

NAS Operations Subcommittee | MINUTES

Meeting date & time: August 5-7, 2014

Meeting location: CSSI, Washington DC

Purpose: NAS Operations Subcommittee / Recommendations on Developing Strategic R&D Plan; Program Deep Dives

DFO: Maureen Molz

Next Meeting: March 10-12, 2015, Washington, DC

Minutes from Day 1 – August 5, 2014

Presentation Review of REDAC Recommendations, Responses and Open Actions

Presenter Steve Bussolari/Maureen Molz

Discussion: Steve discussed the status of prior REDAC NAS Ops recommendations as well as those recently addressed by the FAA Administrator in the memo dated July 9, 2014. Recommendations on Weather Program methodology, Wake RECAT benefits, and ConOps validation activities were closed. Recommendations on Trajectory Based Operations (TBO) ConOps, FAA research portfolios, mixed equipment, and Space Vehicle Operations (SVO) ConOps remained open. Detailed information on recommendations will be posted to the REDAC database. Pending actions are noted below in the minutes.

Presentation Budget Overview

Presenter Mike Gallivan

Discussion – Mike discussed the FY 2014 Research, Engineering and Development budget request (\$166M) and the appropriation of \$158.792M, signed on January 17. Budget conference language addressed issues including UAS test sites; UAS Center of Excellence and sharing of safety data; alternative fuels for GA; and environmental research. The brief included discussion of debt ceiling, sequestration, FAA reauthorization and status of FY16 DOT budget.

Presentation Review and list Recommendations on Developing Strategic R&D Plan

Presenter Steve Bussolari

Discussion – Steve discussed the task statement issued to REDAC subcommittees by Dennis Filler (Director, WJHTC), to support development of a strategic R&D plan for the FAA. The action calls for a broad perspective, looking ahead at potential research efforts in a timeframe of 10+ years, to develop an R&D portfolio that is strategic, responsive, and addresses future needs of the FAA. The subcommittee is charged with developing a list of emerging issues and opportunities, and documenting why they are significant. Steve will report out on the NAS Ops findings to the full REDAC committee at the October 2014 meeting.

Presentation Deep Dive: Runway Incursion Reduction

Presenter Nick Lento

Discussion –Nick discussed the Runway Incursion Reduction Program (RIRP) including Enhanced Final Approach Runway Occupancy Signal (eFAROS) and Runway Safety Assessment (RSA). eFAROS uses surface surveillance with augmented safety logic to provide a visual warning to pilots on final approach. The system can indicate that the runway is occupied and unsafe for landing by flashing the Precision Approach Path Indicator (PAPI) lights. FAA is providing design and engineering support for the development and implementation of eFAROS

at certain locations. Nick also reviewed the 2013 market survey progress conducted for the Runway Safety Assessment program and associated recommendations.

Minutes from Day 2 – August, 6, 2014

Presentation Recommendations on Developing Strategic R&D Plan

Presenter *Subcommittee Members*

Discussion – During this period subcommittee members briefed their inputs to the strategic R&D plan. Topics of discussion included trajectory based operations, aircraft separation concepts, autonomous systems, big data/ATM concerns, stakeholder training issues, equipage diversity, commercial off-the-shelf ATM solutions, and emerging UAS activity. Steve also emphasized that the FAA Strategic Priorities and Initiatives were a valuable point of reference for the discussion.

Presentation Round Table Program Updates Discussion

Presenter *Subcommittee Members*

Discussion – This presentation consisted of a review of R&D significant accomplishments from the past year, as submitted in summary reports by the program managers. Reviewed programs included ATC/Tech Ops Human Factors, Weather, Wake Turbulence, NextGen Wake Turbulence RECAT, NextGen Weather Technology in the Cockpit, Operations Concept Validation (ATDP), and Operations Concept Validation (Validation Modeling). Follow up actions and questions were assigned as appropriate to each program. While the subcommittee found this review of the summary reports to be productive, there were a number of questions on program-specific areas and a few programs did not provide summary reports for review. With that in mind, Steve directed that for the March 2015 NAS Ops meeting we set aside time on the agenda for one-hour briefings for each program with invitations for each manager to brief the subcommittee.

Presentation Access to FAA Operational Data Sources

Presenter *Natesh Manikoth*

Discussion – Natesh Manikoth, Chief Scientist for Software (ANG-4), briefed subcommittee members on access to FAA operational data sources. In his current position he provides technical guidance in software-related areas of the NAS system acquisition process. He cited the technical, governance and access barriers that challenge NextGen, and discussed efforts to provide easier access to the data for the broader research community. Despite budget reductions he is still pursuing solutions to critical issues, and one of the most critical and immediate issues is how to improve the time it takes to access data. He discussed the data source shortfalls, requirements and alternative options, as well as alignment with the System Wide Information Management (SWIM) program. He addressed the goal of expanding access to NAS information and resulting effects on software procurement strategy. This includes reviewing specific NAS acquisitions to consider options of more limited scope. Natesh also spoke about unique weather data challenges (duplication of efforts with other agencies), lack of available data, infrastructure issues, and future uncertainties in data access capabilities.

Presentation *Deep Dive: Weather Technology in the Cockpit (WTIC) - PEGASAS Specialty Items*

Presenter *Gary Pokodner*

Discussion – Gary provided a deep dive on General Aviation (GA) safety projects with a focus on PEGASAS, the FAA Center of Excellence (COE) for General Aviation. His brief began with a review of GA accident statistics and the program’s emphasis on identifying/addressing weather-related risks. PEGASAS efforts include research activities at six core universities operating under an FAA grant. Research into Weather Technology in the Cockpit (WTIC) is grouped into four separate weather-related projects: quantifying causality (expanding accident causal research); inadvertent VFR to IMC; GA weather alerting; and GA weather information optimization. Gary discussed tasks, findings and accomplishments associated with each project. Subcommittee members focused on the use of sound scientific methodology in WTIC research efforts and ongoing COE work. The discussion also included hypotheses formulation and standardized techniques to minimize bias while ensuring consistent, measurable results.

Minutes from Day 3 – August 7, 2014

Presentation *Review Findings and Recommendations / New Actions*

Presenter *Steve Bussolari*

Discussion – Steve reviewed pending subcommittee recommendations / new actions and opened the discussion for any additional items. The next REDAC / NAS Ops meeting will be held on March 10-12, 2015, in Washington, DC.

Presentation *Finalize Recommendations on Developing Strategic R&D Plan*

Presenter *Steve Bussolari*

Discussion – This discussion focused on the final recommendations relating to the Strategic R&D Plan submissions. Steve started with a summary of the high level research issues and opportunities briefed on Tuesday and Wednesday, and the group continued a detailed discussion of specific items to consider. Issues that the FAA should get ahead of include UAS integration, GA safety, data integrity, and the verification and validation of complex systems. Research opportunities include efforts toward a more autonomous air traffic system; big data access and measuring the NAS, particularly with regard to safety; and modeling and simulation efforts. Steve is drafting the final recommendations from the subcommittee to be presented to the full REDAC committee.

Pending Actions:

- Rewrite recommendation from Spring_2013_22 (portfolio view of research priorities) as new recommendation; assign response to ANG-E (**Steve Bussolari**)
- Reassign recommendation from Spring_2014_06 (more strategic, forward looking research process, broader than NextGen) for status update by Dennis Filler (**Steve Bussolari**)
- Request elaboration on AJV-7 / Operations Concept Validation one-page summary; elaborate on program accomplishments with specific information on integration analysis section on page 2 (**Rob Hunt**)
- Request Natesh Manikoth provide governance report referred to in his brief (do not post on REDAC website; send to members email only; LIMITED DISTRIBUTION / DO NOT FORWARD BEYOND NAS OPS) - (**Maureen Molz**)
- For March 2015 NAS Ops meeting:
 - Briefing by Dennis Filler on use NAS Ops subcommittee's inputs on strategic research (**Maureen Molz**)
 - Deep dive/mixed equipage brief from Steve Bradford or his delegate to include discussion of NextGen mixed equipage strategy (**Maureen Molz**)
 - Deep dive on Space Vehicle Operations ConOps to include how ANG-C4 and AJV-7 will validate the ConOps and a description of the validation process (see recommendation from Spring_2014_05) (**Kevin Hatton**)
 - Discussion of Trajectory Based Operations ConOps (**Marc Buntin**)
 - One hour in-person briefings for all reviewed research programs (including commercial space research program) (**Maureen Molz**)
 - Deep dive on Concept Steering Group processes; update on the multi-year research plan; discussion of industry engagement in concept validation (**John Marksteiner**)
 - Briefing on Operational Weather Needs Analysis (OWNA) to include OWNA methodology to provide comprehensive set of weather research needs and results of analysis of operational needs for elements of NSIP 5.0 (see recommendation from July_2014_01) (**Maureen Molz**)

NAS Ops Subcommittee Agenda

Date: August 5-7, 2014

Location: CSSI Capitol View
425 3rd Street, SW, Suite 700
Washington, DC 20024
Tel: 202.600.7600

Meeting Purpose: Recommendations on Developing Strategic R&D Plan and Program Deep Dives

Day 1 – August 5th

| Topic | Time |
|------------------------------------------------------------------|-------------|
| Welcome/Overview | 0830-0930 |
| Review of REDAC Recommendations, Responses and Open Actions | 0930-1015 |
| Budget Briefing - Mike Gallivan | 1015-1045 |
| Review and list Recommendations on Developing Strategic R&D Plan | 1045-1230 |
| Lunch | 1230-1330 |
| Deep Dive (s): | |
| Runway Incursion Reduction – Nick Lento | 1330-1430 |
| Strategic R&D Plan | 1430-1530 |
| Break | 1530-1545 |
| Strategic R&D Plan | 1545-1645 |
| Dinner – Location TBD | 1800 |

Day 2 – August 6th

| Topic | Time |
|---------------------------------------------------------------------------------|-------------|
| Review of Action Items | 0830-0900 |
| Recommendations on Developing Strategic R&D Plan | 0900-1200 |
| Lunch | 1200-1300 |
| Round Table Program Updates Discussion (No leads Present): | 1300-1430 |
| A11.i: Air Traffic Control/Technical Operations Human Factors | |
| A11.k: Weather Program | |
| A12.b: NextGen – Wake Turbulence | |
| A12.e: NextGen – Weather Technology in the Cockpit | |
| 1A01A: Runway Incursion Reduction | |
| 1A01B: System Capacity, Planning and Improvement | |
| 1A01C: Operations Concept Validation | |
| 1A08A: NextGen – ATC/Tech Ops HF (Controller Efficiency/Air Ground Integration) | |
| 1A08B: NextGen – New Air Traffic Management Requirements | |
| 1A08C: NextGen – Ops Concept Validation – Validation Modeling | |
| 1A08E: NextGen – Wake Turbulence – Re- categorization | |
| 1A08F: NextGen – Operational Assessments – Capacity | |
| Commercial Space | |
| Access to FAA Operational Data Sources – Natesh Manikoth | 1430-1500 |
| Break | 1500-1515 |
| Deep Dive: WTIC – Pegasas Specialty Items – Gary Pokodner | 1515-1615 |
| Final Strategic R&D Discussion | 1616-1700 |

Day 3 – August 7th

| Topic | Time |
|-----------------------------------------------------------|-------------|
| Review Findings and Recommendations / New Actions | 0830-0930 |
| Wrap up: | |
| Finalize recommendations on Developing Strategic R&D Plan | 0930-1200 |

Subcommittee Members in Attendance:

Steve Bussolari (Chair)
Joseph Bertapelle
John Cavolowsky
Bruce Holmes
Deborah Kirkman
William Leber
Mark Weber
Andres Zellweger
Maureen Molz (FAA, DFO)

Others in Attendance:

Candice Albert, JMA
Cathy Bigelow, FAA
Steve Bradford, FAA
Gloria Dunderman, FAA
Mike Gallivan, FAA
Walt Hogan, Booz Allen Hamilton
Nick Lento, FAA
Natesh Manikoth, FAA
Gary Pokodner, FAA
Chinita Roundtree-Coleman, FAA