and connectivity with web portal. d. Review planned Specials and waivers functional requirements and connectivity with web portal. e. Determine content of portal including which processes will be included and what data for each process needs to be included. 			

<ul style="list-style-type: none"> f. Define the standards and requirements for Ops/Aircraft Approval. g. Establish access requirements. h. Define new functional requirements. i. Develop the necessary training program for the Ops/Aircraft Approval portal. j. Determine need for new or necessary changes to existing FAA Orders/Advisory Circulars. k. Coordinate with other ongoing organizational efforts that are occurring, such as Flight Objective ATO, Task Force 5, and the AVS work plan. 			
Action #	ACTION ITEM	OPR	Support
21.2	Define a task assignment feature that will allow appropriate levels of authority to assign projects.	AFS-400	AJV-2, AJF-A
Action Plan			
<ul style="list-style-type: none"> 1. Coordinate with AJV to set up data base to automatically direct the request to the appropriate office for approval. 2. Determine which approval processes are included in portal and which office/offices would receive the approval package (e.g., wiring diagram or approval tree). 3. Provide for a function for parallel and serial review depending on the application. 			
Action #	ACTION ITEM	OPR	Support
21.3	Develop a relational database for control and coordination of all documents.	AFS-400	AJV-2, AJF-A
Action Plan			
<ul style="list-style-type: none"> 1. Determine content of working package and define data. 2. Establish access requirements of users. 			
Action #	ACTION ITEM	OPR	Support
21.4	Develop methods for tracking, evaluation, scheduling, assignment, drafting, review, comment, and archiving of all documents.	AFS-400	AJV-2, AJF-A, AFS-100
Action Plan			
<p>Working group will coordinate with and work with AJV, AIR, and other offices as needed to:</p> <ul style="list-style-type: none"> a. Determine the content of the work package. b. Establish an electronic process for the Ops/Aircraft Approval Document flow as outlined in the business process map based on FAA Order 8900.1, <i>Flight Standards Information Management System</i>. Establish and define the process in the 8900.1 for use in the electronic database. c. Establish a revision (control) and tracking process. 			

Action #	ACTION ITEM	OPR	Support
21.5	Develop standard document templates, electronic conveyance, and electronic signatures and establish a comprehensive PBN training program for Flight Standards Division Offices (FSDOs) and Principal Operations Inspector (POIs) on the use of the Web-based tool and the underlying requirements for PBN approvals.	AFS-400	AJV-2, AJF-A, AFS-100, AFS-500
Action Plan			
<ol style="list-style-type: none"> 1. Determine the required data to be input into the database and the desired end product (authorized template). 2. Coordinate with AJV to ensure that all required fields are indicated as such so the approval packages are complete and consistent. 3. Establish a working group that will determine the type of training needed and develop a training program that is adequate and coordinate with proper LOB such as AFS-500 or AJV. 			
Action #	ACTION ITEM	OPR	Support
21.6	Develop a checklist to assist the applicant in meeting the requirements for operational approval.	AFS-400	
Action Plan			
<ol style="list-style-type: none"> 1. Develop checklists that will be used for each operational approval. 2. Determine the relationship between the checklists to link them together to form a single authorization package for multiple authorizations. 			
Action #	ACTION ITEM	OPR	Support
21.7	Define a capability to “bundle” approvals allowing the operator to submit a single package for multiple approvals.	AFS-400	AJV-2
Action Plan			
Determine the approvals that will be “bundled” together and coordinate with AJV to ensure that the data is linked together from the initial input into the portal.			
Action #	ACTION ITEM	OPR	Support
21.8	Develop a capability for international approvals. Although PBN is not yet fully harmonized internationally with respect to approval requirements, International Civil Aviation Organization (ICAO) and the member states appear to be working in that direction and the ICAO PBN Manual (Doc 9613) is aiding that effort. Continued work is required and an international working group may be required to fully harmonize the PBN approval process, but a Web-	AFS-400	AJV-2, AJF-A, AFS-50

	based process for international approvals with the appropriate information and resources would reduce workload on both the regulator and the applicant.		
Action Plan			
<ol style="list-style-type: none"> 1. Define the future desired capabilities that may be needed in the portal with coordination of AFS-50. 2. Coordinate and work with AJV to have future capabilities addressed in portal construction. 			
Action #	ACTION ITEM	OPR	
21.9	Develop a “fast-track” approval path for those aircraft that already have an aircraft-based approval (<i>per AC 90-101 Appendix 2</i>). This would be based on aircraft approvals already obtained by Original Equipment Manufacturers (OEMs) who have provided the requisite documentation.	AFS-400	
Action Plan			
<ol style="list-style-type: none"> 1. Define criteria that would allow the approval to be placed into the “fast-track” process. 2. Define the “fast-track” process. 			
Action #	ACTION ITEM	OPR	Support
21.10	Develop a tracking mechanism for applicants to monitor their respective application packages as they move through the approval process.	AFS-400	AJV-2, AJF-A
Action Plan			
<ol style="list-style-type: none"> 1. Determine what elements of the package needs to be tracked (or if only the total package). 2. Coordinate with AJV to create a tracking mechanism in the portal. 			

Action #	ACTION ITEM	OPR	Support
21.11	Establish an easily understood method to identify (and explain) submission components that are unsatisfactory or incomplete and accompanied with recommended solutions, and a user-friendly method for the applicant to revise the submission electronically. The subsequent revisions should be clearly identified as such to aid the regulator during the approval process.	AFS-400	AJV-2, AJF-A
Action Plan			
<ol style="list-style-type: none"> 1. Develop required fields that should be filled out during original submission of package. 2. Establish a revision (control) and tracking process. 3. Develop a component to the portal that allows for subsequent submissions that then would archive the previous submission. 4. Develop a help line or email for applicants to contact with questions regarding package. 			
Comments			
SRM Plan			
Current and future SRM and SMS should be considered and implemented in the new processes and system.			
Timeline to Complete		Estimated Cost	
1 to 4 years		\$2,500,000	

Detailed Discussion

This recommendation consists of 11 action items. These action items are not accomplished concurrently and are dependent on previous action items for the overall portal to be implemented correctly. The first step is to establish a working group that will bring in other LOBs as needed to complete the implementation of the Operational Portal as well as design the critical path for the portal. The working group will also coordinate with other ongoing organizational efforts that are occurring, such as Flight Object ATO, Task Force 5, AVS work plan and the redesign of WebOPSS to ensure efforts are not duplicated and common goals are met. It is important that this working group includes all of the involved LOB beginning with this first action step.

The content of the Ops Approval portal will be determined and defined by the working group. While this is done the working group will work with IT, including AVS and AJV, to ensure that the functional requirements are included in the implementation. The current

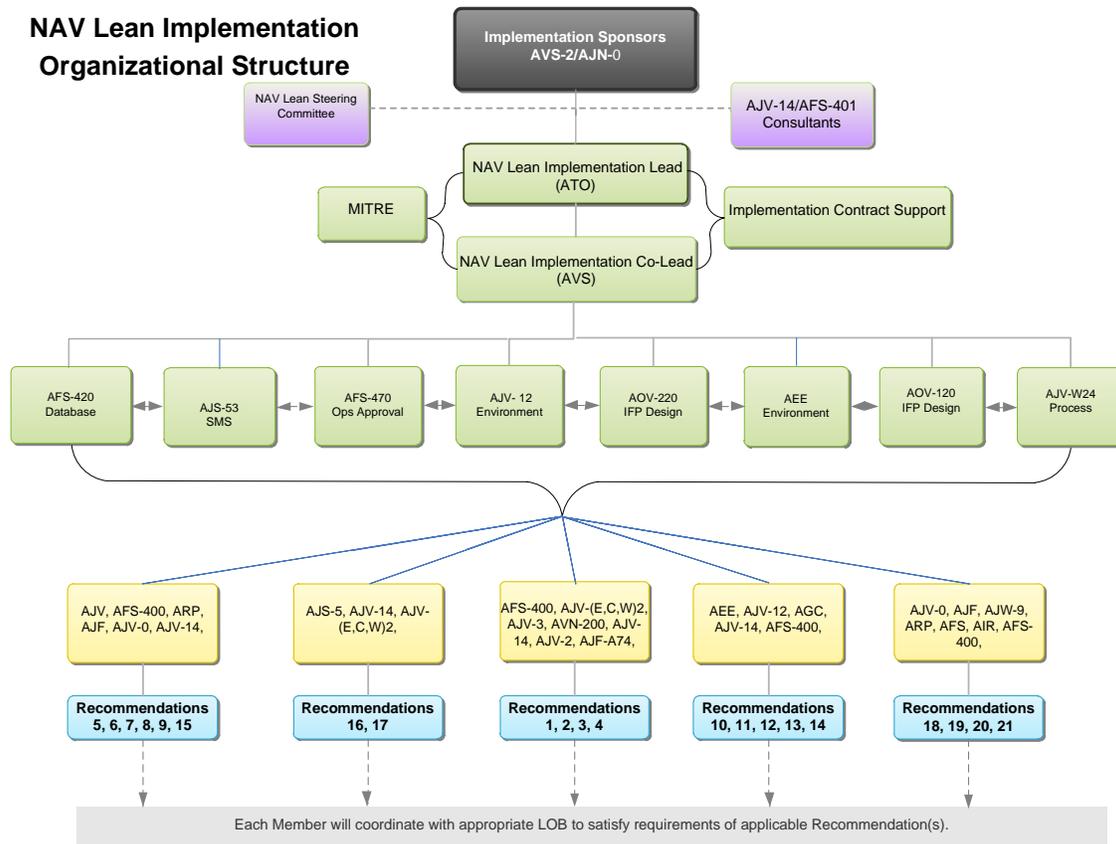
Ops Approval function that AFS uses is WebOPSS. The working group and IT will work together to incorporate WebOPSS into the new portal or vice-versa, or if determined during the process replace WebOPSS with a new program to eliminate duplication and overlap. The working group will also coordinate with the Specials and Waivers Data Base development work group to incorporate that data base into the web portal as appropriate.

Metrics

The current and historical approval timeline is reasonably documented. This information should be formalized into a format that will allow comparison tracking and analysis of approval times after the system is fully implemented.

Appendix A. NAV Lean Implementation Plan Development Team Organizational Chart

Figure A-1 describes the relationship of the Implementation Plan Development Team to the Offices of Primary of Responsibility (OPRs) and their associated recommendations. Each member of the Implementation Plan Development Team was assigned a subset of recommendations to work with their OPR counterparts to develop the detailed plan.



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Appendix C. Acronyms

AC	Advisory Circular
ACF	Aeronautical Charting Forum
AEDT	Aviation Environmental Design Tool
AEE	Office of Environment and Energy
AEST	Aviation Environmental Screening Tool
AFS	Flight Standards
AFS-400	Flight Technologies and Procedures Division
AGL	Above Ground Level
AIXM	Aeronautical Information Exchange Model
AJF	ATO Finance
AJV	ATO Mission Support Services
AJV-3	ATO Aeronautical Products
AJV-14	ATO Performance-Based Navigation Integration Group
AJW	ATO Technical Operations Services
ATC	Air Traffic Control
ATO	Air Traffic Organization
ATS	Air Traffic Services
AVS	Aviation Safety
CATEX	Categorical Exclusion
CEQ	Council on Environmental Quality
CNS	Communication, Navigation, and Surveillance
CO2	Carbon Dioxide
DoD	Department of Defense
DOF	Digital Obstacle File
DVOF	Digital Vertical Obstruction File
DWG	Database Working Group
EA	Environmental Assessment
eLMS	electronic Learning Management System
FAA	Federal Aviation Administration
FPT	Flight Procedures Team
ICAO	International Civil Aviation Organization
IFP	Instrument Flight Procedures
IFPA	Instrument Flight Procedure Automation
INM	Integrated Noise Model
ITRF2005	International Earth Rotation Service of 2005

LOB	Line of Business
MSS	Mission Support Services
NAS	National Airspace System
NAV	Navigation
NAVAID	Navigational Aid
NAVD88	North American Vertical Datum of 1988
NAV Lean	Navigation (NAV) Procedures Project
NEPA	National Environmental Policy Act
NextGen	Next Generation Air Transportation System
NIRS	Noise Integrated Routing System
NAD83	North American Datum 1983
NST	NIRS Screening Tool
OPR	Office of Primary Responsibility
OSG	Operations Support Group (AJV–(E,C,W) 2)
PBN	Performance Based Navigation
PTS	Procedures Tracking System
QC	Quality Control
RAPT	Regional Airspace and Procedure Team
RNAV	Area Navigation
SID	Standard Instrument Departure
SLA	Service Level Agreement
SME	Subject Matter Expert
SMS	Safety Management System
SRM	Safety Risk Management
SRMD	Safety Risk Management Document
SRMDM	Safety Risk Management Decision Memorandum
STAR	Standard Terminal Arrival
TARGETS	Terminal Area Route Generation, Evaluation, and Traffic Simulation
US-IFPP	United States Instrument Flight Procedures Panel
WebOPSS	Web Based Operations Safety System
WG	Working Group
WGS84	World Geodetic Standard 1984
XML	Extensible Markup Language