

Meeting Summary



**Federal Aviation
Administration**

Commercial Space Transportation Advisory Committee (COMSTAC) Meeting
“Virtual Meeting” Using the Zoom Meeting Service
March 23, 2021
9:30 a.m. – 3:30 p.m.

List of Committee Members Present at the Meeting

Major General James Armor, USAF (Ret) CEO, The Armor Group
Dr. Greg Autry Vice President of Space Development, The National Space Society
Mr. Bill Beckman Director, NASA Programs, The Boeing Company
Major General Ed Bolton, USAF (Ret), former FAA Associate Administrator
Hon. Shana Dale Board Member, Firefly Black LLC
Mr. Paul E. Damphousse Vice President of Business Development, Calspan Holdings, LLC
Dr. Mary Lynne Dittmar President & CEO, Dittmar Associates
Ms. Karina Drees President, Commercial Spaceflight Federation
Mr. Mike French Vice President, Space Systems, Aerospace Industries Association
Mr. Christopher C. Hassler President & CEO, Syndetics Inc.
Mr. Dale Ketcham Vice President, Government & External Relations, Space Florida
Ms. Kate Kronmiller Vice President of Government Relations, Jacobs
Mr. Steven Lindsey Senior Vice President of Strategy and Programs, Sierra Nevada Corporation Space Systems
Mr. Mike Moses President, Virgin Galactic
Mr. Clay Mowry Vice President, Sales, Marketing & Customer Experience Blue Origin
Mr. Dale K. Nash CEO and Executive Director, Virginia Commercial Space Flight Authority
Ms. Sharon Pinkerton, Senior Vice President, Legislative & Regulatory Policy, Airlines for America
Mr. Lee Rosen Vice President of Customer Operations and Integration, Space Exploration Technologies
Ms. Robbie Sabathier Vice President, Government Operations and Communications, United Launch Alliance
Mr. Eric Stallmer Executive Vice President, Government Affairs & Policy, Voyager Space Holdings
Ms. Charity Weeden Vice President of Global Space Policy, Astroscale U.S. Inc., COMSTAC Chair
Ms. Ann Zulkosky Director, Lockheed Martin Corporation

Committee Staff:

Mr. James Hatt
DFO of COMSTAC
Executive Director (A), Office of Strategic Management
Office of Commercial Space Transportation, FAA

Mr. Thomas Marotta
COMSTAC Coordinator

Agency Employees:

Mr. Steve Dickson
FAA Administrator

Mr. Bradley Mims
FAA Deputy Administrator

Mr. Wayne Monteith
Associate Administrator
Commercial Space Transportation, FAA

Mr. Kelvin Coleman
Deputy Associate Administrator
Commercial Space Transportation, FAA

Mr. Randy Repcheck
Executive Director, Office of Operational Safety
Commercial Space Transportation, FAA

Mr. Steph Earle
Supervisory Management and Program Analyst
Commercial Space Transportation, FAA

Ms. Pam Underwood
Director, Office of Spaceports, FAA

Other Attendees:

Mr. Steve Jurczyk
NASA Administrator (acting)

Mr. David Turner
Office Director, OES/SAT, Department of State

Mr. Gabriel Swiney
Legal Advisor, Department of State

Mr. Robert Cabana
Kennedy Space Center Director, NASA

Description of each matter discussed and conclusions reached:

- The meeting opened at approximately 9:30 am.
- DFO Jim Hatt introduced Associate Administrator for Commercial Space Transportation BGen USAF (Ret) Wayne Monteith. Associate Administrator Monteith commended and thanked all the COMSTAC members for all the work they put in to prepare for this COMSTAC meeting. He also summarized progress on COMSTAC's work in the past year and how this work will facilitate AST's mission.

- Acting NASA Administrator Steve Jurczyk addressed the meeting, commending the commercial space transportation industry for its contributions to NASA's mission. He emphasized working together to solve orbital debris mitigation, and shared norms of behavior in space. In response to a question Mr. Jurczyk said NASA is legally prohibited from cooperating with China, but there are informational and data exchanges in the areas of earth science, air traffic management, and Mars orbiter conjunction analysis. In response to a second question Mr. Jurczyk said specific guidance is needed to implement shared norms of behavior both nationally and internationally so all can operate safely in the space environment.
- Mr. Dave Turner, chief of the U.S. State Department Space and Advanced Technology office (OES/SAT), along with Gabriel Swiney, Legal Advisor to the Dept of State, discussed how the U.S. is promoting responsible behavior in space along with entrepreneurial activities in space. Mr. Turner said the U.S. is committed to advocating for these ideals at the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) and other appropriate international fora. Mr. Swiney summarized the Artemis Accords and how they will promote voluntary norms of peaceful behavior in civil space activities. Mr. Swiney also reported that COPUOS may establish a space resources working group in June 2021. The focus and goals of such a working group are still to be determined and Mr Swiney asked COMSTAC to provide its input on this question. In response to a question, Mr. Turner confirmed that promoting norms of behavior is a whole-of-government approach and FAA is an active partner in this effort.
- Deputy Associate Administrator for Commercial Space Transportation Kelvin Coleman introduced FAA Administrator Steve Dickson. In his remarks Mr. Dickson conveyed Secretary Buttigieg's support for COMSTAC and emphasized how strong public safety protections are essential for a successful and thriving commercial space transportation industry. He also confirmed that Part 450 became effective on March 21, 2021.
- Mr. Randy Repcheck confirmed the Part 450 Final Rule is now in effect. Mr. Steph Earle summarized the status of the 29 advisory circulars (AC) associated with the Part 450 Final Rule and emphasized that each AC incorporates a request for public feedback. He added that FAA is committed to responding to each piece of public feedback. Ms. Pam Underwood summarized the status of the Office of Spaceports and FAA's international engagement efforts.
- DFO Jim Hatt then introduced the Chair of COMSTAC, Charity Weeden, who thanked the FAA for their support of the commercial space industry, recognized the memory of former COMSTAC member Senator David Karnes, and commended the committee for its excellent work under challenging conditions.
- Vice-Chair Karina Drees echoed Charity's comments thanking AST and commending the committee for all its hard work. She also thanked the Chair for her leadership, noted that the demand for a launch and reentry is expected to continue its strong growth over the next five years, and advocated the industry set aside resources to develop cutting-edge standards to protect safety during the coming era of commercial human spaceflight.
- Shana Dale, chair of the Regulatory Working Group (RWG) thanked COMSTAC leadership and AST for their efforts, as well as the members of the RWG for their hard work. Clay Mowry, co-chair of the RWG, then summarized the working group's responses to the taskers.
 - o First, the RWG recommended AST continue to focus first on implementing Part 450 and then, as a second priority, the streamlining the

Part 440 Financial Responsibility regulations, with parts 420/433 as a third priority.

- Second, the RWG made a number of recommendations on how to improve the pre-application consultation process. The complete text of the RWG's recommendations on this topic are available on the COMSTAC website here:

https://www.faa.gov/space/additional_information/comstac/media/COMSTAC_RWG_complete_application_white_paper_FINAL_March_2021.pdf

- Third, the RWG made a number of recommendations on how FAA can streamline licensing and inspecting operations that occur outside of U.S. airspace. The complete text of these recommendations are available here:

https://www.faa.gov/space/additional_information/comstac/media/COMSTAC_Dual_Licensing_Recommendations-Final_March_2021.pdf

- There was a five minute break from 11:03 to 11:08.
- After the break there was a discussion on the RWG recommendations. In response to a question it was confirmed that the Part 450 final rule will not exempt companies from complying with all required environmental reviews and regulations. There was a discussion acknowledging that it will be a challenge to balance the ongoing work on Part 450 and begin the necessary work of streamlining part 440. Shana Dale pointed out that COMSTAC has a concern that AST may not have the resources it needs to perform all the regulatory streamlining efforts the industry needs, in addition to performing its day-to-day primary public safety duties.
- In response to a question from the public COMSTAC confirmed that orbital debris mitigation rulemaking was not considered as part of this task because the focus was more on fixing the existing rules rather than undertaking new rulemaking. There was an additional discussion about ways to improve resource allocation for AST and industry in the course of regulatory compliance.
- There was also a clarification that the new incremental review feature incorporated into Part 450 means that the 180 day review period begins once the complete application is accepted by AST (not individual modules).
- There was a clarification that the suggestion to change the statutory definition of a U.S. citizen is not an immediate priority but just an area for future investigation.
- A majority of COMSTAC members then voted to forward the RWG recommendations for all three taskers on to the FAA.
- Safety Working Group (SWG) Chair Greg Autry summarized the tasker recommendations that were delivered to FAA during the last meeting in September 2020. Those recommendations are available here: https://www.faa.gov/space/additional_information/comstac/media/COMSTAC_Safety_WG_white_paper_14_Sept_2020.pdf and FAA's response to those recommendations are here: https://www.faa.gov/space/additional_information/comstac/media/Sept_2020_AST_DFO_Response_to_COMSTAC.pdf
- The group took a break for a lunch and reconvened at 12:45pm.
- Deputy Associate Administrator for Commercial Space Transportation Kelvin Coleman introduced FAA Deputy Administrator Bradley Mims. Mr. Mims emphasized FAA's continued commitment to public safety in the commercial space transportation industry as well as the industry's potential for growing the economy and providing opportunities for STEM advancement for all Americans.

- Paul Damphousse, chair of the Innovation and Infrastructure Working Group (IIWG) summarized the research and development (R&D) tasker responses. In the course of that discussion there were some questions from the audience on how public/private partnerships and space situational awareness might play into the AST R&D program. The COMSTAC replied that space situational awareness is an area of interest for industry stakeholders. AST Associate Administrator Wayne Monteith said AST works closely with DoD to assess impacts to the space environment that might occur during the course of commercial space activities, and is also planning to roll out an orbital debris mitigation rule that is targeted to end-of-launch activities. COMSTAC agreed that the future AST Research and Development consortium should consider focusing some of its efforts on space situational awareness topics. COMSTAC also agreed that standards development and cyber security are also worthwhile R&D areas for AST, insofar as these topics relate to commercial spaceflight.
- Greg Autry summarized the new Commercial Spaceflight Innovation Institute (CSII) concept and how it will differ from the Centers of Excellence (COE) framework that is due to sunset in the next year. The CSII will be more centralized and directed by FAA and will continue to work on many of the same subject areas as the COE. There was a discussion about whether licensing fees could somehow be instituted to help support R&D for the commercial spaceflight industry.
- COMSTAC then voted to send both R&D related recommendations on to the FAA.
- Dale Ketcham then explained the final IIWG topic related to a National Spaceports Authority concept, which relates only to Cape Canaveral Air Force Station and Vandenberg Air Force Base i.e. the Eastern and Western DoD launch ranges.
- Due to extensive feedback received from NASA and other stakeholders in the audience and on the committee, the COMSTAC decided to not vote on this recommendation and to continue gathering feedback before considering next steps for this recommendation. For instance, several members of COMSTAC requested briefings from Kennedy Space Center and other aviation-related stakeholders that may have historical experience that could be valuable to a future national spaceport authority construct.
- The group took a short break and reconvened at 2:30.
- During the public comment session Mr. Robert Cabana, director of NASA's Kennedy Space Center (KSC) described how KSC continues to transition to a multi-user spaceport and how NASA has invested significant amounts of money into the infrastructure at KSC. In response to a question Mr. Cabana stated KSC has the capacity to support up to 50 launches per year. Mr. Cabana's slides are available on the COMSTAC website here: https://www.faa.gov/space/additional_information/comstac/media/launching_for_ward.pdf
- In response to a question from the public, COMSTAC confirmed that the Office of Spaceports will gain two new employees. And in response to another question Mr. Cabana stated any company looking to do business with KSC can go to the KSC website for more information. There was then an extensive discussion about how future U.S. infrastructure spending can support the spaceport industry.
- DFO Jim Hatt then summarized potential new taskers from FAA to COMSTAC. The list can be found at the end of the slide deck available here: https://www.faa.gov/space/additional_information/comstac/media/COMSTAC_March_2021_Public_Mtg_Full_Deck_Update_Final.pdf

- Mr. Hatt confirmed that these taskers are preliminary and may be adjusted after further feedback from the public and from the committee.
- Paul Damphousse summarized a potential tasker involving high speed aerospace transportation research at inland spaceports. The full white paper describing the concept is available here:
https://www.faa.gov/space/additional_information/comstac/media/High-Speed_Flight_Considerations_Final.pdf
- Mr. Kelvin Coleman then made closing remarks thanking the committee for their dedication to public safety.
- DFO Jim Hatt adjourned the meeting at approximately 3:30pm.