REDAC / NAS Ops

Review of FY 2022 Proposed Portfolio

Enterprise (ATC) Human Factors

BLI Number: 1A11B0

Tara Holmes, ANG-C1, Division Manager

Karl Kaufmann, ANG-C1, BLI Manager

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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
- Human Factors of Advanced Air Mobility
  - Advanced Air Mobility Human Factors Use Case 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
- Human Factors of Advanced Air Mobility

Expected research Products

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

Emerging FY22 Focal Areas

- **Human Factors of Advanced Air Mobility**
- **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
- Human Factors of Advanced Air Mobility

Out Year Funding Requirements

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