

**Research, Engineering, and Development Advisory Committee (REDAC)
National Airspace System (NAS) Operations Subcommittee | MINUTES**

Date: *March 27-28, 2018*
Location: *Washington DC (Conference Room varies by date)*
Purpose: *Review of FY19-20 Proposed Portfolio; Provide Guidance and Recommendations; Program Deep Dives*
Facilitator: *Francisco Bermudez, Designated Federal Officer (DFO)*
Chairperson: *Leo Prusak*
Note Takers: *Sadaf Alam*
Joe Ivkovic
Upcoming Meetings:

- *April 11, 2018, Washington, DC (Full REDAC)*

Day 1 – March 27 12. 2017 (Tuskegee Conference Room 430E)

Review of REDAC Recommendations, Responses, and Open Actions
Presenters *Leo Prusak/Francisco Bermudez*

Summary: Mr. Prusak, *NAS Ops Subcommittee Chairperson*, opened the meeting with a review of Prior Action Items, Current Action Items, and Findings and Recommendations (F&Rs) status. The subcommittee noted that the development of the Commercial Space industry was accelerating and that the aim was for the FAA to further accelerate Commercial Space projects to better prepare for Commercial Space Integration into the National Airspace System (NAS). The Subcommittee would like to have another Pathfinder briefing at the Fall 2018 NAS Ops Subcommittee meeting. The Subcommittee agreed that the 2015 open action items be closed. Shelly Yak, *FAA Research and Development Executive Director*, described the progress of the National Aviation Research Plan (NARP) Redesign. She stated that, in her estimate, the redesign was about 80% complete, and was optimistic about the new NARP. Shelly also spoke about the FY19 budget, and said, in view of the current budget, the FAA will need to realign its priorities. The Appropriators in The House of Representatives have been budget-briefed. Ms. Yak noted that the FY18 budget has been signed and released, with substantial increases to various programs. John Hansman, *REDAC Chair*, thinks that the NAS Ops Subcommittee was the perfect platform to objectively say how the FY19 budget cuts would impact programs, and how the FAA should re-allocate funds, if needed.

Presentation Budget Briefing
Presenter *Mike Gallivan*

Summary: Mr. Gallivan, *R,E&D Financial Manager*, reported the FAA RE&D FY18 President's Budget Request was for \$150M. This request has been signed with an additional \$38M allocated to the RE&D budget. While most programs received an increase, some programs did see a decrease in funding. Mike Gallivan pointed out that UAS had an addition \$17M and the new total for RE&D E&E is now \$28M. Mr. Gallivan stated that the FAA has requested \$74M for FY19. He pointed out that this number is lower than the FY18 number; as a result, in FY19, Continuing Resolutions (CR) will not be

issued using FY18 numbers, instead the FAA will CR utilizing FY19 budget to avoid overspending. Mr. Gallivan pointed out that the FY20 RE&D budget request will also be \$74M. FAA Reauthorization is extended until September 30, 2018.

Presentation 1A10D NextGen – New Air Traffic Management Requirements

Presenter *Arthur Orton*

Summary: Mr. Orton provided a presentation on the New Air Traffic Management (ATM) Requirements. This presentation focused on the benefits, research goals, accomplishments, and plans of the New ATM Requirements. The New ATM Requirements program was needed to identify new opportunities to improve the efficiency and effectiveness of air traffic management operations. Mr. Orton pointed out that the ultimate goal of NEW ATM Requirements was to increase the number of arrivals and departures at major airports in the NAS. As requested at the Fall 2017 meeting, the Subcommittee was provided with updated out year financial data. Mr. Orton indicated that they have received a flat budget of \$7.5M, down from the FY18 budget of \$9M. Dr. Hansman inquired about any Vertical Takeoff and Landing (VTOL) operations that were covered by New ATM Requirements. New ATM Requirements do not have any funds allocated towards VTOL operations/research. The Subcommittee questioned the New ATM timeline and thought these activities should be happening sooner. Steve Bradford stressed that shifting work forward was a complex process that involved multiple stakeholders. The FAA is attempting to build a new standard and bring the rest of industry along with it. He added that, that takes time.

Presentation Deep Dive UAS Topics

Presenter *Steve Bradford*

Summary of Briefing: Mr. Bradford began the briefing by giving an overview of the current Unmanned Aerial Systems (UAS) environment. He continued to discuss the FAA's role in the emerging UAS environment and pointed out that the FAA has two Research Transition Teams (RTTs). The reason for this is that there is still ongoing cooperation between the FAA and NASA. Mr. Bradford stated that both the FAA and NASA have concerns that there is not a harmonized agreement on integrating UAS into the NAS. Dr. Hansman asked for clarification on what a "big" or "small" UAS was. Mr. Bradford explained that the differentiation comes by which rules the UAS operates under. For instance, a "big" UAS is operating in controlled airspace whereas a "small" UAS operates in an uncontrolled environment. Dr. Hansman wanted to know how Low Altitude Authorization and Notification Capability (LAANC) was playing a role in the FAA's UAS work. Mr. Bradford communicated that LAANC is an application within the UAS Traffic Management (UTM) environment. Mr. Bradford explained that, in Visual Line of Sight (VLOS) Part 107 Operations, an operator can freely use Class G Airspace utilizing LAANC. Facility maps in LAANC allow UAS operations within 5 miles of Class B Airspace. Mr. Bradford thinks this is an achievement that should not be underestimated.

Presentation Deep Dive Time Based Operations (TBO)

Presenter *John Maffei*

Summary of Briefing: John Maffei started with a brief overview of Trajectory Based Operations (TBO) and displayed a road map detailing the parts of TBO. Mr. Zellweger questioned if Performance Based Navigation (PBN) noise issues have played into Four-Dimensional Trajectory Based Operations (4DT). Mr. Maffei confirmed that it does play into TBO, and that the Metroplex program is working on addressing these concerns. The Subcommittee questioned the greatest risk impacting the TBO program. According to Mr. Maffei, the greatest risk impacting TBO is the change management process. He believes that if other parties do not exchange data the FAA has no other way to receive the data.

John Maffei noted that work is done with MITRE to obtain data (such as out times from aircraft) and transmit them real time via phone, tablet, or other means. This could be a low-cost solution to a complex issue. Dr. Hansman expressed concern as to how Air Traffic Controllers' will handle the new procedures and questioned if they will be quick to revert to the old procedures. Mr. Maffei replied that this wouldn't be a function of Air Traffic Control, but rather a function of airport operations.

Presentation 1A01C Operations Concept Validation & Infrastructure (ATDP)

Presenter *Brian Duvall*

Summary: Mr. Duvall began with a brief overview of ATDP and the reason for the program's necessity. In short, ATDP investigates specific concept elements and drives operational and technical requirements and implications for human factors, training, and procedures. Dr. Hansman wanted greater detail into the process that determined which Concept of Operations goes forward. Mr. Duvall responded by saying they have embraced a new process for AJV-7, a board will determine if the concept will be pursued. The Subcommittee expressed general confusion as to what the ATDP program does.

Maureen Molz, *R&D Management Division Manager*, explained that, historically, AJV-7 would assess and analyze various gaps from an operational perspective. Dr. Hansman requested a list of concepts that AJV-7 is currently working; the program agreed to send that list over to the REDAC Subcommittee members as well as a funding overview. The Subcommittee requested what the TBO gap analysis was. AJV-7 agreed to provide that information. The Subcommittee asked that this presentation be revised for the Fall 2018 REDAC Subcommittee meeting to better explain their work, what concepts are worked on, and to provide a funding overview. The program has accepted the action.

Presentation A11.N Commercial Space Transportation (AST) RE&D Program
Presenter Paul Wilde

Summary: Mr. Wilde began with an overview of the AST mission and structure. AST's mission is to ensure the protection of the public, property, national security, and foreign policy interests of the United States during commercial launch and reentry, and to encourage, facilitate, and promote United States commercial space transportation. Dr. Hansman questioned if AST had a waiver for sonic booms, as there was a congressionally-mandated restriction to under Mach 1 operations. Mr. Wilde said that these operations were not restricted and do not require a waiver as the sonic boom will not necessarily happen over land; moreover, Subcommittee members seemed unsure if this mandate would even apply to commercial space aircraft as they may not be deemed "aircraft" in the conventional sense. Mr. Zellweger questioned if the RE&D goals were necessary, given the constrained budget. Mr. Wilde acknowledged the subcommittee's concern regarding the FY19 budget and communicated that the Commercial Space Office has a statutory limit on what activities the program can fund. According to Leo Prusak, there is a fundamental disconnect with commercial space operations in the NAS. Mr. Prusak suggested that instead of integration, there was a definite airspace segregation occurring. Mr. Prusak continued by saying that if commercial space truly wanted to happen, there was a need for research within TBFM operations that show what will happen if a rocket misses its launch and what will its impact be on the NAS. Dr. Hansman reiterated this point and added that there must be a policy answer to this question with sound research to reinforce the policy. Mr. Wilde continued with the briefing to discuss Spaceport planning. Dr. Hansman thinks that Airport Improvement Program (AIP) funds should cover Spaceport research, planning, and operations.

Presentation Center of Excellence Briefing (COE)

Presenter *Patricia Watts*

Summary: Ms. Watts began her briefing by stating the COEs mission, which is to enhance access to university research capabilities and products by awarding single- and multi-year research grants and contracts to colleges, universities, and affiliate organizations in multidisciplinary Aviation/aerospace related disciplines. The COE seeks to promote the growth of a scientifically and technologically trained United States workforce. The COE has between 90-100 Grant Programs. Then Ms. Watts walked the Subcommittee through the COE evaluation and selection process, displayed the geographic distribution of the COE core teams and noted that the wide geographic distribution was by design as it helps promote scientific development in a variety of communities across the United States. Overall, the Subcommittee shared a general appreciation for the program and was very enthusiastic about its past performance and future outlook.

Presentation A11.K Aviation Weather Research Program (AWRP)

Presenter *Randy Bass*

Summary: At first, Mr. Bass briefed on the funding of the AWRP program. He indicated that the funding level for FY19 and beyond will be lower. The Subcommittee inquired how these cuts will impact the program. Mr. Bass explained that AWRP will largely defund all weather-related items that are not required (i.e., needed for rule making). The Subcommittee agreed with the decision. Mr. Bass briefly went over the benefits and successes of the AWRP program before transitioning into the FY20 activities. The FY20 activities include Convective Weather, Turbulence, Ceiling and Visibility, Quality Assessment, and Icing. Mr. Bass provided a breakdown of funds allocated for each activity. Bruce Holmes inquired about the number of fatal accidents due to icing, and Mr. Bass indicated that number was near 0 for commercial aviation. Mr. Holmes asked Mr. Bass to narrate the benefits of AWRP in the context of TBO. Mr. Bass said that TBO was where AWRP was moving towards. AWRP has convective weather and turbulence forecasts that have worked well in the past but may not work in a TBO environment. Mr. Bass informed the subcommittee that AWRP initiated collaboration with TBO stakeholders to address any TBO weather needs. Dr. Hansman expressed concern that In-Flight Icing was a lower priority (due to the decreased budget) and recommended that the program reduce efforts on Ceiling & Visibility Research to prioritize In-flight Icing. Mr. Bass communicated to the Subcommittee that inflight icing was not a big issue to

industry; as icing related incidents were not very prevalent in Commercial Aviation Operations. Dr. Hansman disagreed. Mr. Bass pointed out that AWRP would like to keep the inflight icing portion, but due to budget shortfalls, it did not seem like it was an option at this point. Mr. Kuchar asked if the program was leveraging data (e.g. icing reports) from AJM. Mr. Bass confirmed the use of data was from A J M .

Presentation A12.e NextGen – Weather Technology in the Cockpit (WTIC)

Presenter *Gary Pokodner*

Summary: Mr. Pokodner began the briefing by identifying the purpose of the WTIC program, which was to identify casual factors in weather-related General Aviation (GA) safety risks/hazards, identify casual factors for Part 121 and 135 adverse weather risks/hazards, and to recommend minimum weather services to resolve/reduce identified risks. Then, Mr. Pokodner discussed the out-year budget numbers, indicated that his program will receive a large cut in FY19 and onward. He then gave a detailed overview of the WTIC program outlook in FY20. Due to the reduced budget, the WTIC program was narrowing its scope of work and will focus on completing all ongoing projects that can be worked in smaller phases. Mr. Pokodner stated that the WTIC program will have a reduced ability for outreach and transition of research and will have to delay the start of new projects to resolve gaps that have not been yet addressed. The subcommittee was curious as to how the WTIC program was quantifying priority risks. Mr. Pokodner said that it was very difficult to quantify the impact for General Aviation (GA) risks as GA tends to not provide as much feedback as commercial aviation.

Presentation Subcommittee Discussion

Presenter *Leo Prusak*

Discussion – The subcommittee chairperson, Mr. Prusak decided that, in lieu of time, the NASOPS REDAC will be postponing the subcommittee discussion to the following morning on Day 2 of NASOPS REDAC Meeting.

Presentation UBER Elevate

Presenter *Tom Prevot*

Summary: Mr. Prevot began his presentation by describing the increase in traffic congestion in major metropolitan cities. With an increasing population, most top cities over the world have a population of more than 250 million. Uber has tried to lessen this congestion by utilizing cars better by introducing ride sharing with pool and express services. More than 20% of Uber trips are pool, and during peak hours more than 50% are pool trips. Uber is currently available in 77 countries, 600+ cities, and has about 65 million monthly riders and over 10 Million daily trips. To further reduce congestion, Uber Elevate is looking into an urban air transportation. Uber Elevate is exploring the barriers they'll need to overcome to make vertical takeoff and landing (VTOL) vehicles a reality, bringing uberAIR to Dallas and Los Angeles by 2020. Their intention is to design a 5-person vehicle (including the pilot) that will be

quieter than helicopters (15 decibels lesser). Mr. Prevot cited a few barriers such as airspace integration, vertical takeoff and landing (VTOL), user acceptance, safe batteries, and retrofitting the rooftops to name a few. Dr. Hansman questioned if there was an option of using the hybrid electric model for these vehicles and using short takeoff and landing instead of the VTOL. At the moment, Uber Elevate is very optimistic with their current plan and working very closely with organizations like Embraer, Aurora, and others, to develop an affordable, efficient, and cost-effective solution to urban air transportation. The subcommittee members expressed concerns on the operational feasibility of Uber Air in the NAS.

Day 2 – March 28th, 2018 (The District Conference Room)

Presentation Review Findings and Recommendations/ New Actions

Presenter *Leo Prusak*

Discussion – The Chairperson, Leo Prusak, opened the second day of the NAS Ops REDAC Subcommittee by welcoming all Subcommittee members and opening the discussion with the new RE&D budget. At the next NAS Ops REDAC Subcommittee, Mr. Kuchar would like to have a breakdown of each activity in New ATM Requirements. The Subcommittee agreed that there seemed to be a lot of activities within New ATM Requirements with a small budget. Mr. Holmes inquired about how the Facilities and Equipment (F&E) was impacted. Ms. Molz stated that the F&E budget was not affected like the RE&D budget was. Ms. Molz encouraged the Subcommittee to look at the Department of Transportation's Strategic Goals, these were often the driving force behind many FAA activities. The Subcommittee moved on to discuss Spaceport development and their concerns of integrating Commercial Space into the NAS. The Subcommittee might issue an F&R regarding Integration of Spaceports into the NAS.

Presentation Future Issues and Opportunities Reassessment

Presenter *Leo Prusak*

Discussion – Mr. Holmes took this opportunity to recommend to the subcommittee that they have IBM come to brief the Fall 2018 REDAC NAS Ops Subcommittee. Mr. Holmes thought it would be very beneficial to have IBM discuss the latest 5G capabilities and the future involvement of 5G/other emerging communications technologies in the NAS. The Subcommittee agreed and expressed interest in hearing what IBM has to say. Mr. Holmes agreed to reach out to IBM and see if they were willing to send a representative for the Fall 2018 session. Mr. Prusak, suggested that the subcommittee should consider issuing an F&R on TBO. He also suggested that the subcommittee consider issuing an F&R on airspace integration vs. segregation for Commercial Space Operations.

Presentation 1A01A Runway Incursion Reduction (RIRP) Update

Presenter Gregory Pray

Summary: Mr. Gregory Pray (presented instead of Ms. DeRosa) began the briefing by giving a breakdown of existing technology investments that have the potential to cover 50 major airports. The Subcommittee questioned what ASSC was. Ms. DeRosa explained that it was a very similar system to ASDE-X that was being used at San Francisco (SFO).

Mr. Kuchar questioned why there was a spike in Runway Incursions in 2007. Mr. Kuchar believed this was due to improved reporting techniques. The Subcommittee agreed that the most reasonable explanation for the spike after 2007 must be due to better reporting techniques. Mr. Zellweger thought that the program should tackle the communication issue, as it looked like surveillance only decreased incursions by about 30%. Ms. DeRosa will take Mr. Zellweger's observation into consideration but pointed out that while data communication was the largest factor in Runway Incursions, and that surveillance greatly decreased the severity of the incursion. Mr. Prusak questioned why another market survey was conducted again if one was done in 2012. Ms. DeRosa pointed out that six years was a long time in terms of technology, and that a lot has evolved since 2012. Mr. Prusak agreed but expressed concern that the program was conducting too many market surveys. Mr. Kuchar suggested that the issue was not doing market surveys, but whether there was a qualitative cut to tackle the problem. Ms. DeRosa agreed, but said it was difficult to determine what the qualitative cut should be as there was a variety of factors making an evaluation difficult such as, loss of life, overall risk of incursion, and others.

Presentation 1A07A0 NextGen ATC/TechOps Human Factors

Presenter Sabreena Azam

Summary: Ms. Azam began her briefing by giving the historical overview of the INDP Human Factors program and how it was transitioning into a new program "Enterprise Human Factors Development". Ms. Azam indicated that this was to give the Human Factors program a higher-level approach in the hopes of getting more programs to leverage Human Factors recommendations. Mr. Zellweger asked if the program has seen any initial success with the change. Ms. Azam believed so, some programs such as Commercial Space have been eager to join, but other programs have not. Mr. Kuchar believes that a budget of \$1.5M might not be enough to cover all of the programs activities; he would like to see a prioritization of how the program allocates money.

Presentation A11 Air Traffic Control/Technical Operations Human Factors
Presenter Dan Herschler

Summary: Mr. Herschler began his briefing by informing the subcommittee members that this was the same briefing presented at the Human Factors Subcommittee. Mr. Herschler reported that due to carryover funds, FY19 will give them an addition of \$500K. Subcommittee member, James Kuchar, mentioned that he was surprised to see no requirements from Systems Operations. Mr. Herschler confirmed that the Tech Ops HF team has not received any requirements from Systems Operations and showed no interest despite his reaching out to them. The subcommittee inquired about the standards for the requirements, to which Mr. Herschler clarified that the FAA has internal standards that they utilize, and the requirements stem from those standards. The FAA does not send those standards outside the Agency, until they are published.

Presentation FY19 President's Budget Submission Implications

Presenter *Leo Prusak*

Discussion – The subcommittee members discussed the strategic roadmap for the FAA and if the President's new budget will have any consequences on it. The members also debated the implications on the FAA programs that causes a risk by the diminishing budgets.

Presentation Subcommittee Discussion Recap & Closing

Presenter *Leo Prusak*

Discussion – Mr. Prusak concluded the meeting by summarizing the actions for the subcommittee members for writing finding and recommendations the briefing topics discussed earlier. He mentioned that Mr. Kuchar will provide a finding and recommendation brief on Human Factors (HF) priorities and the gaps in the HF research. Mr. Bertapelle and Ms. Seltzer were assigned to write a recommendation on Commercial Space. Mr. Holmes will organize an invite for a speaker from IBM, and Mr. Prusak will evaluate if the ATDP topic required an action or a finding, and a recommendation.

CLOSED ACTION ITEMS

August 2015 NAS Ops Meeting

<u>Action</u>	<u>Assigned</u>	<u>Status</u>
Inspect the FAA process to move weather concepts from requirements to implementation. Determine if the required elements are in place and if there are disconnects. Consider logistic and level of participation of members on the Requirements Management Board. Provide recommendations to the subcommittee	M. Weber J. Kuchar	Closed 3/27/18

August 2016 NAS Ops Meeting

<u>Action</u>	<u>Assigned</u>	<u>Status</u>
Provide the subcommittee a copy of the UAS research plan (when available)	Ann Cihon	Closed 4/11/18

March 2017 NAS Ops Meeting

<u>Action</u>	<u>Assigned</u>	<u>Status</u>
Set up a telecom to brief SMDP results to subcommittee	M. Molz	Closed
1. Provide subcommittee feedback to S. Yak on NARP	D. Zellwegger	Closed 9/12/17
2a. UAS in the NAS & UTM/DAC interaction with RTTs (S. Bradford/J.Cavolowsky)	S. Bradford	Closed 3/27/18
2b. Pathfinder Program Updates/Organizational Mapping (S. Bradford)	S. Bradford	Closed 3/27/2018
2c. UAS Weather Products (S. Abelman) (30 minutes)	M. Molz	Closed 9/12/2017
3. RIRP Update – Progress of RIRP benefits analysis (B. Marple)	M. Molz	Closed 9/12/2017

September 2017 NAS Ops Meeting

<u>Action</u>	<u>Assigned</u>	<u>Status</u>
<p>1. RIRP will provide a briefing to the subcommittee on:</p> <ul style="list-style-type: none"> Detailed risk reduction analysis work A determination of which technology investments could meet the operational need 	Ben Marple/James Fee	Closed 3/28/18
<p>2. Commercial Space Integration will provide a concept of operations briefing highlighting the following:</p> <ul style="list-style-type: none"> Budget allocations Detail funding that exists to conduct research to support the predicted space launches without significant impact to the NAS 	Paul Wilde	Closed 3/28/18
<p>3. New ATM Requirements will provide detailed briefing on the following, at the Spring REDAC</p> <ul style="list-style-type: none"> Budget Allocation A description of how each New ATM Requirements activity is quantified Information on how activities related to data comm and NAS Systems in a cloud environment are coordinated Detail on the vision for future NAS information systems 	Francisco Bermudez	Closed 3/28/18
<p>4. Operations Concept Development & Infrastructure (ATDP) will provide details to the subcommittee on Operational Concept work</p> <ul style="list-style-type: none"> Provide additional detail on next Operations Concept Development Review the scope of Operational Concept research Overview of the processes that has been defined to structure and align concept definition and validation 	Maureen Keegan	Closed 3/28/18

- Description of how existing NextGen processes are being used to inform research

OPEN ACTION ITEMS

March 2018 NAS Ops Meeting

<u>Action</u>	<u>Assigned</u>	<u>Status</u>
<u>New ATM Requirements</u> <ul style="list-style-type: none"> • The subcommittee asks that, at future meetings, the funding amount that has been allocated to each subtask is also provided along with the subtask descriptions. • The subcommittee requests additional information on how the 1A09D portfolio will support potential ATM changes driven by these disruptive concepts and technologies. 	Arthur Orton	Open
<u>Pathfinder</u> <ul style="list-style-type: none"> • The Subcommittee requests this project to include budget, progress, plans, and implications to the broader needs of UAS in the NAS, UTM, and such emerging developments as Urban Air Mobility and related airspace management needs. 	Steve Bradford	Open
<u>Cybersecurity</u> <ul style="list-style-type: none"> • The Subcommittee requests this project to include budget, progress, plans, and summary of the public-private partnering aspect of the project. 	Isadore B.	Open
<u>Remote Tower Project</u> <ul style="list-style-type: none"> • The Subcommittee requests this project to include budget, progress, plans, and the implications of advancements such as space-based ADS-B. 		Open
<u>ATDP - Operations Concept Development and Infrastructure</u> <ul style="list-style-type: none"> • The subcommittee requests that these briefings detail how research in these three areas is mitigating risk associated with the operational integration of these concepts. • The subcommittee also requests information about how funding within the budget line is divided between the three identified focus areas. 	Maureen Keegan	Open

FINDINGS AND RECOMMENDATIONS

September 2017 NAS Ops Meeting

Findings	Status
1) Commercial Space Transportation (CST) (Fall_2017_1)	Open – Pending official FAA Response
2) Unmanned Aircraft System (UAS) Pathfinder Areas 1, 2, and 3 (Fall_2017_2)	Open – Pending official FAA Response
3) Human Factors Research Activities	Open – Pending official FAA Response

March 2018 NAS Ops Meeting

Findings	Status
1) Commercial Space Transportation (CST) (Spring_2018_1)	Open
2) ATDP - Operations Concept Development and Infrastructure (BLI 1A01C) (Spring_2018_2)	Open
3) NextGen ATC/TechOps Human Factors (Spring_2018_3)	Open

ATTENDEES

Subcommittee Members in Attendance:

Leo Prusak (Chairperson)
Francisco Bermudez (DFO)
Bruce Holmes
Mark Weber
Andres Zellweger

Jim Kuchar
Dr. John Hansman
John Cavolowsky
Emily Stelzer

Others in Attendance:

Shelley Yak
Chinita Roundtree-Coleman
Mike Gallivan
Frank Wondolowski
John Maffei
Dan Herschler
Gary Pokodner
Evelina Bern
Arthur Orton
Patt Watts
Gregory Pray
Sadaf Alam
Joseph Ivkovic

Akaki Kunchulia
Maureen Molz
Randy Bass
Tom Prevot
Steve Bradford
Monique Moore
Farzad Davarya
Brian Duvall
Sabreena Azam
Todd Lewis
Chris Devlin
Mark DeNicuolo
Paul Wilde

AGENDA

Tuesday, March 27th (JMA Offices: Tuskegee Conference Room 430E)

Time	Topic	Presenter(s)
0800-0815	Welcome/Overview	Leo Prusak Francisco Bermudez
0815-0845	Review of REDAC Recommendations, Responses and Open Actions	Leo Prusak
0845-0915	Budget Briefing	Mike Gallivan
0915-0945	1A09D NextGen – New Air Traffic Management Requirements	Steve Bradford Arthur Orton
0945-1015	Deep Dive – UAS Topics <ul style="list-style-type: none"> UAS in the NAS and UTM/DAC interaction with RTTs 	Steve Bradford
1015-1030	Break	
1030-1100	Deep Dive – Next Gen Concept Development and Validation Process Overview	Steve Bradford
1100-1130	Deep Dive – TBO	John Maffei
1130-1200	1A01C Operations Concept Validation & Infrastructure (ATDP)	Maureen Keegan
1200-1300	Lunch	
1300-1330	A11.N Commercial Space Transportation (CST)	Paul Wilde
1330-1400	COE Briefing	Pat Watts/Jason Coon
1400-1430	A11.K Aviation Weather Research Program (AWRP)	Randy Bass
1430-1500	A12.e NextGen – Weather Technology in the Cockpit (WITC)	Gary Pokodner
1500-1530	Subcommittee Discussion	Subcommittee
1530-1545	Break	
1545-1630	UBER Elevate	Tom Prevot
1630	Dinner – location TBD	

Wednesday, March 28th (Engility Offices: Anacostia B Conference Room)

Time	Topic	Presenter(s)
0800-0830	Review Findings and Recommendations / New Actions	Leo Prusak
0830-0930	Future Issues and Opportunities Reassessment	Subcommittee
0930-1000	1A01A Runway Incursion Reduction (RIRP) Update Progress of RIRP benefits analysis	Maria DeRosa
1000-1030	1A07A0 NextGen ATC/Tech Ops Human Factors	Sabreena Azam
1030-1100	A11.i Air Traffic Control/Technical Operations Human Factors	Dan Herschler
1100-1115	Break	
1115-1145	FY19 President's Budget Submission Implications	Subcommittee
1145-1230	Subcommittee Discussion Recap & Closing	Subcommittee Leo Prusak