

Meeting Summary



Federal Aviation Administration

Commercial Space Transportation Advisory Committee (COMSTAC) Meeting
“Virtual Meeting” Using the Zoom Meeting Service
September 14, 2020
8:45 a.m. – 2:30 p.m.

List of Committee Members Present at the Meeting

Major General James Armor, USAF (Ret) Director, Government Relations
Northrop Grumman
Dr. Greg Autry Vice President of Space Development National Space Society
Mr. Bill Beckman Director, NASA Programs, The Boeing Company
Major General Ed Bolton, USAF (Ret)
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, The Coalition for Deep Space
Exploration
Ms. Karina Drees CEO and General Manager Mojave Air and Space Port,
COMSTAC Vice-Chair
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
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 President, Commercial Spaceflight Federation
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

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COMSTAC Coordinator

Agency Employees:

Mr. Wayne Monteith

Associate Administrator

Commercial Space Transportation, FAA

Ms. Lirio Liu

Executive Director, Office of Operational Safety

Commercial Space Transportation, FAA

Mr. Steph Earle

Supervisory Management and Program Analyst

Commercial Space Transportation, FAA

Other Attendees:

Maj. Gen. DeAnna M. Burt,

US Space Force

Dr. George Nield

Global Spaceport Alliance

Description of each matter discussed and conclusions reached:

- The meeting opened at approximately 8:45 am.
- U.S. Secretary of Transportation Elaine L. Chao, a strong COMSTAC and industry supporter, provided remarks via a pre-recorded video message. The Secretary reiterated the importance of the impending streamlined launch and reentry regulations and she previewed some of the key deliverables from COMSTAC Working Groups (see below) and how they will improve public safety.
- FAA Administrator Steve Dickson, also provided remarks via a pre-recorded video message. Administrator Dickson welcomed Maj Gen Edward Bolton (USAF, retired) to COMSTAC and he also commended COMSTAC on their help shaping part 450 and for working towards a voluntary safety reporting system.
- DFO Jim Hatt then 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 part 450 and described how the work of COMSTAC will facilitate AST's mission.
- Associate Administrator Monteith then introduced the Chair of COMSTAC, Charity Weeden, who thanked the FAA for their support of the commercial space industry and introduced Maj. Gen. DeAnna M. Burt of the U.S. Space Force.
- Maj. Gen. Burt discussed how the U.S. Space Force "Range of the Future" vision is planning to update the operation of federal launch ranges, taking into account a

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- competitive commercial space industry, while also maintaining national security. She summarized U.S. Space Force priorities for launch ranges: increase capacity, streamline customer service, emphasize partnerships with range stakeholders, and transition to a national spaceport strategy. She said all range users must use autonomous flight safety systems by the end of 2025 or pay for the upkeep and use of legacy range flight abort systems. She emphasized the National Spaceport vision will be a civil/commercial partnership with DoD. In response to questions, Maj. Gen. Burt stated no changes to USSF operations at Vandenberg are expected in light of recent polar launches out of the Cape; that USSF supports FAA efforts to integrate launch operations into the NAS (e.g. limit airspace closures); that USSF is aware of the need to upgrade aging power and commodities infrastructure at the Eastern and Western ranges and has initiated planning contracts for this work; and that USSF is preparing for increased cadence of launch and RTLS at sites i.e. “near-simultaneous” missions on the same day. Maj. Gen. Burt also committed to sharing with COMSTAC Gen. Raymond’s document regarding his vision for the National Spaceport Authority concept. Maj. Gen. Burt reiterated DoD’s commitment to an interagency dialogue regarding the concept.
- Lirio Liu provided an update on Part 450 indicating that the Final Rule is in the final stages of executive coordination and that it will be published in the near future. She indicated that FAA will host a number of briefings on the rule two weeks after the rule is published. Information about these briefings and other Part 450 related educational materials will be posted on the FAA/AST website in the near future.
 - Steph Earle then gave an update on orbital debris and launch collision avoidance. Steph Earle said the FAA is coordinating closely with the interagency and industry stakeholders as orbital debris mitigation plans evolve. He stated that pre-launch collision avoidance can limit launch windows unless the operator has accurate co-variance and prediction of rocket performance. He also pointed out that the FAA would be involved in assessing active debris removal operations should the applicant launch from U.S.-licensed systems.
 - There was a short break from approximately 10:15 am to 10:25 am.
 - After the break COMSTAC Chair Charity Weeden introduced and welcomed new member Edward Bolton and then COMSTAC Vice-Chair Karina Drees moderated introductions of all the existing COMSTAC members.
 - After the introductions Charity Weeden summarized the meeting voting procedures and then introduced Greg Autry, the chair of the Safety Working Group. Dr. Autry and Robbie Sabathier, Chair and Vice-Chair of the Safety Working Group (SWG), summarized the observations, findings, and recommendations of the SWG. Greg Autry clarified that the SWG is not recommending FAA mandate a voluntary safety reporting system, rather that FAA should provide guidance to companies standing up their own internal safety reporting systems to ensure that these internal systems can interface with an eventual industry-wide system, should one be established by the FAA. Several members also pointed out that there is not industry consensus on what form an industry-wide reporting system ought to take and those conversations still need to occur. Additionally, Mike Moses pointed out that there is synergy between standards development and a voluntary safety reporting system i.e. the efforts

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- underway for standards road mapping would mirror the same approach for starting with more widely acceptable focus topics for developing an industry wide safety reporting system.
- There was no objection to voting on all five of the SWG recommendations at once. Greg Autry made a motion to put all five recommendations to a vote and Jim Armor seconded the motion. All members present voted in favor of forwarding the five recommendations to the FAA.
 - Greg Autry then summarized a number of additional observations made by the SWG, all of which can be found on the COMSTAC website.
 - There was a lunch break for 30 minutes.
 - After the lunch break Shana Dale, Chair of the Regulatory Working Group (RWG) introduced Eric Stallmer who briefed the meeting on COMSTAC's list of proposed future rulemaking activities for FAA.
 - Eric Stallmer summarized the RWG priorities for future rulemaking, which can be found on the COMSTAC website. Mr. Stallmer pointed to the Department of Commerce Remote Sensing Rule public outreach process as a model for FAA to follow for future rulemaking activities.
 - Shana Dale made a motion to vote on the RWG's recommendation regarding future rulemaking (listed on the COMSTAC website), and the motion was seconded by Eric Stallmer. All members present voted in favor of forwarding the recommendation to the FAA.
 - Clay Mowry then described COMSTAC's preliminary, draft recommendations on how FAA can improve the pre-application consultation process. COMSTAC requested public input on these draft recommendations and intends to finalize them in time for the next public meeting.
 - Mike French then described COMSTAC's preliminary, draft recommendations on how FAA can streamline licensing and inspection of FAA-authorized operations that occur outside of the United States. COMSTAC requested public input on these draft recommendations and intends to finalize them in time for the next public meeting.
 - Charity Weeden then introduced Paul Damphousse, the Chair of the Innovation and Infrastructure Working Group (IIWG). Mr. Damphousse welcomed Gen. Bolton and noted that the fourth topic assigned at the previous COMSTAC meeting – on the COMSTAC R&D program – was rewritten and will be re-assigned to COMSTAC later in the meeting (see below).
 - Paul Damphousse introduced Dale Nash who summarized the IIWG's recommendation for the funding infrastructure improvements at spaceports.
 - There was a discussion about a funding mechanism. Dale Nash mentioned several options but said in the near term it will need to be funded by Congressional appropriations. If the funding follows the model of airport funding and given robust commercial space industry development then it may someday be the case that commercial spaceports will be self-funded. Dale also said that he hopes the scale of the funding would be around \$50 million and the matching grant program would be managed by FAA/AST. There was a discussion about whether unlicensed spaceports could compete for grants. Dale Nash responded that there would unlikely be a delineation of eligibility based on license status however this remains to be resolved.

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- There was a comment from the public about space support vehicles and how they might be included in a spaceport funding program. Dale Nash suggested that spaceport grant funding criteria need to be created and that those could theoretically include infrastructure to support space support vehicle operations, and would almost certainly include infrastructure intended to protect public safety. There was a short discussion if such safety language needed to be added to the recommendation and COMSTAC agreed it did not.
- Dale Nash made a motion to adopt the recommendation and Dale Ketcham seconded the motion. COMSTAC voted unanimously to forward the recommendation to the FAA.
- Paul Damphousse then introduced Dale Ketcham who described COMSTAC's preliminary recommendations and discussions regarding the National Spaceport Authority concept. Dale Ketcham stated that the most urgent issue is COMSTAC's need to learn more about the USSF vision i.e. getting a public document from the USSF describing their intent. He also suggested state governments and perhaps even localities need to be "at the table" when the USSF is gathering input on the concept.
- Paul Damphousse then introduced Jim Armor who described COMSTAC's five preliminary recommendations on how to reform the regulations surrounding launch and reentry sites. Karina Drees asked if the IIWG had more examples (besides environmental reviews) on how Part 420 could be made more performance-based and Jim Armor responded that he did not and perhaps this is an area where COMSTAC could use more public input.
- Dr. George Nield of the Global Spaceport Alliance (GSA), the only member of the public who requested to speak, delivered his remarks. He reminded the COMSTAC of the GSA's national plan for spaceport development. He also suggested a number of spaceport-related initiatives that would not require Congressional action: a collaboration between commercial space transportation providers and NASA to collect the health data of spaceflight participants, advancing policies related to enabling point-to-point transportation. Charity Weeden asked the IIWG to take the GSA document into consideration as COMSTAC develops final recommendations on spaceport regulatory reform. Paul Damphousse also highlighted hypersonic flight research as an area of research and development that may provide opportunities to the commercial space transportation industry.
- The following questions were asked/comments were made by the public using the Q&A function of the webinar service:
 - o Q: "What provisions are being made to address the growing number of satellites launched into LEO specifically the sun synchronous orbit?"
 - o A: The FAA remains committed to the interagency process led by the Department of Commerce to stand up a space traffic management system.
 - o Q: "Do you anticipate involving the United Nations to incorporate other spacefaring nations in the rulemaking. Currently it has been estimated that 60% of space satellite operators are complying with current established guidelines."

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- A: The rulemaking process provides opportunities for the public – including international stakeholders like the UN – for providing comments and feedback. Additionally, the FAA has a robust international outreach effort and is in regular contact with key non-U.S. interlocutors on topics of mutual interest in the commercial space transportation field.
- Comment: Katerina Koperna invited the public to learn more about ASTM's voluntary industry consensus standards development work by emailing her at kkoperna@astm.org.
- Comment: "If we consider space support vehicles as spaceport users, [as] I think they should, an AIP derivative would be relatively easy to justify the AIP-like program quickly."
- Charity Weeden then described the two new COMSTAC taskers related to the FAA/AST R&D program.
- In their closing remarks Charity Weeden and Karina Drees thanked COMSTAC for all their hard work and Karina Drees thanked Charity for her leadership. Jim Armor made a remark requesting additional opportunities for public input and discussion at the next meeting.
- DFO Jim Hatt stated FAA is working to promote more discussion and public input for the next meeting and encouraged the public to send any comments and feedback on the open recommendations to comstac@faa.gov. He adjourned the meeting at approximately 2:30 pm.