Meeting Minutes

Federal Aviation Administration

Commercial Space Transportation Advisory Committee (COMSTAC)
Tuesday, July 11, 2023
Zoom & YouTube Meeting
1:00 pm – 3:00 pm

List of Committee Members Present at the Meeting

Ms. Karina Drees, COMSTAC Chair, President, Commercial Spaceflight Federation
Mr. Mat Dunn, Senior Director of Global Government Affairs, Space Exploration Technologies
Mr. John Elbon, Chief Operating Officer, United Launch Alliance
Mr. Mike French, **COMSTAC Vice-Chair**, Vice President of Space Systems, Aerospace Industries Association
Mr. Tony Frego, Vice President of Mission Management, Spaceflight, Inc
Dr. Moriba Jah, Associate Professor, Aerospace Engineering and Engineering Mechanics, University of Texas at Austin
Mr. Dale Ketcham, Vice President of Government and External Relations, Space Florida
Ms. Kate Kronmiller, Vice President of Government Relations, Jacobs
Major General Ted Mercer, USAF (Ret), CEO and Executive Director, Virginia Commercial Space Flight Authority
Ms. Megan Mitchell, Vice President of Government Relations, Blue Origin
Mr. Mike Moses, President of Space Missions and Safety, Virgin Galactic
Dr. George Nield, President, Commercial Space Technologies
Ms. Melanie Preisser, Vice President of National Systems, York Space Systems
Ms. Caryn Schenewerk, Vice President of Regulatory and Government Affairs, Relativity Space
Ms. Amanda Simpson, Vice President for Research and Technology, Airbus
Mr. Jay Skylus, Chief Executive Officer and Chief Engineer of the Aether Transport System, Aevum
Ms. Janice Starzyk, Adjunct Professor, George Washington University
Ms. Melanie Stricklan, Co-Founder and Chief Executive Officer, Slingshot Aerospace
Ms. Jolie Zoller, Head of Global Regulatory Affairs, Project Kuiper, Amazon
Ms. Ann Zulkosky, Vice President, Commercial Civil Space, Lockheed Martin

Committee Staff:

Mr. James Hatt
DFO of COMSTAC
Manager, Space Policy Division
Office of Commercial Space Transportation, FAA

Agency Employees:

Mr. Michael O'Donnell
Deputy Associate Administrator
Commercial Space Transportation, FAA

Description of each matter discussed and conclusions reached:

Designated Federal Officer (DFO) Mr. James Hatt called the meeting to order at 1:00 PM, gave a brief welcome, and invited attention to the Federal Register COMSTAC notice before turning the meeting over to the COMSTAC Chair, Karina Drees. Ms. Drees welcomed everyone to the meeting with the purpose of wrapping up the Part 450 task from the Spring meeting. She then introduced Mr. Michael O'Donnell, Deputy Associate Administrator for Commercial Space Transportation (AST), to the meeting.

Mr. O'Donnell opened by telling the committee about a meeting the Acting Administrator of the FAA had with the Office of Management and Budget (OMB), where one of the topics covered was commercial space, with AST Associate Administrator Kelvin Coleman presenting to OMB. Mr. O'Donnell discussed regulations and stressed the importance of receiving industry feedback through committees such as COMSTAC and the public comment process. Mr. O'Donnell then summarized the purpose of Part 450. Currently four applicants are licensed under Part 450 with 24 active legacy licenses that will need to transition to Part 450 by March of 2026. Mr. O'Donnell encouraged applicants to start early, because it would be a significant amount of work to transition these licenses. The goal is to strike the right balance between safety and regulatory burden. Mr. O'Donnell closed by stressing the importance of a strong partnership between industry and the FAA. Mr. O'Donnell then invited questions from the participants.

- Mrs. Schenewerk asked to clarify what was said about industry starting several months early but three years should be sufficient time? Mr. O'Donnell replied that the three years was referring to the deadline of 2026 for all licenses to be done under Part 450.

- Mrs. Schenewerk remarked that licensing took over 180 days for at least two Part 450 applications and asked if all four Part 450 licenses took longer than 180 days. Mr. O'Donnell stated that he would get an answer to the question and added that AST takes the 180-day timeframe very seriously. It is important to have a standard so operators know what works. [Note: Two of the four licenses took over 180 days to approve the license application.]

- Dr. Nield asked for a status of the Part 460 SpARC. Mr. Hatt gave a status of the SpARC including membership, first meetings and charter status. The SpARC is expected to be finished in about 12 months.

- Gen. Mercer asked for a status about the workforce for AST and if AST is getting any help. Mr. O'Donnell replied that AST has funding for approximately 25 new employees and would like to top out at 155 total. Challenges include competing with industry to fill

slots. There is a continuing need to increase the workforce as the industry grows year over year.

- Gen. Mercer asked if there was any progress regarding the flight safety roles between the FAA and the federal ranges. Mr. O'Donnell explained that safety is the top priority for Air Force, Space Force, and FAA, and that all are speaking the same language. They want to take lessons learned to other ranges. Range safety is a top priority and AST wants to maintain this as launch and reentry license cadence increases.

With no other questions, the DFO handed the meeting over to the COMSTAC Chair. The Chair introduced Ms. Caryn Schenewerk, Chair of the Regulatory Working Group, to discuss the Part 450 Task.

The assigned task was to:

> Identify any requirements in 14 CFR Part 450 that COMSTAC believes require additional clarification by the FAA or a regulation change. If regulation changes are recommended, provide recommendations on how the FAA should prioritize a Part 450 rulemaking in comparison to rulemakings on financial responsibility (Part 440) and the operation of launch or reentry sites (Part 420 and 433).

Ms. Schenewerk presented a background of the rule including when it was published (12/10/2020), when it became effective (3/10/2021), and the deadline for existing license holders to convert to a Part 450 license (3/10/2026). Part 450 replaced prescriptive regulations with performance-based rules, with the intent on giving industry greater flexibility in meeting the rule's requirements. Four licenses have been issued under Part 450 – SpaceX, Relativity, ABL, and Astra.

In the observations section of the report, Ms. Schenewerk stated Advisory Circulars (ACs) are guidance documents from the FAA to assist operators in meeting requirements. ACs can be revised and have a process to provide feedback. In 2022, 74 launches and reentries were licensed with only one of these being under Part 450. Dozens of licenses are currently under review by the FAA and will be subject to Part 450. As noted above, the FAA has exceeded the 180-day timeframe for licensing. This is not necessarily a problem, but something to take note of. Several issues with Part 450 have been identified by vehicle operators. The FAA is requesting $42 million for FY 2024, an increase of $4.4 million from 2023. The new request includes funding for 20 full-time employees.

In the Committee's findings section, the publication of ACs was identified as very important for understanding and compliance of Part 450 and performance-based regulations. There is no vehicle launch or controlled reentry without a license. Applicants have reported that, in their current experience with Part 450, they seem driven towards strict requirements by suggestions from the FAA that applications would be easier if done a certain way. They also reported that reentry applicants are subjected to requirements that are not applicable or appropriate for that type of operation. The FAA and licensees could benefit from process improvements that reduce review time and increase transparency.

Additionally, it was noted that with the increasing number of new applicants and those transitioning from legacy regulations, delaying any improvement to Part 450 would damage operators' ability to deliver capabilities to costumers and contribute to the US space economy.

The Group made the following recommendations for this task:

- ACs should be accurate and accommodate variations in vehicle complexity. ACs and Part 450 should make distinctions between launch and reentry when differences exist, such as clear sections for each.

- The FAA should provide transparency into the software and analysis tools being used. This information would assist applicants in developing a plan for their means of compliance for Flight Safety Analysis, toxic release, etc.

- The FAA should implement a change control process for technical standards. Licensees reported being told to change direction during the license application process due to new guidance being approved but not published, therefore applicants were unaware of the change.

- Increases in FAA staffing should be directed to Part 450 and those hires should have the engineering and analysis expertise to directly interface with industry.

- Part 450 clarification and improvements should include the expectation of managing an increasing number of new applicants and those transitioning from legacy regulations.

The committee discussed the possibility of adding more specific recommendations to the FAA, for example, focusing on CONOPS instead of designs of different vehicles. The task group has a more thorough report in work and more detailed recommendations will be captured in the report or presentation.

The Chair stated the need to close this task at this meeting and provide recommendations to the FAA. The committee then discussed the challenges of reopening Part 450 to revision. Some members expressed concern over attempting to perfect regulations. Reaching perfection is a challenge and it should be possible to improve regulations through policy changes and guidance instead of re-writing them. Part 450 is written as a performance-based regulation, but if it is being forced to be prescriptive, as stated in the presentation, that should be fixed within the existing process instead of revising the regulation. Also, revising the regulation would take resources from the ongoing SpARCs. A lot of work was needed to create the regulation, and the FAA should therefore use existing processes to make it work. Starting over would take resources and unknown amounts of time to finish.

Ms. Schenewerk reminded the committee that there are specific parts of 450 which ACs will not improve, such as distinction between launch and reentry, because ACs cannot conflict with the existing rule. The committee chair reminded the committee that this review of the regulations is something the FAA asked for.

The conversation briefly turned to Part 450 ACs, specifically flight safety hazard analysis. Members recommended the FAA specify types of systems or operations data that are interesting to public safety. As systems get more complex, more specificity is necessary; some ambiguity is necessary to allow for flexibility. Members also expressed their belief that there should be a distinction in public safety between flight safety and ground safety. Currently, there is a disconnect between what the federal ranges see as a requirement for flight safety compared to the FAA as a regulator, causing customers [launch operators] to deal with both. Other members agreed, but it was noted that this issue would be difficult to address through Part 450 and may be more of a "whole of government" problem.

The discussion then turned back to the Regulatory Working Group Task. The Chair asked the COMSTAC for their overall feeling of the task and a way forward. Members discussed how a rewrite of Part 450 would impact current licensing efforts. Ms. Schenewerk referred to the section of the report that contains specific parts of the regulation and corrections that could be made. Under a Part 450 change, launch operators would continue to be licensed under existing regulations until updates to Part 450 were published. The recommendation is not to throw away Part 450 but to update it. The DOT Secretary also has the option to issue a waiver if both industry and FAA agree while the rule is being updated.

The discussion then turned to the issue of Artificial Intelligence (AI) and how it should be regulated. At federal ranges, this is a matter of competing authorities (US Space Force and FAA), and might be a topic for a future COMSTAC.

Returning to the Part 450 discussion, the Chair provided task options to COMSTAC: modify recommendations, more work on the white paper, or call a vote. The committee members agreed to modify the recommendations during the meeting and Ms. Schenewerk made changes to the Regulatory Working Group's recommendations in real time. The updates included a recommendation that the FAA should be more specific about which sections of Part 450 would be replaced if an operator would be subject to range requirements. An additional update included wording to provide, "…clarifying guidance balanced with regulatory changes."

Once the recommendations were updated, the Chair called for a vote and the motion was seconded. The Vice Chair took a roll call vote, with all present members voting affirmative (not present – Bolton, DePete, Jah, Jones, Mercer, Newman, Sitaraman, Stricklan).

The Chair thanked the members for their hard work and turned the meeting back to the DFO. The DFO thanked the committee for their feedback and notified them about upcoming COMSTAC tasks: Lessons Learned Information System and Recommended Practices for Human Space Flight Occupant Safety.

The DFO adjourned the meeting at 2:54 PM.