

	A	B	C	D	E	F	G	H	I
1	NR	Author	Section	Page	Comment	Suggested resolution	From the commenter point of view a modification of the published textis*:	EASA comment disposition	EASA response
2	1	UAAI	INTRODUCTORY NOTE AND IDENTIFICATION OF ISSUE	1	The MoC doesn't make clear whether it should be used as a demonstration of enhanced containment to EASA for obtaining a Design Verification Report (DVR) or whether it can be directly used as a demonstration of compliance with Step 9 of theSORA to NAA without having to obtain a DVR from EASA. According to EASA, the latest seems to be the intention so it should be stressed more clearly in the document.	Add a sentence clarifying that the MoC is applicable: A) when a TC for the UAS is required (SAIL V and VI or certified category) B) when DVR by EASA is required (SAIL III & IV), or C) when the matter can be dealt only at national level by the competent authority (SAIL I or II)	Required		
		UAAI	Introductory note and identification of issue		While the Special Condition is clearly scenario based, it does not allow to clearly identify criteria for obtaining the certification for the application as the result of the respective DVP.	Add explanation accordingly	recommended		
		UAAI	Introductory note and identification of issue		There are further activities in the same context of this document currently undertaken by Standard Development Organisations (SDO) which may influence the conclusions and the methodology provided by this document and the Special Condition in general. In particular prEN 4709-06 under development by ASD-STAN. Tasked by CEN following mandate M567 by DG-GROW. When industry standards are available, using the performance-based approach (e.g. issue 5 of CS-23) EASA should abstain from directly publishing detailed specifications, limiting its role to listing consensus-based industry standards, considered valid AMCs.	Add a remark saying that this MoC will be revised, once CEN 4709-06 will have been published	recommended		
3	2	UAAI	Light- UAS.2511 Containment	1	If considerations on the density of population are kept, adjacent areas should be defined, with regards to the characteristics of the UAS (likelihood that it will maintain a stable trajectory in case of fly-away, endurance of the UAS). Depending on the dimensions of the adjacent area, the average density of population may greatly vary.	Either delete considerations on the density of population in the adjacent areas or provide guidance material on the way to compute it.	Requested		

	A	B	C	D	E	F	G	H	I
	NR	Author	Section	Page	Comment	Suggested resolution	From the commenter point of view a modification of the published text is*:	EASA comment disposition	EASA response
1									
5	4	UAAI	Structure of the document and general approach	2	"Check that the adjacent airspace is such that a breach of the UA beyond the ground buffer with a probability of 10-4 / FH can be considered acceptable by the competent authority issuing the operational authorisation. If considered acceptable, proceed to step 3. If not acceptable refer to the competent authority issuing the operational authorization." This paragraph seems to imply that an authority may refuse the value of 10-4/ FH based on undefined criteria. The objective of this MoC being a harmonized, one may wonder whether this possibility should be left to NAA.	Explicit more clearly the criteria that may be used by the NAA to reject the value 10-4/FH, or better, standardise this value at EU level.	Recommended;		
7		UAAI	2. Assessment of ground risk posed to adjacent areas	3	It can be argued that if the UAS crashes in the adjacent area, it means that the enhanced containment has failed (either due to loss of C2 link or malfunction of the FTS). Depending on the architecture of the UAS and dependance to the FTS and/or C2 link, the M2 mitigation means may be negatively impacted in the same way and could not be used as a mitigation means for the adjacent areas.	Provide additional guidance material on the situations where M2 can be used or not as a risk mitigation when the UAS has left the buffer area.	Recommended;		

	A	B	C	D	E	F	G	H	I
	NR	Author	Section	Page	Comment	Suggested resolution	From the commenter point of view a modification of the published text is*:	EASA comment disposition	EASA response
1	6	UAAI	2	3	To reduce KE also a parachute might be used, based on ASTM F3322-18 Standard Specification for Small Unmanned Aircraft System (sUAS) Parachutes	Mention the possibility of a parachute and the related industry standard	required		
8	7	UAAI	2.1 Method 1 to derive Dpop-adj- max	4	<p>These values are very conservative, and in practice, would greatly penalise UAS operations. For instance, drone light shows are always performed relatively near assemblies of people (outside of the buffer areas though) and they would rely only on this FTS solution, since it is the only economically viable solution. The same can apply for BVLOS operations that use UAS with high endurance, and that will likely have a densely populated area within its range, even if it is far from the planned trajectory (see also comment #2)</p> <p>Furthermore, these values are also inconsistent with other categories of operations with much higher volumes of FH than the operations under Controlled (OA) in the specific category:</p> <ul style="list-style-type: none"> - there is no constraint on the density of population in adjacent areas for operations in STS-01 which can be performed over controlled ground areas in densely populated urban areas, - no FTS is required for OPEN.A3 while they can be performed at 150m from a densely populated area, which can arguably be defined as "adjacent". <p>Several States have experience of several millions of hours of operations using such FTS</p>	UAAI would advocate for a more pragmatic approach, in line the experience of several MS, and with the containment conditions and volumes of hours of operation of the OPEN category and standard scenarios, with much less stringent conditions of density of population in adjacent areas. This can be further refined with safety experience. Since the criteria for obtaining OA in the specific category are more stringent than in the open category, the dimensions of the adjacent area should be smaller, not larger.	Requested		

	A	B	C	D	E	F	G	H	I
	NR	Author	Section	Page	Comment	Suggested resolution	From the commenter point of view a modification of the published text is*:	EASA comment disposition	EASA response
1									
10	8	UAAI	3	5	Although the 10-4 value refers to Step 9 of SORA, this value is most likely not consistent with the actual probability of fly away of a UAS equipped with an FTS. Even for a SAIL II operation (the vast majority of BVLOS operations), and/or for a commercial UAS operation, the global probability experienced so far of crash is 10-2 and most of these crashes occur inside the operation area. It is not unreasonable to consider that a "standard" probability of fly away is rather 10-3. Combined with an independent FTS with a probability of failure of 10-2, Pexit would rather be 10-5. This argument could be used to alleviate the constraints on the density of population that appear in section 2, if the section is kept.	Consider a value of 10-5 for Pexit.	Recommended;		
11		UAAI	3	5	Other standards for system safety assessment, including credit for FTS, exist that could be directly used as means of compliance with the safety objectives of the SORA: E.g. Eurocae ED280, ASTM3309. These standards could be added to the MoC so that an operator equipping its UAS with a FTS compliant with these standards could declare its compliance with the MoC without additional demonstration.	Based on the official policy of performance-based regulation, in turn enshrined by ICAO Assembly Resolution A39-22, EASA should accept internationally recognized standards as acceptable means of demonstrating compliance with this MoC. And consequently, mention them explicitly	Required		
		UAAI	3	5	This detailed requirements from EASA should be replaced by suitable industry standards as soon as available, such as EN 4709-006	State that in the future, when specific industry standards would be available, the need for this section will be reconsidered by EASA	Recommended		

13	9	UAAI	3.4 Frequenc yand frequenc ydiversity	6	"The FTS frequency should also not be superimposed with frequencies intensely utilized in the area of operation, or it should be proven that in such case no interference wouldbe possible such to cause erroneus FTS activation." This is a very delicate matter to prove, and no guidance on how an applicant should prove this is provided	Either delete this requirement, either provideguidance material on how to select appropriate frequency bands.	Requested		
----	---	------	---	---	---	---	-----------	--	--

	A	B	C	D	E	F	G	H	I
	NR	Author	Section	Page	Comment	Suggested resolution	From the commenter point of view a modification of the published text is*:	EASA comment disposition	EASA response
1									
14	10	UAAI	End-to end activation tests performed in laboratory	6	The sentence “The number of activations (triggering of the termination means and observation of proper operation) should be equal to the number of expected operations of the UAS for its entire life” in itself could be misinterpreted as a requirement to simulate operation of the FTS, as if it was triggered in flight (i.e., with full electrical load, pyrotechnic activation if any, etc...), for as many times the UAS is expected to be operated for its entire life, i.e., the number of expected flights (+ scatter factor of 2). This would be very severe as it corresponds to simulating in flight activation of the FTS for every flight. Fortunately, the text in parenthesis clarifies that the intent is to simulate the normal operation of the FTS (pre-flight checks, maintenance checks) as expected for the entire life of the UAS + scatter factor of 2.	We suggest to slightly rephrase for better clarity, taking into account that, based on experience, FTS is not in reality activated more than once every 50 flights.	Recommended;		
16	12	UAAI	3.8 Prescriptions for ground buffer definition	7	Computation of ground buffer. The UAS may accelerate during the 3 seconds (case of a failure/inversion of magnetometer for instance: the correction is erroneously in the same direction as the movement). 3 seconds for the reaction by the remote pilot are an enormous time. 1.5 seconds would be more realistic for the average response time	Reducing the pilot reaction time to 1.5 s	Recommended;		
18	27								
19	28								
20	29								

	A	B	C	D	E	F	G	H	I
	NR	Author	Section	Page	Comment	Suggested resolution	From the commenter point of view a modification of the published text is*:	EASA comment disposition	EASA response
1									
21	30								
22	31								
23	32								
24	33								
25	34								
26	35								
27	36								
28	37								
29	38								
30	39								
31	40								
32	41								

33	42							
34	43							
35	44							
36	45							
37	46							