REDAC / NAS Ops

Review of FY 2022 Proposed Portfolio

Enterprise Human Factors

BLI Number: 1A11B0

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Enterprise Human Factors
1A11B0

What are the benefits to the FAA

- Human factors provide 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 (HF) products to achieve NextGen objectives
- 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)

Laboratories:

- William J. Hughes Technical Center (WJHTC)
- MITRE Corporation
- Leidos (in collaboration with AJI)

PBN and Enterprise Human Factors, Accomplishments in Current FY

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

- Time/Speed/Spacing Integration
  - Recommendations on HF integration for suites of NextGen tools/procedures (vs. individual tools), from primarily an 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 an ATC HF perspective; data collection and validation activities occurred in Houston
- 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
  - Preliminary analysis report to identify guidance to the curriculum design guide (CDG)

Anticipated Research in FY21 and FY22

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 automation enhancement concepts across domains**
- **Human factors guidance for NAS impacts of development and implementation of new PBN procedures.**

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:

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

FY 2022 Planned Research

- 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

Out Year Funding Requirements

FY19	FY20	FY21	FY22	FY23
$1.5 M	$1.5 M	$1.5 M	$1.5 M	$1.5 M