PART 1.6 - CONVENING AUTHORITY REMARKS

1.6.1. I am content that the Panel have conducted a thorough and objective Inquiry into this tragic accident and I accept their Findings and Recommendations. In the absence of access to the principal witness, the Panel are to be commended for their forensic examination of the available evidence and for their professionalism in interpreting it. My role in reviewing their Report is to examine the key lessons and attempt to highlight the most important issues to everyone involved in Air Safety, with the aim of preventing recurrence.

1.6.2. This was the third of three serious accidents to befall the RAFAT in less than two years and the second fatality in less than two months. The SI into the Crete mid-air collision in Mar 10 was conducted by the RAF, whilst the XX179 Bournemouth SI and this Inquiry were carried out, independently of each other, under the auspices of the MAA. Given the relative proximity chronologically of the three accidents, it should come as no surprise that their respective Inquiries have identified several common themes, namely standards, risk management and supervision. This Inquiry has examined in greater detail the environment within which identified shortcomings in the aforementioned areas arose and has highlighted a number of localized cultural factors that, as the Panel have concluded, probably gave oxygen to unsatisfactory divergences from established, or more or less conventional, practices seen elsewhere.

1.6.3. Yet, the RAFAT and their activities cannot be regarded wholly in the context of norms – their activities are highly specialized, even by military aviation standards, very high profile, and time and again provide a level of spectacle on the national and international stage that attracts justifiable admiration and pride in equal measure from both aficionados and very large sections of the general public – inevitably, achieving such a level of elite performance requires differences in approach, preparation and execution. The key, brought out clearly by all three of the contemporary SIs, is to ensure that deviations from the relative norms are confined to where and when a critical requirement exists, and are appropriately bounded; that they are properly assessed for their impact on the overall risk budget; that proposed mitigations are viable, enduring and reviewed regularly; and that fit-for-purpose independent oversight and assurance is in place to underwrite them.

1.6.4. However, delivering such outcomes is also dependent on a number of essential ingredients – a suitably qualified, experienced and engaged supervisory chain, end-to-end; a task/resource balance that also accommodates the more mundane, but nevertheless essential, activities; and, perhaps above all, a clear recognition amongst those granted the privilege of belonging to, and being associated with, an elite and iconic organization, of the constant need to pursue excellence in all things and to avoid falling into the trap of assuming that by their roles and status alone they are above challenge or reproach. It is apparent that, in the period leading up to this and the preceding accidents, at least some of those ingredients were diminished in some degree. However, I believe it would be wrong to conclude that such a condition can be attributed simply to shortcomings in a discrete number of individuals in key positions at the time of the accidents. In my opinion, the collective evidence points more to a gradual organizational drift over a prolonged period, probably extending over many years. Individuals' actions within that were likely to be minor in their part, relatively, with the whole being greater than their sum.

1.6.5. Notwithstanding the above, the specific circumstances in which Flt Lt Cunningham met his demise are the epitome of a tragic accident. The malign convergence of a hitherto unidentified serious risk, in the potential for the SFH to appear safely stowed to anything less than close examination, a latent vulnerability in the escape system

design and maintenance procedures, question marks over engineer training and the institutionalizing of an unnecessarily rushed aircraft start-up sequence resulted, on this occasion, in an ejection that should not have happened, but did, and an escape sequence that should have worked, but did not.

1.6.6. The Panel have concluded from the forensic evidence and MITL testing that the most likely initiation of the ejection was by forward movement by hand of the SFH from Position 3. It is not difficult to speculate why the Pilot may have done this – it may well have been in response to him perceiving some fouling of the control column during his freedom of controls checks, as a result of the misplacement of the SFH, and/or his attempting to check the correct routing of his harness lap straps. We will never know for sure, but what does seem clear is that the SFH came to be in an unknowingly unsafe condition and that such an eventuality should have been prevented by strict adherence to well-established safety checks that, in turn, should have been made by several people, including the Pilot, on multiple occasions in the lead up to the accident event. Even in hindsight, the relative weight between identified contributory factors such as compressed timescales, locally adapted procedures and distraction cannot be determined at all accurately, but they could all have been better mitigated by keener awareness of the origins of risks, and the old adage of 'never assume, check.' Regrettably, we are all often not as good as we sometimes like to think we are.

1.6.7. The fact that potential failure mechanisms relating to the fitment of the scissor and drogue shackle assemblies had clearly been identified and acted upon by some parties as far back as 1991, but that knowledge of the issues and proposed mitigations had apparently not extended to, *inter alia*, the HSA, AES PT and MFTS PT community is clearly a matter of concern. So too, are the findings in relation to internal communication amongst the above agencies and 22 (Trg) Gp, their airworthiness decisions record keeping, Hazard Log gaps, absence of an ejection seat Safety Case report and confusion over which agency was responsible for it. Several recent audits of DE&S PTs have highlighted similar shortcomings, leading some to opine that these are merely administrative anomalies. I beg to disagree and I believe the findings of this SI serve to highlight the pivotal role that such 'administrative' activities can and should play in prompting decision-makers to examine airworthiness interventions and responses comprehensively and thoroughly. In this case, the airworthiness implications of an inspection regime that required the relatively frequent undoing and redoing of the drogue shackle bolt and locking nut do not appear to have received specific attention – had they been, it may be argued that it is possible (but merely possible) that the potential for pinching and the importance of tightening of the locking nut to a defined degree would have come to light earlier, particularly if the seat's designers had been involved. Notwithstanding, it must be said that we cannot know for sure whether or not such a path would have changed the outcome on 08 Nov 11. The findings in respect of the AES PT's stewardship of a Safety Case for the ejection seat also chime with related findings of the SI into the Mount Pleasant Complex (MPC) fuel contamination, also in 2011, ie as evidence of insufficient, or unsatisfactory, assurance and control of airworthiness-related commodities, which some of the MPC SI's Recommendations already seek to address.

1.6.8. I am confident that implementation of this Panel's Recommendations will do much to address the identified weaknesses and strengthen the foundations upon which the RAFAT operate; as is now the norm, Hd MilAAIB will track implementation of them and will report to my successor on progress regularly. Moreover, I am acutely aware of the very considerable efforts that have already been made by the Chain of Command and the RAFAT themselves over the last 18 months to address the emerging findings of this and the XX179 SIs. Activity levels were reduced last display season whilst significant changes to command and supervisory structures and processes were made, and the

members of the Team and those most closely associated with their activities have leant hard into the necessary adjustments. Taken together, I believe it is fair to say that whilst the RAFAT of today may be no more professional in intent than their predecessors, they are likely to be a more fit-for-purpose organization, correctly focussed on delivering excellence in all that they do and on the essential principles that must underlie their efforts.

1.6.9. In drawing my remarks to a close, I wish to highlight that the conduct of this Inquiry has not only been challenging from a technical perspective, but also emotionally so for the Panel members. Set against the permanent backdrop of the primacy of a civil police investigation and the close attention of the HSE, their duties have necessarily brought them into direct contact with a proud and at times, perhaps understandably, defensive organization traumatized by two severe blows in quick succession and already subject to the intrusive attentions of the XX179 SI. I am in no doubt that, throughout, the Panel have conducted themselves wholly professionally and have striven for objectivity - I acknowledge their moral courage in doing so and thank them for it. I am also absolutely clear that their motivation has been nothing less than to do the right thing for the deceased and his loved ones and to ensure that all that can be done to prevent recurrence is done. Moreover, if we cannot critically examine our actions and ourselves, and actively seek to learn lessons, then we have no right to consider ourselves professionals. I feel sure that Flt Lt Sean Cunningham would have concurred.