

Report from the Wyoming King Air Advisory Panel to NSF

The advisory panel met with King Air personnel on 14 April 2021, reconvening on 21 April to finish the agenda. Overall, the development of the new King Air is going well, and has not been overly affected by COVID-induced delays in the past 6 months. Below is a synopsis of the updates we feel are most useful for NSF to be aware of.

Several important personnel changes are occurring.

- Samuel Haimov, the chief radar engineer, is planning to retire towards the end of 2022. An advertisement for his replacement has been posted and circulated within the relevant communities. Sam's commitment to the KPR2 and WCR4 radars is clear and he has said he will remain available if needed. The plan for him to overlap with the new hire is sound.
- Senior machinist Kuestner is also retiring and a new hire made to continue his form of expertise.
- A new hire, Anna Robertson, has been analyzing data examining the implications of different inlet locations.

The working relationship with Avcon, the company modifying the plane, is experiencing challenges. The schedule and work on design changes is taking longer than originally projected, reflecting the unique needs of the project and high engagement by UW in the process. Original designs became more complicated than was originally envisioned by Avcon, with UW's input solicited later than ideal. More recent design work is benefitting from closer coordination with UW and is adhering more closely to the original schedule. That said, uncertainty will remain on whether a design analysis will be approved by FAA without an FAA-approved testing program, and a delay on the final sign-off with FAA is possible. This is further complicated by increasing FAA requirements implemented over the past 5-10 years.

Thus, the FAA certification activities will be critical to the final configuration of the plane in the coming months. For example, DOE Aerial Facility Manager Beat Schmid communicated that PNNL ultimately settled on multiple fixed configurations for the externally-mounted sensors instead of a more flexible plan, to be able to receive the FAA Supplemental Type Certificate without delaying PNNL's timeline. The panel suggests that the types of external sensor mounts be clarified in the Avcon Project Specific Certification Plan as soon as possible.

UW might also like to ask the contractor for different options within the schedule. Designs that can pass safety and performance engineering analyses have quicker and cheaper certification approval paths. The panel also asks that further information on the schedule details be shared with the panel as they become available. The panel will want to discuss the implications of any milestones that become revised at our next meeting. The PNNL experience may be able to inform and aid UW with problem-solving within a new regulatory environment. There may also be other schedule issues that are separate from the certification process, and these may need to be better understood as well.

Other topics discussed included in-house testing of SP2 and gust probes (all good); the upcoming schedule for campaigns (COVID delays in campaigns are introducing some flexibility in the radar timelines) and updates on the individual instruments. These are all on track.

Sincerely,
Paquita Zuidema - chair
Teresa Campos
Beat Schmid
Paul Shepson
Jeff Stith