Aviation Safety RE&D

FY23 Portfolio Development Process Update

Presented to: Subcommittee on Aircraft Safety

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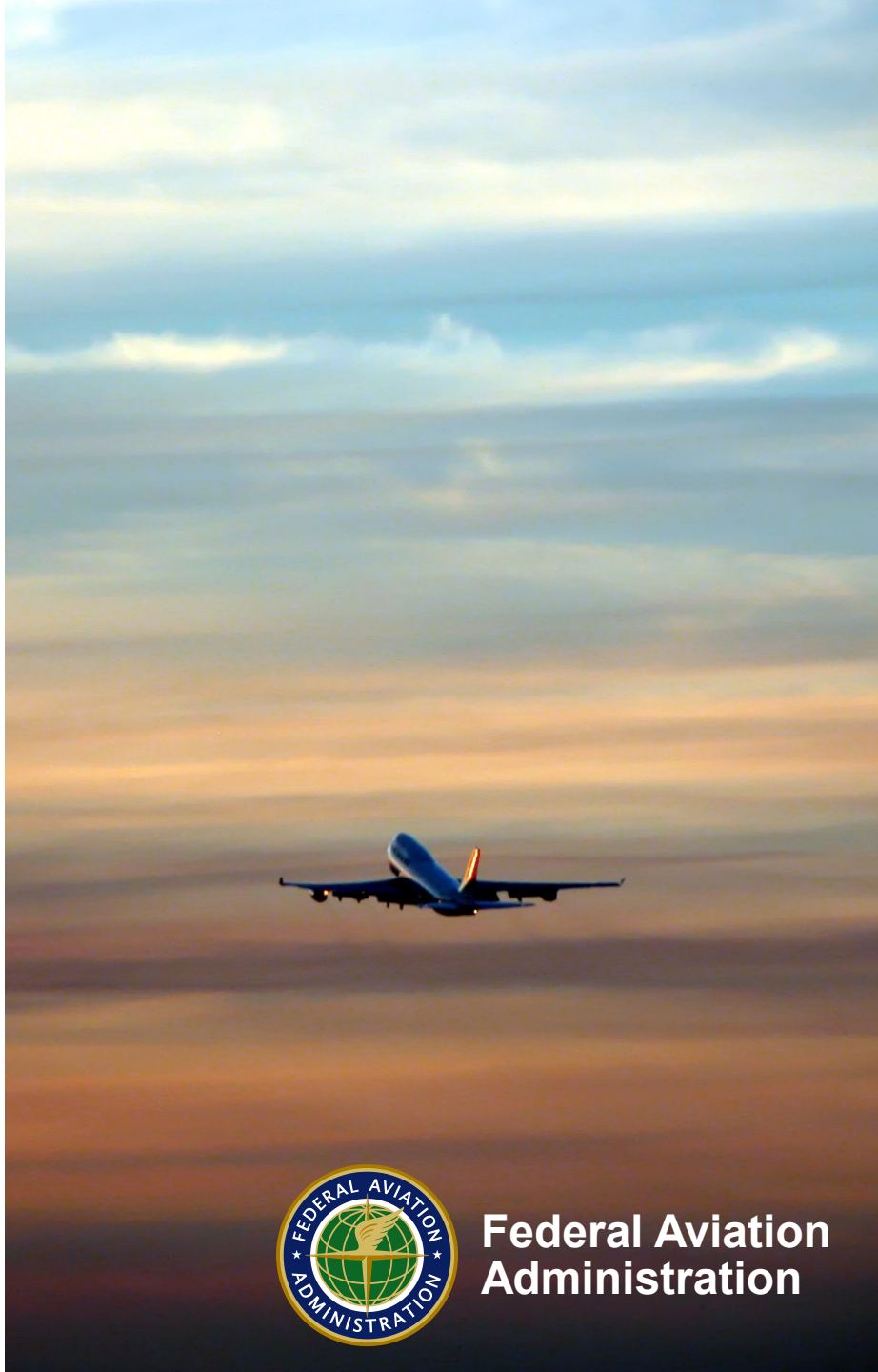


Order of the Presentation

- **FY22 Process Overview**
- **How we got here**
- **FY23 Process Overview**

FY22 Process Overview

- **Released 2-page Guidance memo**
- **Collected 78 research proposals**
- **Ranked the research proposals**
  - Developed relative rank order by scoring against 5 criterion (Safety, Legislative Direction, Administration Direction, Administrator's Commitments, Regulatory Impact)
  - Developed 4 groups
    - Group 1: Legislative Direction – mandatory (18 proposals)
    - Group 2: Core Responsibilities (2 proposals)
    - Group 3a: Mission Critical (30 proposals)
    - Group 3b: Remaining (28 proposals)
- **Programmed 29 proposals at their "nominal" levels up to $34.8M Aviation Safety contract funding target**
- **Small number of adjustments to overall target and some project funding and scopes before obtaining AVS-1 approval on April 23rd**
- **Final approved portfolio includes 33 proposals (some re-scoped for FY22) up to a $36.4M target**

How we got to today

- **AVS RED Management Team meeting most every Monday since April 6 to refine the process for the FY23 cycle**
  - Decided to develop Mendoza Lines for each individual BLI based on Finance provided contract funding levels by BLI instead of across all proposals and BLIs
  - Decided to develop BLI plans for each BLI modelled after the UAS Research Plan
  - Decided to use pairwise comparison instead of scoring/grouping methodology

FY23 Process Redesign Overview

New FY23 Process (BLI/project Based)	Previous FY22 Process (AVS Annual Portfolio Based)	Pro	Con
Develop top-level individual multi-year BLI plans (i.e. scope, operating landscape, operational capabilities, & projected budget profiles from AFN)	Develop annual proposal development guidance	• Incorporates guidance into multi-year scope and objectives/operational capabilities • Better align with the NARP 5-year timeframe • Documents the current aviation safety ecosystem • Documents desired outcomes in terms of operational objectives/capabilities • Breaks the Aviation Safety Research Portfolio into more manageable chunks • Focused on budget profiles over time (project planning)	• Multiple BLI plans instead of overall guidance document • Focused on individual annual budget planning cycles (annual planning)
Develop multi-year Projects to include needs, research, implementation, and outcomes to address the BLI Plans.	Develop annual research proposals	• **Project planning vs. annual proposal planning** • **Projects directed at defined BLI plan targets**	• More up front effort to define generate full project plans
Develop ranking for projects in each BLI using pairwise comparison process	Develop ranking of proposals irrespective of BLI using criteria/scoring process	• Pairwise process less subjective than scoring and does not imply precision where there is none • Designed to allow “live” SME input during process	• Pairwise process requires more players in each ranking meeting
Develop “Mendoza Line” for each BLI based on AFN funding targets for each BLI, reserving 10% to apply across all BLIs	Develop a “Mendoza Line” across the entire set of proposals based on AFN funding target for whole Aviation Safety portfolio	• Breaks the Aviation Safety Research Portfolio more manageable chunks	• Partially funded projects that will require re-scoping or consideration for some of the 10% hold back
Program the 10% of the target funding across all the BLIs using the same pairwise process on “partially” funded projects from each BLI team	Final “adjustments” by individual Services/Offices to move some funding to unfunded projects	• Allows for the more manageable chunks to be considered in the steps above while allowing the opportunity to move up to 10% of the target funding across the BLIs to create the final Aviation Safety portfolio	• Projects that do not get programmed funding from the 10% will go back to the BLI team to be de-scoped to fit the available BLI funding

BLI Plan Structure

- **BLI Name, Program Manager, Date**
- **BLI Scope Description**
- **BLI Participating Sponsors**
- **BLI Current Operational Environment**
- **BLI Funding Profile (5 yrs?)**
- **BLI RE&D Operational Capabilities**
  - Operational Capability 1
    - Name
    - Justification
    - Supporting Research Objectives & Outcomes
      - Objective 1 & Outcome
      - Objective 2 & Outcome
      - Objective n & Outcome
  - Operational Capability 2
    - …

BLI Plan Structure – cont.

BLI Title	Program Manager	Date (mm/dd/yy)
[Insert BLI title]	[Insert name of BLI PM]	[Insert plan date]

Completed (C)	In Process (IP)	Planned (P)	Need (N)

[For each research activity, insert the status by fiscal year and associated funds requested, programmed, or appropriated ($k)]

Research Activity Description	FY20	FY21	FY22	FY23	FY24	FY25
1. Operational Capability 1: [Insert name]						
1.1. Research Objective [Replace with statement of research objective] [Insert 1-3 sentence project synopsis]	C ($100k)					
1.2. Research Objective [Replace with statement of research objective] [Insert 1-3 sentence project synopsis]	IP ($100k)	P ($300k)				
1.3. Research Objective [Replace with statement of research objective] [Insert 1-3 sentence project synopsis]	N ($100k)	N ($200k)				
1.4. Research Objective [Replace with statement of research objective] [Insert 1-3 sentence project synopsis]						
1.5. Research Objective [Replace with statement of research objective] [Insert 1-3 sentence project synopsis]						
2. Operational Capability 2: [Insert name]						
2.1. Research Objective [Replace with statement of research objective] [Insert 1-3 sentence project synopsis]						
2.2. Research Objective [Replace with statement of research objective] [Insert 1-3 sentence project synopsis]						
2.3. Research Objective [Replace with statement of research objective] [Insert 1-3 sentence project synopsis]						
2.4. Research Objective [Replace with statement of research objective] [Insert 1-3 sentence project synopsis]						
2.5. Research Objective [Replace with statement of research objective] [Insert 1-3 sentence project synopsis)						
3. Operational Capability 3: [Insert name]						
3.1. Research Objective [Replace with statement of research objective] [Insert 1-3 sentence project synopsis]						
3.2. Research Objective [Replace with statement of research objective] [Insert 1-3 sentence project synopsis]						

Pairwise Criterion

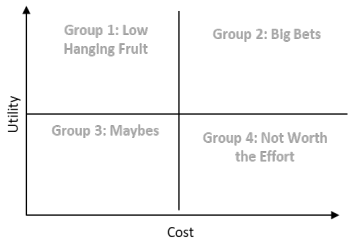
Research Proposal Evaluation Criterion 1: Policy direction
Comparative Question: Which proposal has a greater degree of support as evidenced by published FAA, DOT, executive branch, and legislative branch policy?
Description: This criterion compares the relative strength of the policy driver(s) that infer the need for the research project. Policy is inherently hierarchical based on the position of the promulgating organization within the Government.

Research Proposal Evaluation Criterion 2: Operational capability alignment
Comparative Question: Which proposal has a greater degree of alignment with the operational capabilities in the BLI plan?
Description: This criterion compares the relative degree to which the research project addresses one or more of the research objectives supporting an operational capability defined in the BLI plan.

Research Proposal Evaluation Criterion 3: Operational capability impact
Comparative Question: Which proposal will have a greater impact on realizing an operational capability, and thereby safety or efficiency?
Description: This criterion compares the relative degree to which the research project advances progress on achieving an operational capability defined in the BLI plan assuming the project is successful. This criterion compares the relative degree to which the research project advances aviation safety and/or efficiency. Safety (or efficiency) enhancements ***may*** include airborne and/or ground operations, separation standards, equipment/pilot certification, and communications

Research Proposal Evaluation Criterion 4: Prior commitment
Comparative Question: Which proposal has a greater prior commitment?
Description: This criterion compares the degree to which prior investments were made to execute the project and the impact of less than full funding in the planned year.

Research Proposal Evaluation Criterion 5: Best value
Description: Research projects are plotted on the project utility score (computed based on weights and scores for criteria 1-4) cost matrix:



Summary

- **BLI Teams currently defining initial scope, ecosystem, funding profile, & objectives/operational capabilities**
- **Next steps**
  - Writing proposals to meet the BLI plan objectives/operational capabilities plans
  - Ranking and Budget programming to targets to produce draft FY23 portfolio in time for winter/spring REDAC season