Fall 2017 REDAC

Subcommittee: NAS Operations DFO Name: Francisco Bermudez

Commercial Space

Findings

- The projected dates for NAS improvements to integrate Commercial Space in the NAS are based on the current commercial space research plan. The subcommittee believes that these implementation dates need to be moved to the left (i.e. come earlier) to deal with the significant growth in commercial space operations that the subcommittee anticipates.
- 2) There are a large number of R&D projects across the four pillars. The subcommittee believes that, with the available budget, many of these will not have enough funding to achieve meaningful results.
- 3) Some of the projects in the commercial space R&D portfolio don't appear to support commercial space operations integration into the NAS.

Recommendation

The subcommittee recommends that the Commercial Space R&D be prioritized and limited to those activities that directly support early integration of commercial space into the NAS. The most critical items (those necessary to ensure that as the number of space launches increases there will be as little impact on ATC as possible) must have sufficient investment. Lower-priority activities, such as those in pillar 4, should be stopped completely. The R&D plan should be revised to reflect this recommended prioritization, as these activities appear to be most appropriately the responsibility and obligations of the private sector.

Pathfinder Programs

General Observation

The subcommittee received briefings on the FAA's three Pathfinder Programs, namely CNN's Visual Line of Sight operations over people, PrecisionHawk's Extended Visual Line of Sight operations, and BNSF's Beyond Visual Line of Sight operations.

Findings

The Pathfinder Programs represent an excellent opportunity to both provide near-term access for specific UAS operations in the NAS while also identifying and providing data for key research issues that warrant further exploration. Although the subcommittee appreciates the complexity of integrating these UAS activities into the NAS, the pace of progress is significantly slower than required to satisfy the accelerating demand for airspace access. The processes used to approve airspace access in the current Pathfinder Programs will not scale up to meet the expected significant expansion in the scope of UAS operations that is needed. At the same time, there does not appear to be an established process for extracting research issues and linking them to other R&D efforts within the FAA so that they can be

resolved. As a result, the Pathfinder Program risks falling behind the demand for access and failing to inform the FAA's UAS research roadmap.

Recommendation

The FAA should define a formal process for identifying and prioritizing research and development issues arising out of the Pathfinder Program and then conveying that information in a way that can be integrated into the UAS R&D plan. Each Pathfinder focus area should produce an ordered list of associated research questions that, if resolved, would validate the assumptions and constraints placed on operations and inform future UAS operational concepts. In turn, the FAA's UAS research roadmap should facilitate ingesting inputs from the Pathfinder Program and ensuring they are resolved through its ongoing research programs. The REDAC looks forward to reviewing these research issues and priorities at its Spring 2018 meeting.