

# Developing Strategic R&D Plan for the FAA

Presented by: Cathy Bigelow, Research and  
Development Management Division, ANG-E4

Date: Summer 2014



Federal Aviation  
Administration



## Background

- **FAA needs to think more strategically about the future**
- **Opportune time to think ahead more and develop plan that could support Administrator's Strategic Initiatives**
- **Developing more effective R&D portfolio may lead to increase in value of our R&D budget**



Federal Aviation  
Administration

2

## New Tasking for REDAC and Subcommittees for Fall meetings

- **Asking subcommittees to look at broader, longer-term perspective, 10+ years**
- **Provide FAA advice to support development of R&D portfolio that is**
  - Strategic
  - Responsive
  - Addressing future R&D needs



Federal Aviation  
Administration

3

## Approach

- **At Summer/Fall meeting, develop two lists**
  - Emerging issues, things FAA should get ahead of
  - Future opportunities, areas where FAA could benefit
- **Refine the lists to the top 4-5 issues**
- **Explain why it is important for FAA to consider each one**



Federal Aviation  
Administration

4

## Output

- **Subcommittee produce a written report and brief their results at Fall REDAC**
  - Report their top 4-5 emerging issues and future opportunities
  - Describe why each one should be consider by the FAA



Federal Aviation  
Administration

5

## QUESTIONS



Federal Aviation  
Administration

6

# REDAC and the Subcommittee: Roles and Responsibilities

Presented by: Cathy Bigelow, ANG-E4  
Date: Summer 2014



Federal Aviation  
Administration



## Basis for REDAC

- **49 USC § 44508 - Research advisory committee**
- **Established a research advisory committee in the FAA, which shall**
  - A. Provide advice and recommendations to the Administrator of the Federal Aviation Administration about needs, objectives, plans, approaches, content, and accomplishments of the aviation research program;
  - B. Assist in ensuring that the research is coordinated with similar research being conducted outside the Administration;



Federal Aviation  
Administration

8

## Basis for REDAC, cont'd

- C. Review the operations of the regional centers of air transportation excellence; and
- D. Annually review the allocation made by the Administrator of the amounts authorized among the major categories of research and development activities carried out by the Administration and provide advice and recommendations to the Administrator on whether such allocation is appropriate to meet the needs and objectives identified under subparagraph (A).



## Basis for REDAC, cont'd

- **The Administrator may establish subordinate committees to provide advice on specific areas of research.**
- **FAA established the following:**
  - Aircraft Safety
  - Airports
  - Environment and Energy
  - Human Factors
  - NAS Operations



## Operation of REDAC and Subcommittees

- **Two sets of meetings (full committee and subcommittees) held annually**
- **First meeting in summer/fall timeframe**
  - Purpose is to provide strategic guidance to the FAA to develop the upcoming FY+3 research portfolio
  - FAA informs the subcommittee so they can provide the strategic guidance
    - Review of past year activities and accomplishments
    - Selected deep dives
    - Proposed FY+3 focal areas



## Operation of REDAC and Subcommittees

- **Two sets of meetings (full committee and subcommittees) held annually**
- **Second meeting in winter/spring timeframe**
  - Purpose is to review the R&D portfolio developed based on their strategic guidance from fall meeting
  - FAA briefs the proposed R&D FY+2 portfolio
  - Subcommittee provides recommendations on the proposed portfolio



## Purpose of Subcommittees

- **Formed by FAA to assist REDAC**
  - Provide advice to REDAC on specific areas of research
  - Assist in identifying overarching issues that could affect R&D portfolio
  - Help the FAA establish the best possible R&D portfolio within the constraints of FAA's available resources



Federal Aviation  
Administration

13

## REDAC and the Subcommittee: Writing Good Recommendations

Presented by: Cathy Bigelow, ANG-E4  
Date: Summer 2014



Federal Aviation  
Administration



## Subcommittee Recommendations

- **Key outputs of the REDAC to fulfill their R&R**
- **Needed to help FAA ensure best possible R&D portfolio within the constraints of FAA's available resources**
- **Best recommendations are clear and actionable**



## Good Recommendation Example

- **The SAS recommends that the FAA collate the results of its Unleaded Fuels program and that the FAA transfer these results to the aviation and petroleum industry for the private sector's use in any additional efforts aimed at developing alternatives to 100LL aviation gas and modifications to piston engines to accept lower octane fuels.**





## Opposite of Good Example

- The Subcommittee applauds the CAASD NextCAS IRAD effort, but modifying TCAS or creating a new collision avoidance system to achieve compatibility with NextGen would be a particularly complex problem, and that work would need to be based on a clear understanding of changed requirements and be a mainstream activity within CAASD's FAA-funded work program, to be done in concert with existing TCAS experts at FAA, MIT/LL and other organizations.



Federal Aviation  
Administration

17

## Current Two Part Format

- **Finding**
  - Provides some context for the recommendation
  - Background so reader can better understand recommendation
  - FAA response does not address the Finding or any information contained in the Finding
- **Recommendation**
  - Should giving advice to the FAA to do something
  - Should be clear to the reader what that something is
  - Assume reader is non-technical



Federal Aviation  
Administration

18

# Questions



Federal Aviation  
Administration

19