REDAC / NAS Ops

Review of FY 2022 Proposed Portfolio

Enterprise Human Factors

BLI Number: 1A11B0

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Enterprise Human Factors

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
  o Bill Kaliardos
  o 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.
**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**

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