



**Federal Aviation
Administration**

REDAC / NAS Ops

*Review of FY 2021
Proposed Portfolio*

Enterprise Human Factors

BLI Number: 1A11B0

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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
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Out Year Funding Requirements

| FY19 | FY20 | FY21 | FY22 | FY23 |
|---------|---------|---------|---------|---------|
| \$1.5 M | \$1.5 M | \$1.5 M | \$1.5 M | \$1.5 M |

Questions?

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