



Federal Aviation  
Administration

# REDAC / NAS Ops

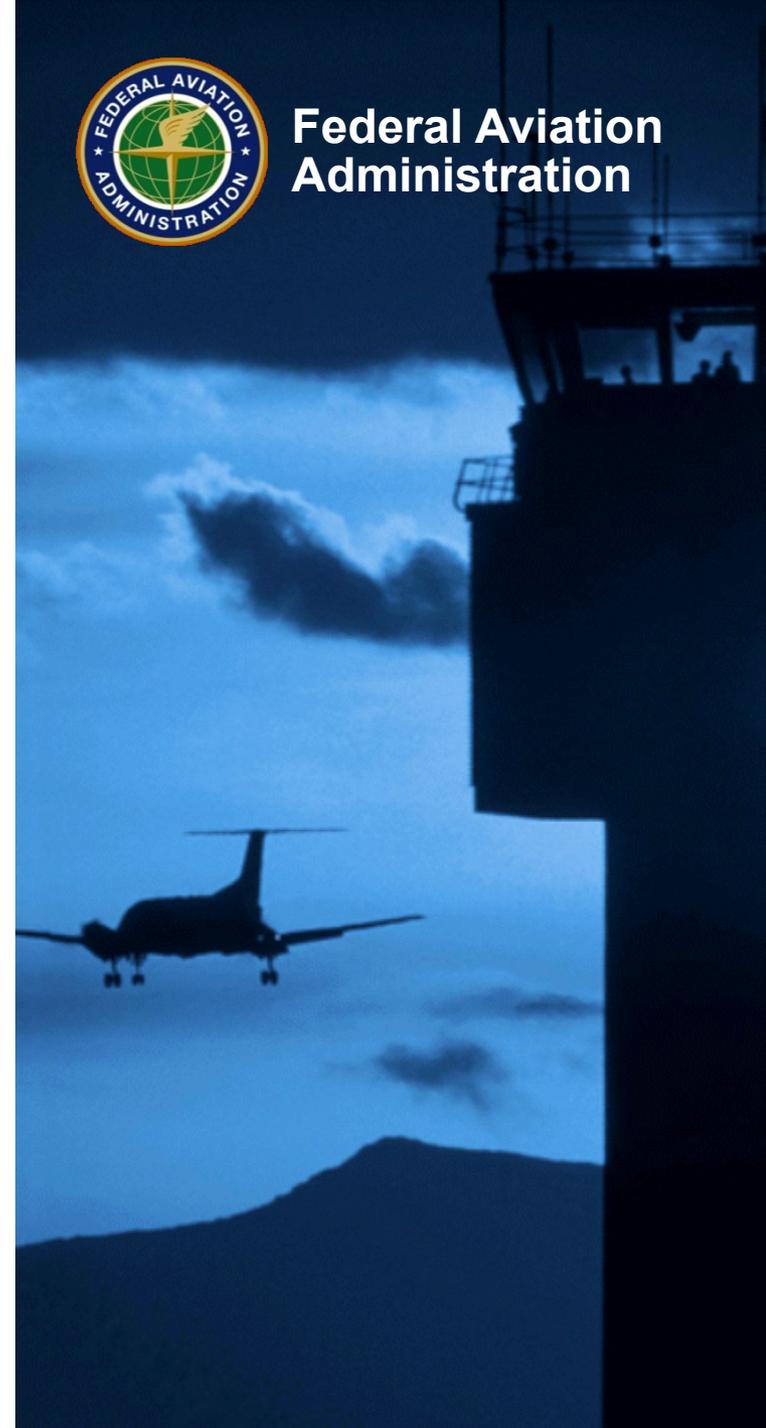
*Review of FY 2021  
Proposed Portfolio*

*Enterprise Human Factors*

*BLI Number: 1A11B0*

*Bill Kaliardos, ANG-C1, BLI Manager*

*March 26, 2019*



# Program Overview

- **The Enterprise Human Factor Development program will provide integrated guidance on human performance considerations to concept development, validation, and implementation teams.**
- **Research efforts to identify and mitigate systemic human factors considerations may yield the following benefits:**
  - Increasing the utilization rate of concepts and systems among controllers;
  - Ensuring controller acceptance of concepts and systems;
  - Increasing safety through the mitigation of known human factors risks; and
  - Decreasing controller workload through improved tools and techniques.

# Enterprise Human Factors

## 1A11B0

### What are the benefits to the FAA?

- Human factors high-level (enterprise) guidance to assist with the evolution of the NAS infrastructure and its workforce

### What determines program success?

- Successful transition of Human Factors products.
- Early identification of HF opportunities, to minimize a program's cost, safety and operational risks.

# Enterprise Human Factors, 1A11B0

## Overview Capabilities

### People:

- Program Managers
  - Bill Kaliardos
  - Sabreena Azam (iTBO Training)
- Sponsors and Customers
  - ANG NextGen
  - AJM ATO Program Management Office (“PMO”)
  - AJI ATO Safety and Technical Training
  - AJV ATO Mission Support Services
  - AJT ATO Air Traffic Services
  - AJW ATO Technical Operations

# PBN and Enterprise Human Factors, Accomplishments in Current FY

## PBN Human Factors, 1A12B0 (Previous BLI, FY16-17)

- PBN Human Performance Metrics
  - Tools and methods to “measure” and mitigate PBN ops from a ATC HF perspective
- Time/Speed/Spacing Integration
  - Recommendations on HF integration for suites of NextGen tools/procedures (vs. individual tools), from primarily a ATC HF perspective. Focus was on TBFM utilization as a key component in TBO.
- Established-on-RNP (EoR) HF Implementation Guidance
  - Guidance for facilities on EoR implementation, from primarily a ATC HF perspective
- ATC Skill Degradation from Use of NextGen Tools
  - Documentation of potential cognitive skill degradation risks from long-term use of NextGen decision support tools. Focus is on subset of Time/Speed/Spacing tools and iTBO. Risk mitigations will also be provided.

## Enterprise Human Factors, 1A11B0 (Current BLI, FY 18+)

- iTBO Training
  - Front-end analysis and curriculum development to address integrated iTBO capabilities

# Anticipated Research in FY20 and Emerging Focal Areas in FY21

## Planned Research Activities (TBD)

- HF Integration Considerations of early TBO
- HF integration of UAS compliance with ATC visual procedures
- HF integration for Mid-Term TBO
- HF integration of Cross-domain automation enhancements
- HF integration of Traffic Flow Management concept development
- HF operational interactions between UAS Traffic Management (UTM) and air traffic managed airspace
- HF integration of new PBN procedures

## Expected research Products

- All products will involve two parts
  - HF assessments
  - HF guidance (enterprise level)

# NextGen Enterprise Human Factors - Summary

## Research Requirement

Provide integrated enterprise HF guidance to:

- Increase the utilization rate of concepts and systems among controllers
- Ensure controller acceptance of concepts and systems
- Increase safety through the mitigation of known human factors risks
- Decrease controller workload through improved tools and techniques

## Outputs/Outcomes

All planned research will include:

- HF Assessments, such as to determine operational context, NAS interactions, human actors, human factors risks and opportunities
- Enterprise level HF guidance, such as design/procedure/training recommendations for programs to consider

## Planned Research

- HF Integration Considerations of early TBO
- HF integration of UAS compliance with ATC visual procedures
- HF integration for Mid-Term TBO
- HF integration of Cross-domain automation enhancements
- HF integration of Traffic Flow Management concept development
- HF operational interactions between UAS Traffic Management (UTM) and air traffic managed airspace
- HF integration of new PBN procedures

## Out Year Funding Requirements

FY19	FY20	FY21	FY22	FY23
\$1.5 M				



# Questions?

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