TP400-D6 Turboprop Engine - Determination of the Inlet Throat Area

Commentator:	**CAA-UK, Safety Regulation Group**
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Comment: **Please be advised that the UK CAA has no comments on the above referenced EASA document.**	
EASA Response	**Noted.**

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Commentator:	**Francis Fagegaltier**
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Comment: my attention was drawn to this consultation on TP400-D6 CRI-T16.
I am afraid it is based on a completely flawed assumption. Indeed, in order to determine the number of birds capable of entering an inlet, the "inlet throat area" is obviously the nacelle throat area. There is no ambiguity here : only the birds passing through the nacelle throat are considered, the birds hitting the walls of the inlet are considered as being destroyed and having lost the energy.

This is why the figure for inlet throat area as used by the engine (future) TC holder for engine certification becomes an airworthiness limitation for the aircraft designer (see CS-E 800 (f)(8)).

If CRI-T16 is approved as it is written, because of CS-E 800 (f)(8), the aircraft nacelle throat area should be limited to the vane throat area !! This would have a significant effect on the aircraft design (with no more any by-pass air for separation of hard particles).

The concern should not be on a definition of the throat area (which is clear) but on how to test the engine with an inlet internal structure as shown in the CRI (assuming that birds do not hit the propeller before entering the inlet).

EASA Response	**Partially accepted** In order not to adversely affect the aircraft design it has been decided to remove CRI-T16 from the engine certification basis, the approach to re-define the "inlet throat area" specific for the TP400-D6 engine has been withdrawn. It is agreed that the total number of birds is determined by the nacelle area. The number of birds to be aimed at the Engine core primary flow path will be determined in accordance with CS-E800(d)(1)(v)(A).