Hunsdon Microlight Club

Stakeholder Consultation Response

STANSTED AIRSPACE

Proposal for Implementation of a Transponder Mandatory Zone

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STAKEHOLDER CONSULTATION

Response of Hunsdon Microlight Club

1. Hunsdon Microlight Club & Hunsdon Aerodrome

1.1 Hunsdon Microlight Club (HMC), which operates as a non-profit making members club, is the operator of Hunsdon Aerodrome. Of all the local airfields listed in Appendix A of the consultation, Hunsdon Aerodrome would possibly be most affected should either Option Two or Option Three discussed in paragraph 9.1 of the consultation be introduced. This is due to its location, the nature of the aircraft operating from Hunsdon Aerodrome & the number of these aircraft.

1.2 Hunsdon Aerodrome is located at N51°48.42', E000°04.27'. This is on the South West edge of, & just inside, the Stansted CTR. Aircraft routing into & out of Hunsdon Aerodrome must transit under the Stansted Class D CTA with a lower limit of 1,500' AMSL. This area is listed as "Area D" in section 6.1, figure 1 of the consultation.

1.3 Hunsdon Aerodrome currently operates under a Letter Of Agreement (LOA) with NATS negotiated with Jonathan Smith, Terminal Control Operations Officer (LTC Operations), of NATS. This LOA permits us to operate within a limited, defined area of the Stansted CTR up to 1,000' AMSL without reference to Essex Radar & without transponders. This allows safe entry & exit to the aerodrome overhead.

2. Response to questions in paragraph 13.3 of the consultation

2.1 Response to question (a):

HMC & its members operate non-transponder equipped aircraft from an airfield within the affected airspace. The aircraft operating from Hunsdon Aerodrome are exclusively microlights. There are approximately 20 such aircraft based at Hunsdon, of which roughly 50% are flexwings & 50% three axis aircraft. Because of the nature of microlights, & the limits placed upon their design, construction & usage none of these aircraft are currently transponder equipped.

2.2 Response to question (b):

HMC believes that most of the owner operators based at Hunsdon aerodrome would find it difficult, if not impossible, to fit a transponder in their aircraft for the following reasons:-

i) Availability of a suitable transponder for microlight aircraft.

Although the consultation envisages that only a Mode C transponder would be required, it is very likely such units would have a limited life due to changing regulatory requirements. Therefore, Mode S transponders are the logical choice for new installations. However, due to size & weight constraints (as small as possible & weighing no more than about 500 grams), the only such "microlight possible" transponders currently approved by aviation authorities & available in the U.K. are types like the Filser TRT800:-

http://www.funkwerk-avionics.com/cms/upload/Downloads/Flyer-TRT800-V1.2.pdf

However, even these are too long &/or take up too much "panel space" for use in flexwing & many three axis aircraft.

The only other current possible option, which has a separate display & main body, is the Trig TT21:-

http://www.trig-avionics.com/library/tt21brochure.pdf

But this has yet to receive appropriate certification from the relevant authorities. However, it should be said that Trig Avionics are confident such certification will be received sometime during this year.

However, even the Trig TT21 may not be suitable for installation in all microlight aircraft because of installation or heath & safety issues (see below).

ii) Installation issues.

The British Microlight Aircraft Association (BMAA) Technical Information Leaflet (TIL) 104 issue 4 (BMAA TIL104.4):-

http://www.bmaa.org/upload/techdocs/200858837310.104_4%20Transponders.pdf

-: gives the requirements to fit a transponder in a microlight aircraft. A major problem with these requirements is likely to be item 8.5 on the checklist within the TIL requiring the antenna to be more than one metre from the GPS &/or radio antenna. Many microlight aircraft, & flexwings in particular, are not long enough (not having any tail section) to meet this requirement. Additionally many microlights simply do not have the panel space available, even to fit the trig TT21 in its "ultra compact" installation, to enable them to comply with BMAA TIL104.4. Some older microlights may not have sufficient electrical resources, if any, to power any transponder.

iii) Health & Safety issues.

BMAA TIL104.4 notes that the health risks from non-ionising radiation transmitted by devices such as transponders are not fully understood, and that "any effects of radiation on the human body" can be minimised by placing the antenna as far as possible from the cockpit. Again,

particularly in flexwings, “as far as possible” isn’t very far on a microlight & our pilot operators have grave, serious concerns over the possible health effects of such radiation produced by a transponder with an antenna sited close to the pilot & where there’s no metal bodywork on a microlight to offer any physical screening.

If a small, lightweight low power mode S transponder was available, this may help alleviate such concerns. However, according to a bulletin from Kinetic Avionics Products, who were developing such a transponder, the relevant certifying authorities have not yet produced a relevant Minimum Operational Performance Specification (MOPS) & so neither they “nor any other company” are yet able to produce a suitable device.

The bulletin from Kinetic Avionics Products is available at:-

http://www.kinetic-avionics.co.uk/transponders.php

iv) Cost

This is a major concern of our owner operators. See 2.4 (i) below.

2.3 Response to question (c):

Not applicable due to the location of Hunsdon Aerodrome.

2.4 Response to question (d):

There are two levels of financial implications:-

i) Financial Implications for individual owner/operators

The approximate cost of the types of transponder discussed in 2.2(i) above is approximately £1,500 (inclusive of VAT, which as private individuals, owners would not be able to reclaim, & excluding antenna, cabling, installation, testing & annual certification costs). See:-

http://shop.airworlduk.com/trig-tt21-transponder-303455-1392-p.asp

This is a very large amount of money compared to the other costs involved in microlight aviation:-

- A previously owned flexwing aircraft in good condition can be purchased for around £2,000.
- A handheld, CAA approved, airband transceiver can be bought for £125.
- A Garmin III Pilot GPS, with updated database, can be bought for £150.
- The cheapest form of membership at HMC is £160 per year.

If owner operators are faced with the prospect of paying nearly the value of their aircraft for a transponder, they may consider ether relocating or giving up their pastime altogether.

Many of the aircraft based at Hunsdon Aerodrome average less than 100 flying hours per year. Such relatively low levels of usage make the available transponders a very expensive item to install, even in the more costly microlight aircraft. Again, owner operators may not be able to justify such cost, and consider moving to another airfield or leaving the sport altogether.

ii) Financial Implications for Hunsdon Microlight Club

a) HMC does not own Hunsdon Aerodrome. The airfield is sited on Hunsdon Lodge Farm & this is part of the Gilston Park Estate owned by Ropemaker Properties Ltd. (an investment arm of BP PLC) & managed on their behalf by Savills PLC.

HMC has a tenancy contract with its landlord which commits it to paying £9,250 p.a., plus VAT (at the rate prevailing on the first of each month), for use of the airfield. The contract commits HMC to paying this rental until June 2013. As a non-profit making club, with turnover below the VAT threshold, HMC is not registered for VAT & so is unable to reclaim this tax from HMRC. So HMC is committed to an estimated total of £48,900 in rent over the next 4½ years.

Due to the requirements of the landlord, the lease agreement is in the name of two of HMC's members, Robert Parker (club chairman) & Barry Cook (vice-chairman). Therefore, in the event of the club defaulting on its rental payments, they are personally responsible for meeting these costs.

Additionally, HMC has to pay for electricity, water, sewage, replacement equipment (such as grass care machinery), fuel for grass care machinery, maintenance, liability insurance, supplies & other associated expenses. Overall, the current annual cost of running the airfield is estimated at about £15,500 per year. The funding for this expense is raised exclusively from member subscriptions, but the club seeks to make no profit from its operation of the airfield.

b) HMC is therefore extremely concerned that even the suggestion of the introduction of a TMZ may put prospective members off joining the club & may see existing members relocate to other airfields. Any such reduction in the flow of new members or in the overall number of members could have serious implications on the financial viability of the club & expose Messrs Parker & Cook personally to a very large legally binding cost, which they would likely find unbearable, resulting in possible legal action against them – and this is all a risk of the mere suggestion of a TMZ. The actual introduction of a requirement for microlights operating from Hunsdon to carry transponders could easily see the closure of the airfield & still leave the liability of paying the rent until June 2013.

2.5 Response to question (e):

i) If the proposed TMZ were to be introduced, a substantial amount of southerly east-west (& reciprocal) "through traffic", & particularly that which is not transponder equipped, may route further south to avoid entering the TMZ shown as "Area D" in section 6.1, figure 1 of the consultation. This could greatly increase the traffic routing through & overhead Stapleford Aerodrome's ATZ & the gap between the top of that ATZ & the lower limit of the LTMA above it is

only 315 feet. Whilst this does not directly affect Hunsdon Aerodrome, HMC feels that this would result in a significant increased risk of collision in this area.

Should the TMZ be introduced, HMC considers that a revision of the airspace in "Area D" (& possibly the other affected areas) should take place at the same time, shrinking these areas to reduce this potential "squeezing" of non-transponder traffic through a narrow corridor,

ii) HMC believes that the introduction of this TMZ may only be the start of such restrictions over the country generally. What is the difference between –

a) an ATCO being unable to determine the height of an aircraft traversing the class G airspace under the lower limit of 1,500' AMSL of the CTA south abeam Harlow &

b) an ATCO being unable to determine the height of an aircraft traversing the class G airspace under the lower limit of 2,500' AMSL of the LTMA south abeam Hertford?

The former is in the proposed TMZ & the latter is not – yet the traffic in the controlled airspace above these two areas is of virtually the same volume & direction (see figure 3 on page 12 of the consultation). So HMC envisages that if the proposed TMZ was introduced, it would only be a matter of time before authorities would want to make the whole of the airspace between Stansted, Luton & the London CTR a TMZ. This could destroy microlighting, gliding, ballooning & other forms of low cost recreational aviation in the whole region from Essex in the east to Berkshire in the west, for the reasons given in 2.2 above.

Such TMZ's, imposing restrictions on the airspace, would seem to be counter to the general CAA policy of improving access to airspace for all users.

iii) Hunsdon Aerodrome is used for the training of microlight pilots (& derives a significant part of the income need to run the aerodrome from these activities). Such training involves a significant amount of circuit flying & other flying within the vicinity of the aerodrome. It is not practical to for time or cost reasons to spend part of a student's air-time transiting to an area outside the proposed TMZ to carry out training exercises.

iv) Paragraph 9.1 of the consultation discusses a crossing service for aircraft without transponders. A potential problem with this is the difficulty in such aircraft being able to talk to the relevant ATSU (Essex Radar). This unit is normally extremely busy dealing with traffic in controlled airspace & it is notoriously difficult for non-transponder equipped aircraft to obtain any sort of service from Essex Radar. So the chance of such a crossing service being realistically available to non-transponder aircraft must be questioned.

If such a service were to be available from a unit other than Essex Radar, that unit should not be able to refuse access to class G airspace (which is "uncontrolled") – it should exist simply to be informed of the intentions of an aircraft without a transponder in that airspace.

v) Although BMAA TIL 104.4 discusses the requirement for the testing of transponders following installation in a microlight, & a "sign-off" of that TIL adds the requirement to check the Mode S code to the annual inspection of the aircraft (& recommends "regular" testing of the unit's altitude

encoding), there seems to be little guidance from authorities (the CAA) about reliability & testing procedures for such transponders when fitted to Permit-To-Fly aircraft. Additionally, there is a very limited number of Mode S capable ATSU's with which to test the functionality of a Mode S transponder.

vi) Whilst HMC recognises that the ability of its members to fly freely in Class G airspace without reference to any ATSU & without the use of transponders or radios is very much a privilege, it would want to see that privilege maintained to allow free & fair access to as much of the airspace of the United Kingdom as possible. HMC considers that, in general, the introduction of a TMZ in any class G airspace is a reduction & restriction of that privilege & is not, therefore, fair to all airspace users.

3. Summary

HMC is not aware that there have ever been any infringements of the class D airspace above the proposed TMZ by any of the aircraft based at Hunsdon Aerodrome, & certainly none resulting in loss of separation or any related safety issue. All HMC pilots are very aware of how busy Stansted is & are careful not to infringe the Stansted CTA or CTR, & to strictly observe the conditions of the club's LOA with NATS.

Microlights are only permitted to fly in VMC, & as their pilots fly for recreation they tend to fly in good visibility which is much better than VMC minima. Therefore, there is little risk of HMC pilots becoming lost & accidently causing an infringement.

Therefore HMC does not believe its pilots & aircraft, operating under the existing LOA & general airspace rules, present any significant risk to controlled air traffic in the Stansted CTR or CTA & does do not feel it is practical, affordable or necessary to install transponders in microlight aircraft operating from Hunsdon.

The club notes paragraph 9.2 of the consultation, which has significant merit for HMC & offers a degree of hope for the future. However, the club feels that more clarification should be given as to any such procedures that may be necessary in respect of Hunsdon Aerodrome (& the non-transponder equipped microlights based there) before it can offer a fuller response on this point.

HMC remains very concerned that the level of membership of HMC could be affected by even the suggestion of a TMZ, & that this may possibly result in serious financial difficulties for the club.