



To: "Kevin Kochersberger" <kbk@vt.edu>,
Cc:
Bcc:
Subject: Re: 2012-ESA-55-COA-R renewal

"Kevin Kochersberger"

Joe -

09/13/2012 01:48:56 PM

From: "Kevin Kochersberger" <kbk@vt.edu>
To: Joseph CTR Maibach/AWA/CNTR/FAA@FAA
Date: 09/13/2012 01:48 PM
Subject: 2012-ESA-55-COA-R renewal

Joe –

I have essentially responded to all concerns on #55 as I had responded to #56. Let me know if this is adequate.

1. Concerning item #4, we had discussed previously that we issue NOTAMS for the entire flying day, not just 1 hour. So we will not be exceeding any time limit on flights in the event the aircraft orbits until fuel exhaustion. The aircraft can only hold 1 hour of fuel.
2. Concerning item #5, I have attached the updated letter reflecting this. If you don't need it, discard.
3. Concerning item #6, yes, it is true that we will operate only within the designated boundaries and not fly over buildings or people. If you can accept our central point and radius flight area description that we have provided in the application, that would be preferred since it is difficult to define lat/long points around a circular area.
4. Concerning item #7, If we lose link, there is no way to terminate the flight (since the link is lost) but the aircraft will sense lost link and return to the home waypoint (and circle until out of gas). Interesting that you mention this – we are currently working on a technology in the lab to do exactly what you have requested with a smartphone or other cellular communications device. I might want to talk to you further about this since I think it could be an important part of integrating UA into the NAS. We are very close to being able to install a smartphone into the plane, plug in a USB device to the phone and then enter the flight boundaries on the phone which will send a terminating command when the plane flies outside of that boundary. Definitely like to talk to you or others more about this...
5. Concerning item #8, attached.
6. Concerning item #9, Flight Aircrew Qualifications, we will comply with the following statements:

“All pilots will maintain currency according to FAR Part 61. In addition each pilot will maintain currency on the RMAX by performing at least 3 launch and recovery operations with maneuvering within the preceding 90 days. If the 90 days elapses the pilot will gain currency by logging the 3 launch and recovery operations with a qualified instructor operator.”

“All observers will maintain currency according to FAR Part 61. If it has been more than 90 days

since being involved with RMAX operations, the PIC/Operator will ensure the observer is thoroughly briefed on the standard operating procedures of the operation and any recent changes to operation protocol.”

Let me know if you need anything else.

Best, Kevin

From: Joseph.CTR.Maibach@faa.gov [<mailto:Joseph.CTR.Maibach@faa.gov>]

Sent: Thursday, August 23, 2012 8:40 AM

To: Kevin Kochersberger

Cc: Dina.Reyes-Garcia@faa.gov

Subject: 2012-ESA-56-COA-R has been Released

Hey Kevin,

Good morning. I left you a voicemail yesterday afternoon after speaking with Dina. We only have two options:

1) Start over - not the most desired method, I know, especially since it will get treated as a new COA (60 business days to complete, rather than 30 for a renewal). I can walk it through and attempt to make it get through faster, but I can't make promises because I don't have that kind of control once it leaves my office.

2) Type an email which addresses all of the below concerns and I will upload it onto the COA application and let everyone know after me in subsequent phases what is going on; that they should use the attachments as a basis for conducting their reviews. So, what I have done this morning was conduct another Admin Review as if I had never looked at this case before. I have a new starting point and believe I have everything covered.

Here is what we need to do. Some of this has already been covered, but I need to consolidate information. I only want to add this email thread to the document, instead of 4 or 5. Please reply to this email with all the things we need. Once I get the information back from you, I will tell you to re-commit and I will start adding everything and pushing this along. I hate that we have to go this route, but it is the best solution for the time being.

- 1) Please indicate on University Letterhead that the airframe you are using has no TSO certified components (if that is, in fact, true). Send me the attachment and I will upload it onto the application.
- 2) In the Airworthiness Statement section, there is an old, unapproved Public Declaration letter. It will have to stay there since we can't remove it. However, please send me a current, signed, and dated Airworthiness Statement on University Letterhead. I will upload it onto the application.
- 3) I will upload the approved Public Declaration Letter to the application.
- 4) The Lost Link procedures can be tailored during the ATC Facility Coordination phase. The piece about orbiting for 1 hour while the fuel is exhausted raises some concerns with me, most notably in the NOTAM requirement. You may have to update your NOTAM on the fly in the event a lost link orbit exceeds the duration of your issued NOTAM.
- 5) The Lost Comms piece is a little much (numbers 2 and 3 belong in the Lost Link section), but number 1 works. So we will leave that alone for now. I would like to see numbers 2 and 3 removed, but that isn't an option for us.

6) The Flight Operations area plan shows the flight occurring over a yellow area on a sectional (hit the "Map UAS COA" button on the bottom of the webpage). This indicates flight over congested/populated areas. I know that your operation will not be over buildings and people, so the graphic you provided will work so long as you stay within the yellow boundaries you drew on your picture. Please verify that this is true... that you will remain within the boundaries you set up in your graphic. If possible, lat/longs of the field boundaries where you are operating would be great.

7) Is there a feature which allows the PIC to terminate flight immediately in the event of a fly away situation? Something like a kill-switch? If the UA gets away from the PIC and he can no longer control it (and the lost link feature does not work), is there a way to override everything and kill the engine? Just something to think about because the yellow congested areas on the sectional can pose a problem should the UA experience fly away and crash into buildings, etc.

8) You mentioned in an earlier email that you attached a new Spectrum Analysis attachment, but I don't see that. Can you send that to me (on Univ Letterhead, please) and I will attach it to the application. It should state that you aren't using licensed frequencies to control the UAS. 72 mhz, 900 mhz, 2.4 ghz, 5.8 ghz are all unlicensed.

9) The currency requirement in the Flight Aircrew Qualifications section should read something like this (below). Please comply with it and let me know that you concur with its instructions:

Pilots section should read something like:

All pilots will maintain currency according to FAR Part 61. In addition each pilot will maintain currency on the **(insert UAS Type)** by performing at least 3 launch and recovery operations with maneuvering within the preceding 90 days. If the 90 days elapses the pilot will gain currency by logging the 3 launch and recovery operations with a qualified instructor operator.

Observers section should read something like:

All pilots will maintain currency according to FAR Part 61. If it has been more than 90 days since being involved with **(insert UAS Type)** operation the PIC/Operator will ensure the observer is thoroughly briefed on the standard operating procedures of the operation and any recent changes to operation protocol

That should cover it for now. Let me know if you have questions.

Joe

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Ph: 202-385-4582[attachment "Spectrum_Analysis_Approval_RMAX.pdf" deleted by Joseph CTR Maibach/AWA/CNTR/FAA] [attachment "TSO_components_RMAX.pdf" deleted by Joseph CTR Maibach/AWA/CNTR/FAA] [attachment "Airworthiness_statement_RMAX_3.pdf" deleted by Joseph CTR Maibach/AWA/CNTR/FAA] [attachment "Lostcommunications_2.pdf" deleted by Joseph CTR Maibach/AWA/CNTR/FAA]