



**Federal Aviation  
Administration**

# **REDAC / NAS Ops**

*Review of FY 2022  
Proposed Portfolio*

***Enterprise Human Factors***

***BLI Number: 1A11B0***

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# Enterprise (ATC) Human Factors

## 1A11B0

- **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

## Overview Capabilities

### People:

- Program Managers
  - Karl Kaufmann (Bill Kaliardos, former PM)
  - Sabreena Azam (TBO Training Analysis)

### Laboratories:

- William J. Hughes Technical Center (WJHTC)
- MITRE Corporation

# Enterprise Human Factors – Accomplishments in Current FY (20)

## Enterprise Human Factors, 1A11B0

- TBO Training Analysis
  - Preliminary analysis report to identify guidance to the curriculum design guide (CDG)
- TBO Impact on Traffic Manager Unit (TMU) – Laboratory Method
  - Current State of Knowledge of TBO and TMU Operations Report
  - TBO HF Impact on TMU, Research Plan
- TBO Impact on Enroute Traffic Manager Unit (TMU) – Cognitive Model Method
  - TBO Scenarios, Recommendations, Interim Report

# Anticipated Research in FY21

## Planned Research Activities

- HF integration for full TBO
- HF integration of Cross-domain automation enhancements
- HF integration of Traffic Flow Management concept development
- HF integration of new PBN procedures
- HF integration and assessment of the traffic manager's cognitive load as we evolve to full TBO

## Expected research Products

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

# Emerging FY22 Focal Areas

- **Human factors guidance for traffic managers and TBO**

# Enterprise HF

## 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

Products:

- 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

## FY 2022 Planned Research

- HF Integration Considerations of TBO
- HF integration of Traffic Flow Management concept development

## Out Year Funding Requirements

FY20	FY21	FY22
\$1.5 M	\$1.5 M	\$ 1.5M