IN THE WEST SUSSEX CORONERS COURT

INQUESTS INTO THE DEATHS IN THE SHOREHAM AIRCRASH

Findings of fact and conclusions including the ruling on law

The Air show

1. 26 years ago, the Shoreham Air show started as a fete. By chance this was happening on the same day as the Battle of Britain Memorial Flight which just happened to be flying close by. They were using the Lancaster, Spitfire and Hurricane. As a result the control tower at the airport called these aircraft up and asked if they would do a fly through at Shoreham, which they did, and this was the start of a successful Air show that continued on an almost annual basis

2. In 2015 the airshow was to be held over 2 days on 22nd and 23rd August.

3. It was on the 22nd of August, a bright sunny summer day, at 1322 BST, that a Hawker Hunter G-BXFI performing an aerobatic display at the airshow crashed on to the A27, Shoreham Bypass, fatally injuring eleven road users and bystanders. A further 13 people, including the pilot, Mr Hill, sustained other physical injuries. Countless others have been psychologically affected after seeing and dealing with the aftermath of that crash. And for the families and loved ones of the men who died, their lives were inexorably changed.

4. Whilst some of those killed had intended to be by the side of the road, watching the display, others had no interest whatsoever in the airshow: they were going to work, embarking on a cycle ride with friends, heading home from work, or were off to play a home game for Worthing United Football Club.

The men that died

5. Those that died were

Maurice Rex Abrahams born on 18/6/39. Mr Abrahams was working as a chauffeur in his Daimler car and was on route to pick up a bride driving along the A27. Dr Biggs, a pathologist, gave his cause of death as burns and smoke inhalation.

Dylan Archer born on 1/2/73 was waiting with his friend Richard Smith to cross the A27 at the Sussex Pad crossing with his push bike in order to continue his journey into the South Downs National Park. Dr Biggs gave his cause of death as fragmentation of the body due to blunt force trauma.

Anthony David Brightwell, **born on 21/5/62,** had ridden on his bicycle to watch the Shoreham airshow from outside air show ground. He was situated at the junction of the A27 with the Old Shoreham Road, the Sussex Pad junction. Dr Biggs gave his cause of death as fragmentation of the body due to blunt force trauma.

Mathew James Grimstone, born on 31/10/91, was travelling in a car with his friend, Jacob Henry Schilt, on the A27 on his way to play football for Worthing United. Dr Biggs gave Mr Grimstone's cause of death as head injury.

Matthew Wesley Jones, born on 16/3/91 was returning from work along with a work colleague Daniele Polito travelling in a car on the A27. Dr Biggs gave his cause of death as fragmentation of the body due to blunt force trauma.

James Graham Mallinson, born on 26/12/42 had gone to watch the air show and to photograph one of the last flights of the Vulcan bomber. He was situated on the A27 at the Sussex Pad junction. Dr Biggs gave his cause of death as fragmentation of the body due to blunt force trauma.

Daniele Gaetano Polito, born on 19/5/92, had been returning from work in a car along with Mr Jones travelling on the A27. Dr Biggs gave his cause of death as fragmentation of the body due to blunt force trauma.

Mark Alexander Reeves, born 4/9/61 he had travelled on his motorbike to watch the Shoreham Air Show. He was situated at the junction of the A27 with Old Shoreham Road, Sussex Pad junction. Dr Biggs gave his cause of death as head, neck, and chest injuries due to blunt force trauma.

Jacob Henry Schilt, born on 13/2/92 and he had been travelling with a friend in a car on the A27 on his way to play football for Worthing United. Dr Biggs gave his cause of death as head injury.

Richard Jonathan Smith, born on 25/7/89, was waiting with Dylan Archer at the Sussex Pad crossing waiting to cross the A27 with his bicycle in order to continue his journey into the South Downs National Park. Dr Biggs gave his cause of death as head, neck, and chest injuries due to blunt force trauma.

Mark James Trussler, born 10/12/1960 had travelled on his motorbike to watch the Shoreham Air Show. He was situated at the junction of the A27 with Old Shoreham Road. Dr Biggs gave his cause of death as fragmentation of the body due to blunt force trauma.

I shall not repeat the details of each man's registration particulars here save to say that I accept the particulars that were given at the opening of these inquests and which were repeated again at the start of these hearings.

Pen Portraits

6. Over the first two days of these inquests, we heard pen portraits for each of these men as their families paid tribute to them. These were truly heart-breaking to listen to. It allowed us to remember why we are all here today, and gave everyone connected with or listening to these inquests a momentary glimpse into the depth of the loss that all the families and loved ones are still suffering today, seven years on from these dreadful events.

7. It should be acknowledged that these 11 men played absolutely no part in their own deaths. They were all going about their lawful business, but at a time which placed them into the path of this aircrash.

Investigation following the crash

8. The AAIB carried out an investigation into the circumstances of how this aircraft came to crash. In very brief summary the AAIB concluded that the aircraft (a Hawker Hunter T7) crashed while performing a looping manoeuvre which was the first aerobatic item following a fly-past of the crowd. The aircraft did not achieve sufficient height at the apex of the manoeuvre to complete it before impacting the ground. The AAIB investigation considered how it came to be in a position from which it was not possible to complete this manoeuvre.

9. As I have already explained when commencing these hearings, I am bound by law to accept the findings of the AAIB investigation. As a consequence of the Divisional Court judgment these inquests have proceeded on the basis that there is no credible evidence that the AAIB investigation was incomplete, flawed or deficient and I may not reinvestigate any matters the AAIB investigation has already covered.

10. I therefore accept the AAIB investigation's findings in their entirety in respect of the mechanical safety of the aircraft, the training and competency of the pilot, the actions of the pilot before the event, the events that led up to the Hunter crashing and the cause of the crash. There will be many aspects of the AAIB report I do not mention in what follows, this is not because I do not also accept them, but because it is only matters that are key to my considerations in these inquests that I am summarising here.

11. There were also some aspects of these events that fell outside the AAIB's investigation that all interested persons agreed these inquests might explore. These were, firstly, the specific cause of death of each deceased and their particulars for registration. Secondly, the planning, organisation and preparation for the Shoreham Airshow in respect of consideration given and any steps taken regarding safeguarding members of the public outside the air show, including bystanders and users of the A27. I will come on to those matters later.

12. The AAIB recognised that a **safe** flying display relies on the planning and risk management of the event, the safe flying of the aircraft by the participating

pilot, the airworthiness of the aircraft, and the regulation, guidance and oversight that is in place for these activities.

13. For the purposes of this summing up and my conclusion I will not be repeating the entirety of the AAIB's findings, it is sufficient to refer those listening to the matters recorded at pages 195 to 203 of the AAIB's final report published in 2017, all of which are matters that I am bound to, and do, accept.

14. In short, Mr Hill was correctly licenced to fly the display and there was nothing found regarding engineering matters or the maintenance and airworthiness of the aircraft that explained this crash. The AAIB made several safety recommendations about these matters as a result of their findings and I have heard how those directed to the CAA have been addressed and are now considered closed by the AAIB.

15. I will be concentrating on the areas of the AAIB report that are directly relevant to how the deceased came by their deaths. I am going to deal with each of these areas individually.

Planning and Risk Management

16. The AAIB in their report state that accidents in air display flying are foreseeable. Although a number of witnesses sought to make the point that there had been no deaths of persons on the ground at a UK airshow for over sixty years, that does not appear to me to be reason to be complacent.

17. There have been 19 accidents (13 fatal) in the 20 years between 1996 and 2015. Fourteen of those UK display and display practice-related accidents have occurred where control of the aircraft was lost, or structural failure occurred, and it subsequently impacted the surface beneath the manoeuvring area.

18. During his evidence Mr Dean, the Flight Display Director (or FDD) for the Airshow, accepted that all air displays involve an element of risk, and it is impossible to reduce this to zero.

19. Mr Dean told us that since 2009 he had been involved in the flying display arena and had been the flying display director at a number of air shows. In 2012 he was asked to assist the FDD at the Shoreham Airshow, later he went on to take over this role.

20. We heard evidence of the role of the FDD. Mr Dean told us that the duties of the FDD extend beyond the immediate monitoring of the actual flying particularly in the larger displays where there is a need for pilot briefing, monitoring of the running of the display programme and other aspects. Because of this he cannot monitor all the flying in detail and he was not watching the crash manoeuvre himself. He explained that this is where the Flying Control Committee (or FCC) becomes the eyes of the FDD and they have the power to stop an individual display item or, in extremis, the whole flying display. He understood that the FCC members were watching the flight and had perceived the crash manoeuvre to be too low at its apex.

21. Mr Dean's background evidence touched on the issue of stop calls, and he explained why it may add to the problem if one were to be called in the middle of an untoward manoeuvre, when one might expect the pilot's concentration to need to be fully focussed on dealing with the manoeuvre itself. However, this is not something that I have re-investigated or made any fresh finding about, as the AAIB report has covered this matter and the AAIB made no finding that a stop call should have been made that day had it been the case that those watching recognised the aircraft had not attained the apex height required.

Air Display Risk assessment

22. Mr Dean drew up the risk assessment for the air display for 2013, 2014 and 2015. The CAA did not ask to see the 2013 or 2014 risk assessment before giving the required permission for the display to go ahead. At the time, there was no requirement for the risk assessments to be reviewed by the CAA in order to obtain the necessary permission for the flight display. That has now changed.

23. Mr Dean told us that he believed that the risk assessment he completed in 2015 was in accordance with the CAP 403 at the time. That is not disputed.

24. CAP 403 is the CAA Safety and Administrative Requirements and Guidance regarding Flying Displays and Special Events that all Airshow FDDs **must** follow. The AAIB determined that the risk assessment and risk management guidance provided to display organisers by the CAA at the time of this crash required improvement.

25. The AAIB, as part of their investigation commissioned a review by the Health and Safety Laboratory of the risk assessment for the 2015 Shoreham Airshow. It found that there were a number of deficiencies compared to what would be expected for a risk assessment to control risks to the public. They concluded that the risk assessment was not fit for the purpose of identifying and mitigating the risks and hazards to the public from the air display activities of the airshow.

26. Mr Dean accepted the AAIB view that his risk assessment was flawed.

27. Mr Dean told us that since the crash at Shoreham CAP 403 has changed the way risk assessments are required to be prepared. However, he told us that as far as the overall risk for the airshow is concerned his view of the overall risk wouldn't change. He pointed out that the new CAP 403 requires that the CAA now review all risk assessments for air shows. This came about as a direct result of a safety recommendation following the AAIB investigation.

Ground safety and emergency planning

28. Mr Taylor, the Safety Consultant for the Airshow, told us that he was responsible for the ground risk assessment and to this end he had produced an Event Plan and an Emergency Response Plan. He explained that airside and landside were two distinct areas. He said there was a strict demarcation. The FDD was responsible for the flying display and the event organisers were responsible for overall event. He told us he had not seen the flying display risk assessment for the 2015 event. He said even if he had he would not necessarily have understood it.

29. Mr Taylor said there was very little he could have done to prevent a flying accident from the perspective of his particular role. He could only plan for mitigating and managing the consequences of an untoward event, and he did this by liaison with other public bodies and services. Most notably Sussex Police, the local councils, and the relevant Highways Authorities. The role of these other bodies was to offer advice upon his Event Plan and Emergency Response Plan and to attended emergency planning meetings regarding each bodies' role should any untoward event happen. The other bodies he liaised with were not responsible for risk management at what was a private event that had obtained authorisation from the CAA

30. He explained that in respect of managing matters on the public land outside the showground, there is very little the organisers can do. However the organisers did look at the safety of the A27 and surrounding areas and that their traffic management plans had evolved over a number of years. The organisers employed a Traffic Management Company to deal with this with their priority being to keep the traffic on the A27 moving. We heard how at the Sussex Pad junction of the A27 the traffic management plan involved disabling the traffic lights, closing off the right hand turn on the east bound lane, reducing the eastbound speed limit to 40mph and reducing the westbound lane to one lane with a speed limit of 50 mph.

31. The lights were disabled by being covered. This in effect meant that the pedestrian crossing points at this junction of the A27 were no longer functioning as light controlled crossings.

32. I have reviewed the temporary traffic regulation orders that were obtained for the show days from Highways England and West Sussex County Council. These prohibited traffic on the A27 from crossing the central reservation at the junction and prohibited traffic from waiting on the roads surrounding the airfield to ensure easy access of emergency vehicles if required. I was not shown any traffic order that specifically addressed the closure of the Sussex Pad pedestrian crossings.

33. Mr Taylor told us he did not ask to close the entire A27. He said that nobody had suggested this to him, and he did not personally think it was necessary. This was a major trunk road serving the South coast and the main access to the airshow was from that road. Similarly Mr Dean said in his evidence that he never asked for road to be closed. He recalled that he had been told in informal discussion some years before, that given the status of the road there was no way it would be closed.

Signage

34. Those responsible for traffic management were also responsible for the signage. I am not going to go into detail in respect of all the signage which had been in place for many years. Mr Taylor tells us the plans had been reviewed by members of the Emergency Services Group and no one raised any concerns with him (save for a few wording changes that are not relevant to 2015). I will however address a particular aspect of the traffic management signage from the Old Tollbridge on the Old Shoreham road up to the A27 Sussex Pad junction and crossing.

35. Some of the signage on the Old Shoreham stated "*Road closed. No pedestrian or vehicular access except Airshow traffic*". Vehicular access to and from the A27 was only for show traffic, but in fact the road was not formally closed to pedestrians and cyclists. They still had a right of way along the Old Shoreham Road which formed part of a known cycle route. The signs placed near the Old Tollbridge acknowledged this as they stated "*Pedestrian and Cycle access to Lancing OPEN*'. Approaching from that direction there was nothing at the start of Old Shoreham Road to say that the A27 Sussex Pad crossing up ahead was closed to cyclists or that the lights at the junction were not functioning as a crossing.

36. It was only when pedestrians and cyclists arrived at the crossing that they came across signs on the A27 that said "No pedestrian crossing ahead use next crossing facility". There was no indication on these signs where this next crossing facility was and in what direction. I was told that for a pedestrian the next crossing would have been 15-20 minutes' walk away.

37. Mr Taylor told me that the intention of the organisers was to close these crossings. He considered that a sign saying 'access to Lancing OPEN' should be taken as implying that any route to anywhere else was closed. If that was the intention of this sign, in my view it did not obviously convey this meaning. It declared the Lancing route available but said nothing about any other route or any crossing being closed.

38. Mr Taylor in his evidence accepted that the signs could have been clearer. I agree. I find that it would be completely understandable for a cyclist approaching from the direction of the Old Tollbridge and seeing a sign that said 'Pedestrian and Cycle access to Lancing OPEN' to be wholly unaware that this meant that the lights at the A27 junction had been covered and so the crossings had been disabled. This is believed to be the route that Dylan Archer and Richard Smith approached the junction on their bicycles.

39. Whilst I cannot determine what Mr Smith and Mr Archer would have done had the Old Tollbridge signs indicated Mr Taylor's intention to close the crossings on the A27, I find that it is possible that Mr Archer and Mr Smith would have taken a different route with their bicycles that day and so would not have been standing at the A27 junction when the aircraft crashed.

AAIB findings

40. The AAIB investigation found that the parties involved in the planning, conduct and regulatory oversight of the flying display did not have formal safety management systems in place to identify and manage the hazards and risks. There was a lack of clarity about who owned which risk and who was responsible for the safety of the flying display, the aircraft, and the public outside the display site who were not under the control of the show organisers.

41. The CAA believed the organisers of flying displays owned the risk. Conversely, Mr Dean agreed but believed that the CAA would not have issued a Permission for the display if the CAA had not been satisfied with the safety of the event. Mr Dean was very clear that the responsibility for assessing and managing the risks lay with the show organisers – his evidence was that neither the police nor the highways authorities 'owned the risk'.

42. The aircraft operator's pilots believed the organiser had gained approval for overflight of congested areas, which was otherwise prohibited for that aircraft, and the display organiser believed that it was the responsibility of the operator of the pilot to fly the aircraft's display in a manner appropriate to the constraints of the display site and in accordance with the rules of the air.

My specific findings

43. I adopt the findings of the AAIB report that the risk assessment produced by Mr Dean was flawed and unfit for purpose in that there was not an effective risk assessment in place particularly to manage secondary spectators in that no consideration had been given in the risk assessment to the risk of an aircraft coming down in the vicinity of the A27.

44. There was a risk assessment put in place produced by Mr Taylor to manage secondary spectators but only in respect of risk from other road users as opposed to a plane falling out of the sky.

45. The FDD believed that the risk assessment for the flying display area was compliant with CAP 403. However, the risk assessment was not suitable and sufficient to manage the risks to the public (finding 36)

46. The risk assessment did not consider which aircraft would be displaying, where they would operate and to whom they would present a hazard (finding 37)

47. The FDD did not know the intended sequence of the manoeuvres to be flown by the crash pilot and the edition of CAP 403 in force at the time did not indicate that he should (finding 38)

48. The CAA did not require to see or approve risk assessments before issuing a permission to hold a flying display in accordance with Article 162 of the Air Navigation Order. (Finding 42)

49. I do, however, accept that management of secondary spectators (that is those outside the airshow) was difficult as there was no legal authority for the organisers, their security or indeed the Police to remove secondary spectators from the public areas outside the airshow boundary, and in this particular case from around the Sussex Pad Junction. The organisers told me that they had, over the years, made efforts to reduce the numbers of members of the public at this point by putting up fencing with screening, using signage and employing a security company in an attempt to encourage individuals to move away from the area. The AAIB report does recognise that the organisers had taken steps to minimise the number of people in the area. I have also heard some evidence about how this was done, including the statement from one of the security staff that confirmed that he was carrying out his task that day and had tried advising people not to congregate. He described how he had been challenged by a bystander about his powers to require this.

50. It was suggested to witnesses at the inquest that the A27 should have been closed whilst the Airshow was taking place. Highways England (now National Highways) informed the AAIB that mechanisms existed to close major roads such as the A27 for large events for minutes at a time or longer and that it would consider any case proposed by an event organiser on the basis of risk, cost and benefit. Highways England did not receive any request in respect of the 2015 Airshow.

51. As a matter of logic had the road been closed this would have prevented the deaths of the five men who were travelling in cars on the A27 at the time of the crash. But there is nothing in the AAIB report or in the evidence I have heard during the inquests that establishes that this is what **should** have been

done. Indeed, I accept the evidence of Chief Supt Burtenshaw, that closure of the A27 would have risked **increasing** the number of spectators congregating in that area, as the closed road would then have provided a clearer viewing area for the show. Had this been the case there would have likely been a greater loss of life should a plane have crashed on the closed road with more people standing on and around the junction.

The flight conducted by the Pilot, his training and expertise

52. I start this topic by again adopting the key findings of the AAIB report. Mr Hill was licensed and authorised in accordance with the requirements existing at the time of the crash to operate the Hawker Hunter at flying displays.

53. It was the Mr Hill's fifth aerobatic display in a Hunter during the 2015 season and the only public display he carried out that day. He met the recency requirements specified in CAP 403.

Pilot briefing

54. Mr Dean told us how he would brief the pilots displaying at the show. He said that he knew Mr Hill and that he had displayed at the Air show the previous year on the same aircraft.

55. The AAIB report concluded that the planned display of the Hunter at the 2015 Shoreham Airshow was similar to that in 2014, in which the location of the aircraft's manoeuvres did not comply with its Permit to Fly. It does not appear that the FDD was aware of this.

56. In the case of the 2015 display Mr Dean told us that he briefed Mr Hill at around 11.00 – 12.00 am. Minimum flying heights were discussed but the details of the manoeuvres that were to be flown in the display were not discussed. We now know that following the AAIB investigation a safety recommendation was issued and the CAA has consequently introduced a requirement, through CAP 403, for any pilot intending to fly aerobatic manoeuvres. Pilots must now notify the FDD of the series of the linked manoeuvres that they intend to perform at least one day prior to a display. If

the information is not provided, the FDD must not allow the pilot to fly in the display.

57. Mr Dean reiterated in his briefing as FDD that the rules of the air applied and his understanding was that the Hunter was to conduct display manoeuvres at a minimum height of 500 ft.

58. He told us that the safety of the flight is ultimately the responsibility of the pilot. This was also emphasised by Mr Rapson of the CAA.

59. Mr Dean told us that, in his view, if the plane had crashed along the display line, then there would have unlikely been any deaths. But in his view the CAP 403 instruction that pilots should perform to display line does not mean a loop cannot be done at an angle to the display line.

60. The AAIB found that in the crash manoeuvre the aircraft rolled through a greater angle than in the manoeuvre intended by the pilot and this resulted in an exit ground track approximately 60° right of the entry ground track, in line with the A27.

The AAIB findings regarding the crash manoeuvre

61. To explain how this crash occurred I need do no more than adopt the AAIB findings regarding the crash manoeuvre

62. The crash occurred during a manoeuvre involving pitching and rolling components, intended to be a 'bent loop', at the apex of which the aircraft was inverted.

63. The manoeuvre started and finished outside the aerodrome boundary, over an area not controlled by the organisers of the flying display.

64. A general permission granted by the CAA provided an exemption from the Standardised European Rules of the Air, permitting flight below 500 feet up to 1 km from the display gathering. However this would have been contrary to the FDD requirement for there to be a minimum height of 500 ft at all times.

65. Mr Hill''s display authorisation for the Hunter stipulated a minimum height for executing aerobatics of 500 ft.

66. The manoeuvre started approximately 900 m from the display line at a height of 185 ±25ft agl.

67. The pilot's declared minimum entry speed for the manoeuvre was 350KIAS. However, the aircraft entered the manoeuvre slower than this, at approximately 310KIAS.

68. Engine speed varied during the upward first half of the manoeuvre. This was contrary to the pilot's declared technique of using full thrust.

69. Defects were found by the AAIB in the reading and synchronisation of the altimeter but these were not, in my view, of casual relevance, as these defects would have resulted in the altitude indicating to Mr Hill he was lower than the actual aircraft altitude at the apex of the crash manoeuvre. No other technical defects were identified that were relevant to the crash.

70. The minimum height loss during the downward half of a looping manoeuvre in the Hawker Hunter is between 2,600 and 2,950 feet (including 100 ft for instrument reading error), when flown at the values of aircraft mass and density altitude relevant to the crash.

71. The pilot stated to the AAIB that he required a minimum height of 3,500 ft at the apex of the manoeuvre to ensure that he completed it 500 ft or more above the ground (as required by his display authorisation). However the aircraft did not reach that height but only achieved an apex height of approximately 2,700 ft.

72. The airspeed at the apex of the crash manoeuvre was 105±2 KIAS, which was at the lower end of the pilot's declared airspeed range of 100 to 150 KIAS.

73. The aircraft was lower than required at the apex because it entered the manoeuvre below the target airspeed, because less than maximum thrust was applied during its upward half, and because any rolling element initiated before the aircraft reached the upward vertical would have further reduced apex height.

74. The aircraft struck the carriageway of the A27 in a wings level, nose-high attitude at a speed of approximately 225 kt. It collided with bystanders, road

users and vehicles at the junction of the A27 and Old Shoreham Road, in an area outside the control of the flying display organisers.

As for any opportunities to avoid the crash once the manoeuvre had commenced

75. The pilot stated to the AAIB that he would abandon a 'bent loop' manoeuvre if the minimum entry speed, or the minimum gate height at the apex, were not achieved.

76. There was an opportunity to abandon the manoeuvre during its upward first half if an un-commanded reduction in thrust had occurred and been detected. This opportunity was not taken

77. The pilot was aware of the actions to be taken to escape from a looping manoeuvre when insufficient height was available at the apex to complete it safely. Yet he did not abandon the crash manoeuvre when the minimum height was not achieved.

78. The AAIB noted that the pilot had not previously rolled the Hawker Hunter at the low airspeed encountered at the apex and was not sure that a roll could be achieved at that speed. Flight trials indicated that a rolling escape manoeuvre was possible up to four seconds after the aircraft passed the apex of the crash manoeuvre. However, Mr Hill had not practised flying escape manoeuvres in the Hunter.

Reason for the poor flying

79. As for the reason Mr Hill flew in this manner and did not complete an escape manoeuvre at any stage. The AAIB investigation considered the possibility that Mr Hill had suffered a cognitive impairment. They found that there was no evidence of any g-related impairment of the pilot during the aerobatic sequence flown. If the pilot was unwell before the crash, it was not established in what way he was unwell or when the onset of any condition was first experienced.

80. Action camera evidence from the crash flight and from previous flying displays indicated that the pilot's behaviour and activity did not differ significantly between them.

81. The AAIB noted, and I accept, that it is not exceptional for flying display accidents to involve experienced display pilots, and an accident is not necessarily an indication of cognitive impairment.

82. The AAIB concluded that the g experienced by the pilot during the manoeuvre was probably not a factor in the crash.

83. The AAIB subsequently, in June 2019, after the criminal acquittal, was asked to consider additional information. This included witness statements, several analyses of the pilot's actions and a video of a practice display at Duxford. The video footage of the crash flight was also re-assessed. The purpose of this review was to determine if these documents contained new and significant evidence of cognitive impairment (which the AAIB defined as a physiological state in which an individual cannot think as well as usual, so is less able to do a task reliably and the probability of error is increased).

84. Although the AAIB witnesses were not permitted to tell me precisely what new material they considered, due to the material's protected status, I do know from communications by Mr Hill earlier in these proceedings that it was he who asked for the investigation to be re-opened. It is a reasonable inference that Mr Hill would have had access to material from his criminal trial that might be relevant to the issue of cognitive impairment and so able to present relevant trial material to the AAIB had he so wished.

85. The AAIB produced a supplement in December 2019 that reported that the cockpit action camera footage showed that the pilot was active throughout the flight. He appeared to be controlling the aircraft and using a variety of cues as would be expected for the manoeuvres flown.

86. Some of the documents submitted to the AAIB asserted it is possible the pilot suffered cognitive impairment so subtle as to be not observable in the video footage or conduct of the task. The AAIB supplement stated that subtle cognitive impairment by +Gz has not been considered an issue within aviation even though G-related visual symptoms were first recorded in 1920. It is not recognised by the aeromedical community in general and major military authorities around the world do not consider it to be an issue. Both aeromedical experts consulted during this AAIB review considered it unlikely, basing their view on the balance of published evidence of which they were aware.

87. The supplement concluded that "The AAIB investigation found no evidence of impairment but, if present, it did not affect the pilot's observable behaviour and the source of any impairment was unknown. Other performance shaping factors were more likely than impairment to have contributed to this accident…" and that the pilot's "overall pattern of behaviour can be explained in other ways that do not require impairment as a common factor." The findings of the final AAIB report therefore remained valid.

88. I accept those AAIB conclusions. On the balance of probabilities this poor flying is not explained by Mr Hill suffering a cognitive impairment.

Causal & contributory factors

89. So this leads me on to record the causal factors which the AAIB found led the aircraft to crash. There were two causal factors:
    (i) The aircraft did not achieve sufficient height at the apex of the crash manoeuvre to complete it before impacting the ground, because the combination of low entry speed and low engine thrust in the upward half of the manoeuvre was insufficient.

    (ii) An escape manoeuvre was not carried out, despite the aircraft not achieving the required minimum apex height.

90. The **Contributory factors** established by the AAIB were that:

    (i) The pilot either did not perceive that an escape manoeuvre was necessary or did not realise that one was possible at the speed achieved at the apex of the manoeuvre.
    (ii) The pilot had not received formal training to escape from the crash manoeuvre in a Hunter and had not had his competence to do so assessed.
    (iii) The pilot had not practised the technique for escaping from the crash manoeuvre in a Hunter and did not know the minimum speed from which an escape manoeuvre could be carried out successfully.
    (iv) A change of ground track during the manoeuvre positioned the aircraft further east than planned producing an exit track along the A27 dual carriageway.

(v) The manoeuvre took place above an area occupied by the public over which the organisers of the flying display had no control.
(vi) The severity of the outcome was due to the absence of provisions to mitigate the effects of an aircraft crashing in an area outside the control of the organisers of the flying display.

Guidance and oversight

91. In their investigation of this crash AAIB identified shortcomings in the conduct and oversight of flying displays in the UK in the areas of operation, risk management and maintenance.

92. The extent of these shortcomings indicates that a more fundamental review of the governance of flying display activity was required.

93. In total 14 Safety Recommendations were published to inform the air display community ahead of the 2016 air display season. A further 11 Safety Recommendations are made in the full AAIB report. Whilst some of these were looked at in detail during the evidence I do not recite them here given that all have now been addressed to the satisfaction of the AAIB.

94. We also know that there have been no further Airshows at Shoreham and from the evidence I heard there are unlikely to be any in the future because of the current CAA display regulations. Shoreham is no longer suitable for a flying display given the proximity of built up area, so although there is still a functioning airport at Shoreham, no fast jets or high performance aircraft could now display there.

95. That concludes my findings of fact.

96. As the Chief Coroner's guidance no. 17 directs, having stated my findings of fact I must now distil from those findings 'how' the deceased person came by his death and record that briefly on the Record of Inquest in Box 3. I then must record my conclusion, which must flow from and be consistent with my factual findings.

97. In Box 3 of the record of inquest I shall record as follows

For Mr Brightwell, Mr Mallinson, Mr Reeves & Mr Trussler,

On 22 August 2015 [Mr .....] was killed while standing beside the A27 as a result of injuries he suffered when a fast jet aircraft taking part in the Shoreham Air Show crashed onto the A27 during a manoeuvre.

For Mr Abrahams,

On 22 August 2015 Mr Abrahams was killed while driving along the A27 as a result of injuries he suffered when a fast jet aircraft taking part in the Shoreham Air Show crashed onto the A27 during a manoeuvre.

For Mr Grimstone, Mr Schilt, Mr Polito & Mr Jones

On 22 August 2015 [Mr ..]was killed while travelling along the A27 in a car, as a result of injuries he suffered when a fast jet aircraft taking part in the Shoreham Air Show crashed onto the A27 during a manoeuvre.

For Mr Smith and Mr Archer

On 22 August 2015 Mr Smith/Mr Archer was killed as a result of injuries he suffered when a fast jet aircraft taking part in the Shoreham Air Show crashed onto the A27 during a manoeuvre while he was standing beside the road. Mr Smith/Archer was waiting at a crossing with his bicycle to cross the road so that he might continue along a recognised cycle route. Signs placed earlier on the cycle route did not indicate that the crossing lights were not operating and that the airshow's organisers considered this crossing to be out of use.

98. Turning then to my conclusions. I have heard lengthy submissions on the nature of my final conclusions for Box 4 and it is appropriate that before delivering my conclusion I provide my formal legal ruling on those submissions. It is as follows.

RULING ON CONCLUSIONS

R.1. Under section 5 of the Coroners and Justice Act 2009, the specific statutory duty of a coroner in respect of a violent or unnatural death, such as that

suffered by the eleven men with whom these inquests are concerned, is to determine: (1) who the deceased person was; (2) how, when and where the deceased came by his death; and (3) the particulars for registration of the death. Where Article 2 of the European Convention on Human Rights is engaged, this question of 'how' is treated more broadly and is to be read as including the purpose of ascertaining *in what circumstances* the deceased came by their death.

R.2. Having heard all the evidence and having come to my findings of fact, I must record a conclusion as to each of the deaths in question. Whilst that conclusion may not be framed in such a way as to appear to determine any question of: (a) criminal liability on the part of a named person, or (b) civil liability, it is nevertheless permissible to return conclusions that attribute blame or fault. In particular a coroner may now return a finding of unlawful killing if satisfied that the requisite elements of a homicide offence are made out on the balance of probabilities: *R (Maughan) v Her Majesty's Senior Coroner for Oxfordshire* [2020] UKSC 46.

R.3. In coming to my conclusions in respect of these inquests I am also bound by law to accept the findings of the AAIB investigation. All interested persons are well aware of the Norfolk case [2016] EWHC 2279, and the subsequent Divisional Court decision of 4 February this year following my own application (at [2022] EWHC 215 (QB)) which made it clear that "at the level of principle, there should not be duplicative investigations" as there is no public interest in doing so, and that I "**would comply sufficiently with the duties of the coroner by treating the findings and conclusions of the report of the independent body as the evidence as to the cause of the accident.**"

R.4. I have heard from three of the AAIB investigators who have explained their findings to me, it has been made clear by each of the AAIB witnesses that, whilst

they have taken care to ensure the presentation of oral evidence does not differ in fact or interpretation from the published material, if there is a difference, the published material is definitive.

R.5. I could then, as outlined by Lord Thomas CJ in the Norfolk case at §56, simply refer those who wish to know the cause of this crash to the various AAIB publications and return a very short inquest conclusion. But that would not, in my view, be an adequate way to meet my s.5 CJA duties. In my view the public record of these inquests should not be so anodyne.

R.6. Returning a conclusion in box 4 of the record of inquest that describes in much more than a word or two 'how' a death occurred is open to me in all inquests, whether Art 2 ECHR is engaged or not. It is for the coroner to decide what wording to use in their conclusion. The footnotes on a non-statutory form have given rise to a practice of referring to 'short form' and 'narrative' conclusions. But, in reality, there is no such binary distinction in law. The coroner's conclusion should be formed of whatever words the coroner deems most appropriate to the case in question. There is no rule of law that requires any coroner to adopt what is known as a short form conclusion taken from note (i) to Form 2 (the Record of Inquest form), whether alone or as part of a longer series of words. All that can be said is that the higher courts have repeatedly emphasised the need for brevity in any conclusion.

R.7. In *Longfield Care Homes v HM Coroner for Blackburn* [2004] EWHC 2467 (Admin) the court indicated how, in more complex cases, a narrative will often be required. I have decided that I too shall use a longer narrative to describe these inquests' conclusions in respect of each of these eleven deaths. No interested person has sought to dissuade me from that course of action.

R.8. The bereaved however urge me to return a conclusion that is or contains a finding that the deceased were unlawfully killed on the basis of their deaths coming about due to gross negligence manslaughter.

Gross negligence manslaughter

R.9. In respect of criminal liability, judged on a criminal standard, the answer to whether or not these eleven deaths were a result of an unlawful killing has already been given – after an eight week trial a jury unanimously acquitted the pilot, Mr Hill, of gross negligence manslaughter.

R.10. Since the Supreme Court's decision in *Maughan* [2020] UKSC 46 it is now the case that an inquest conclusion of unlawful killing, applying the lower civil standard of proof, would no longer offend against Schedule 1 Part 2 para 8(5) CJA 2009. A finding of unlawful killing in an inquest is not inconsistent with an acquittal in earlier criminal proceedings which applied the higher standard of proof. Indeed, all Interested Persons have seen the advice provided to me by Counsel to the Inquest on that issue in December 2020, and no interested person has argued against Counsel to the Inquest's interpretation of the law, which I also accept. I set out its substance below:

Conflict with criminal findings

1. Schedule 1, para 8 CJA 2009 deals with the resumption of investigations that have been suspended pending a homicide trial at paragraph 2. Specifically, sub-paragraph (5) contains a prohibition on a subsequently resumed inquest arriving at conclusions on the statutory questions which are inconsistent with the outcome of criminal proceedings in respect of the same death:

> "8(5) In the case of an investigation resumed under this paragraph, a determination under section 10(1)(a) may not be inconsistent with the outcome of—
>
> (a) the proceedings in respect of the charge (or each charge) by reason of which the investigation was suspended;
>
> (b) any proceedings that, by reason of sub-paragraph (2), had to be concluded before the investigation could be resumed."

2. The enactment of schedule 1 puts on an explicit statutory footing for coroners courts that which the House of Lords had earlier determined: that a final decision by a competent court in which the identical question sought to be raised has been already decided must be respected unless and until successfully appealed (see *Hunter v CC West Midlands* [1981] AC 529) (here).

3. More recently the Divisional Court in *Skelton v Senior Coroner for West Sussex* [2020] EWHC 2813 (here) confirmed the same principle will apply to a fresh inquest following a homicide conviction, albeit that the statutory provision within the schedule only covers a resumed inquest.

Relevance of a criminal acquittal

4. In respect of an acquittal by a criminal jury, as Lord Diplock went on to state in *Hunter* [543B]:

> "a decision in a criminal case upon a particular question *in favour* of a defendant, whether by way of acquittal or a ruling on a voir dire, is not inconsistent with the fact that the decision would have been *against* him if all that were required were the civil standard of proof on the balance of probabilities. This is why acquittals were not made admissible in evidence in civil actions by the Civil Evidence Act 1968"

5. In *Skelton* (here) the court drew attention to the above proposition from *Hunter* when noting (at §116) that "an acquittal by a jury in a criminal trial does not depend on the proof of an affirmative proposition (to any standard)" (albeit that this was only judicial comment, as the issue did not arise on the facts of the *Skelton* case).

6. The present position in law, therefore, is that should a coroner or inquest jury find that the requisite elements of murder, manslaughter or infanticide are established 'on the balance of probabilities' then an inquest conclusion of unlawful killing will be permissible even though there has already been an acquittal of following a homicide trial. Such an inquest conclusion would not be inconsistent with a criminal jury having

already found that they were not satisfied of the very same matters 'beyond reasonable doubt'.

R.11. To that extent the position seems clear. There is, however, no Common Law or direct guidance available to me, or even any obiter comment in *Maughan,* as to whether it is appropriate or desirable and if so, in what circumstances, to come to such a conclusion after a criminal acquittal.

Evidence relating to gross negligence manslaughter

R.12. In considering the question of a potential unlawful killing finding based on gross negligence manslaughter, the only evidence which I have been permitted to adduce as to how these eleven men came by their deaths is that within the reports of the AAIB which set out the AAIB's findings and conclusions as to the cause of the air crash.

R.13. I note the submissions of Mr Prynne on behalf of Canfield Hunter Ltd. and Mr Spence on behalf of the pilot, that the High Court's requirement for a Coroner conducting an air crash inquest to rely solely upon the AAIB's findings and conclusions means that I must also take heed of the caveats the AAIB place on their reports and which Mr Firth confirmed in his evidence. These appear on the opening pages of the AAIB report and state:

> *The sole objective of the investigation of an accident or incident under these Regulations is the prevention of future accidents and incidents. It is not the purpose of such an investigation to apportion blame or liability. Accordingly, it is inappropriate that AAIB reports should be used to assign fault or blame or determine liability, since neither the investigation nor the reporting process has been undertaken for that purpose.*

R.14. It appears to me that the first sentence of the caveat above arises from Article 16 of the EU Regulation 996/2010 concerning the investigation and prevention of civil air accidents, which binds me, and which states:

> 1. Each safety investigation shall be concluded with a report in a form appropriate to the type and seriousness of the accident or serious incident. The report shall state that the sole objective of the safety investigation is the prevention of future accidents and incidents without apportioning blame or liability. The report shall contain, where appropriate, safety recommendations.

R.15. However, the second part of the AAIB's caveat (the words after 'Accordingly') appear to me to be an additional gloss on Article 16, that is not a matter of law. As such I do not accept the submission of Canfield Hunter Ltd. that the AAIB report's caveat provides the final answer to the question of whether a Coroner may use matters determined by the AAIB as the foundation for a perjorative inquest conclusion.

R.16. Indeed, it seems to me that it would be perverse for an AAIB report to conclude that a pilot in a hypothetical air crash had been flying drunk, under the influence of cocaine, without a licence to take passengers, when not authorised to fly the particular plane in which he and his passenger were killed and that he made several errors in control of the flight, yet a coroner still would not be entitled to return an inquest conclusion of unlawful killing of the passenger based upon gross negligence manslaughter.

R.17. As Mr Manknell on behalf of the AAIB put it, the AAIB's understanding is that their caveat does not mean I may not use the facts found by the AAIB and recorded in their report to <u>support</u> a finding of unlawful killing. But what I must not do is add to them from extraneous material. I am prevented from investigating the AAIB's findings any further as a result of the *Norfolk* and *West Sussex* decisions. The AAIB submit that I am:

> *'**confined to considering the facts and conclusions as found and recorded by the AAIB.** It is not open to a Coroner to supplement the AAIB evidence with*

other evidence in order to complete any perceived gap, or give clarification where it does not exist in the report, in order to reach a particular conclusion that would not otherwise be available. Nor should the Senior Coroner draw inferences from the AAIB's findings which have not been drawn by the AAIB.

Departing from the AAIB's findings on issues investigated by the AAIB (either by taking account of additional evidence, or drawing inferences) would impermissibly "reopen" the AAIB's findings, contrary to Norfolk. If the findings of the AAIB are not sufficient to support a particular conclusion, then it is submitted that the conclusion is not one which is available to the Coroner.'

R.18. I accept that submission, which appears to me to be the outcome of the two relevant High Court decisions and note that no other Interested Person argues against the approach of the AAIB on this specific point (and which Canfield Hunter also accept as their fall-back position). What is said by the bereaved and the CAA (who argue in favour of an unlawful killing conclusion) is that there is already sufficient within the AAIB reports to find a safe conclusion that these deaths were a result of gross negligence manslaughter. Mr Hill says that without expert evidence regarding standards to be expected of a professional pilot the AAIB reports alone are insufficient for a safe and fair finding.

R.19. It is to that issue that I now turn.

R.20. The elements of gross negligence manslaughter are set out in *R v Rose* [2017] EWCA Crim 1168 at §77. I have been addressed only briefly on the first few elements as no one is seriously arguing that Mr Hill did not (i) owe a duty of care to the victims and (ii) breach that duty nor is anyone arguing that a breach of the duty owed did not (iii) give rise to a foreseeable serious and obvious risk of death nor (iv) cause these deaths. It is my view that each of these elements of gross negligence manslaughter are made out to the civil standard on the facts of this case.

R.21. The plane crashing was, as the AAIB found, a result of the manner in which it was flown in that it did not achieve sufficient height at the apex of the accident

manoeuvre to complete it before impacting the ground because the combination of low entry speed and low engine thrust in the upward half of the manoeuvre was insufficient to carry out the manoeuvre from a safe height. An escape manoeuvre was not carried out, despite the aircraft not achieving the required minimum apex height.

R.22. This manner of flying was in my view, when applying the civil standard, prima facie negligent. Unless the pilot had some reasonable excuse, he is responsible for that negligence. As I have explained in my findings of fact, the AAIB could not fully exclude a cognitive impairment having arisen that *might* provide an excuse for this poor flying. But as far as could be determined from cockpit image recordings, Mr Hill appeared alert and active throughout the flight and the AAIB found that the g experienced by the pilot during the manoeuvre was probably not a factor in the accident. Although they could not be specific as to why the plane was so badly flown options included possible misreading or misinterpretation of speed and height indications during the manoeuvre or recall of the speed and height for a different aircraft type that the pilot had flown more often.

R.23. The totality of the AAIB investigation of this crash, which binds me, found no evidence of cognitive impairment but, if present, it did not affect the pilot's observable behaviour and the source of any impairment was unknown. Other performance shaping factors like those above were considered more likely than impairment to have contributed to this accident.

R.24. It is against this background that I must consider the final element of gross negligence manslaughter: it must be found that the circumstances of any identified breach of duty must be truly exceptionally bad and so reprehensible as to justify the conclusion that it amounted to gross negligence requiring a criminal sanction. I bear in mind that in R -v- Misra [2005] 1 Cr App 21 the court approved the following direction to a jury on the question of 'grossness' at §25:

> 'Mistakes, even very serious mistakes and errors of judgment, even very serious errors of judgment are nowhere near enough for a crime as serious as manslaughter to be committed….the conduct [has to fall] so far below the standard to be expected of a reasonable competent and careful [pilot] that it was something in your assessment truly exceptionally bad and which showed such an indifference to an obviously serious risk of life…and such departure from the standard to be expected as to amount, to a criminal act or omission and so be the very serious crime of manslaughter'.

R.25. I also bear in mind that I must look only at the quality of the pilot's actions and not at the consequences of his actions when addressing whether any failures were gross.

R.26. Although it is clear from the AAIB conclusions that this aircraft crashed because of the way in which it was flown, the AAIB reports do not pass any comment or judgment upon <u>how badly</u> it was flown. The reports do not state how bad or how serious or how far below expected standards any relevant error by the pilot might have been.

R.27. The families represented by Stewarts submit that I can determine whether Mr. Hill's actions were a gross departure from the standard to be expected without any expert evidence by simply referring to the actions that Mr. Hill himself stated to the AAIB he would normally take as a matter of best practice. It is submitted that Mr. Hill's failure to ensure he adhered to his usual practice allows me to judge his failure as gross when placed in the context of flying a dangerous fast jet in aerobatic manoeuvres.

R.28. The CAA submit that I can look at the fact Mr Hill was a skilled professional and was under a number of statutory duties combined with a number of findings of fact by the AAIB as evidence of the grossness of his negligence.

R.29. Mr Hill argues that he is placed in a grossly unfair position because he cannot in this inquest deploy the material or arguments that he could put before the criminal court and because I have not heard from any pilot witness as to

professional standards that might allow me to benchmark the degree of any negligence.

R.30. I am informed in his written submission that a 'substantial part' of Mr Hill's successful defence at the criminal trial was the proposition that he had suffered a cognitive impairment. But as I have accepted above, an acquittal is not to be taken as proof of an affirmative proposition to any standard and that since the *Maughan* decision I must apply a different standard of proof than a criminal court.

R.31. Whatever material was deployed in the criminal proceedings, it appears that the AAIB's 2019 review *after* the trial provided an opportunity for Mr Hill to put this material before the AAIB. Mr Hill has since produced more medical evidence in the form of a report from Dr Mitchell, but the Divisional Court found in their judgment on my application that Dr Mitchell, who is a paediatric oncologist, (i) was not a suitably qualified expert in either aviation medicine or neurology and (ii) his paper was not a safe basis to argue that the AAIB's conclusions on the issue of cognitive impairment were even arguably incomplete.

R.32. Whilst the AAIB reports do not pass any comment on the quality of the flying. I consider that I do not in this case require evidence from an aviation expert to assist me with a benchmark as to the degree of any alleged shortcomings in making my judgment of whether this was 'gross' negligence.

R.33. It seems to me that I can look at what is factually available in the AAIB findings to assess whether the flying was below the standard to be expected of a reasonable competent and careful pilot and whether this crash arose from something more than a very serious mistake or very serious error of judgment, but from flying that was truly exceptionally bad so as to be considered to amount, to a criminal act or omission.

R.34. The evidence I have considered from the AAIB report is first, the number of errors made in the manoeuvre itself, having a low entry speed, applying insufficient thrust and so failing to achieve sufficient height at the apex. It seems to me that one does not need expert evidence to tell me that a fast jet display pilot should have in mind how much height would likely be lost during the downward part of any looping manoeuvre. This is what will define a clearly unsafe apex from which a looping plane could never avoid hitting the ground. In fact the aircraft failed to reach the height required by quite a significant margin. The ideal apex was 3,500 ft and Mr Hill only reached around 2,700ft. This was not a small misjudgement; the aircraft was approximately 800 feet below the pilot's own stated minimum at the loop's apex.

R.35. Second, I have considered that this was not a single error of piloting that once made could not be undone, there were two decision points (at the entry to the accident manoeuvre, and at the apex of the accident manoeuvre) where the AAIB found that Mr Hill may have been able to recover from any deviations in the planned manoeuvres that had occurred and so could have prevented the situation from progressing to the crash. Yet he continued to fly the downward part of a loop when he had not achieved sufficient height rather than flying an escape manoeuvre. In my view this goes beyond a mere mistake or even serious error of judgment. With insufficient height one is bound to hit the ground if continuing the loop and the risk to the life of anyone on the ground would be clear and obvious.

R.36. It is axiomatic that any fast jet pilot should know how to fly an escape manoeuvre when engaging in an air display, a pilot should be able to recognise the need to do so when it arises and be able to carry it out even though there are only a few seconds to make the decision to do so. It cannot be safe to carry out aerobatics without having that knowledge and ability. Yet the AAIB found that Mr Hill had not practised escape manoeuvres in this particular aircraft.

There was no attempt made at any escape or abandonment of what was a clearly an incorrectly flown manoeuvre here. This was not a close or difficult judgment call, the plane was at a substantially lower altitude than it should have been. It seems even experienced pilots on the ground in the FCC could see it was too low.

R.37. Proper scrutiny of the altimeter taking heed of the reading would have immediately confirmed the height was insufficient by a significant margin, there was no difficult judgment to make here about whether an escape was required or not. It should have been clear and obvious to a competent pilot that he was too low and the manoeuvre needed to be aborted.

R.38. Third, in conducting the loop the pilot changed the ground track from the intended manoeuvre and so put the aircraft in a position to crash on the A27. The poor positioning of the plane in the sky, further east than planned, was a further significant error that increased the risk of death to those using or nearby the A27. The plane should not have been lined up with the dual carriageway.

R.39. Whilst the source of the faulty decision making that led to this crash was not precisely identified by the AAIB what is abundantly clear from their investigation is that some type of cognitive impairment was probably not an exculpatory factor. The AAIB found that the pilot suffering a cognitive impairment was an unlikely explanation, even though it could not be completely ruled out.

R.40. Considering all of the matters above, I find that Mr Hill's actions were probably not due to a cognitive impairment and probably did fall very very far below the standard to be expected of a reasonably competent fast jet pilot. His flying was exceptionally bad in several aspects such that I am satisfied, applying the threshold as described in *Misra*, that this was, on the balance of probabilities, so far a departure from the standards to be expected that it meets the high

threshold for the final element of gross negligence manslaughter, and I shall be reflecting that finding within my narrative conclusion.

R.41. I should state that although Mr Morris urged me in his submissions to consider matters such as the significant cost of training a fast jet pilot when coming to my decision, I have not supplemented the AAIB evidence with such other evidence in my mind. Many of the matters Mr Morris sought to rely upon are not found within the AAIB reports, and so I have put those suggestions aside.

R.42. I have also taken into account the submissions on behalf of Mr Hill that urged me not to come to a finding of a gross negligence manslaughter on his part as it is said that the consequences of an unlawful killing conclusion would be reputationally grave for him after a criminal acquittal. It is said that others may not understand the nuanced difference between the criminal and civil standards of proof.

R.43. I am not persuaded that this is a good reason not to return this conclusion on these facts. Indeed, this is a matter that the Supreme Court explicitly considered in Maughan (at §93) when Lady Arden stated that "*It seems to me that the public are likely to understand that there is difference between a finding at an inquest and one at a criminal trial where the accused has well-established rights to participate actively in the process*."

R.44. I do however wish to make it abundantly clear that the inquest finding I shall make is not a challenge to the criminal jury's determination. I am required to apply a very different standard of proof from a criminal jury. Mr Hill has been found 'not guilty' by the criminal courts and that remains the position in law. My conclusion having applied a lower standard of proof does not alter or detract from the fact of his acquittal in any way.

Conclusions

99. In respect of my conclusions. As I said when I opened these inquests we must not forget that these are all individual inquests and as such I will deal with each Record of Inquest individually. I have already indicated what I propose to record in boxes 1, 2 and 3 of the Record of Inquest for each man. The narrative conclusion that I propose to enter in box 4 will be the same for all the men. As it will be lengthy I propose to read this out only once.

The narrative conclusion I shall record for each man is as follows:

Mr (insert name) was unlawfully killed when a Hawker Hunter T7 aircraft crashed whilst attempting an incorrectly flown looping manoeuvre. The crash occurred because:

a. the aircraft's speed on entry into the manoeuvre was too slow;
b. the thrust applied by the pilot in the upward half of the manoeuvre was insufficient;
c. the aircraft did not achieve sufficient height at the apex of the manoeuvre to complete it before impacting the ground because the combination of low entry speed and low engine thrust in the upward half of the manoeuvre; and
d. despite the aircraft being significantly short of the minimum apex height to complete the manoeuvre safely, the pilot did not perform an escape manoeuvre.

The death occurred because the aircraft crashed on the A27 due to a change of ground track during the manoeuvre which positioned the aircraft further East than planned, producing an exit track along the dual carriageway.

This series of gross errors that led to this death were made in circumstances where:

(i) the pilot appeared conscious throughout;
(ii) the aircraft responded to the pilot's control inputs;
(iii) the pilot either did not perceive that an escape manoeuvre was necessary, or did not realise that one was possible at the speed achieved at the apex of the manoeuvre;
(iv) there was no evidence of any g-related impairment of the pilot during the aerobatic sequence flown; and
(v) the g experienced by the pilot during the manoeuvre was probably not a factor in the crash.

<u>Prevention of future death reports.</u>

100. I am not planning to make any PFD report. I am satisfied that the points that have been raised in respect of preventing future deaths are adequately covered by the lengthy series of safety recommendations already made by the AAIB,

and I feel reassured that the CAA are now making a concerted effort to ensure the safety of airshows within the UK. As Mr Rapson acknowledged, nothing can change what has happened, but lessons have been learnt by and throughout the flying display community form this tragedy.

Concluding remarks

101. Before I conclude these inquests there is something more that I want to say. Eleven innocent lives were cruelly lost on 22nd August 2015. Lives that were cut too short. This huge loss will be borne by their families for the rest of their lives, a loss also that is felt by the community of West Sussex.

102. It has been a long journey, some 7 years, for you, the families, to get the answers you wanted as to how your loved ones came by their death. It has been a difficult journey getting to this stage. There have been other legal proceedings in which you have had little involvement. I hope you feel that through these inquests you have now had a voice. I want to thank all the family members for the dignity that you have shown throughout this process and once again offer my sincere condolences to you all for your loss.

103. Supporting you throughout this process has been a fantastic team of family liaison officers from Sussex Police. I would like to pay tribute to them for the care and support they have provided to the families. Those performing the role of a FLO must always act with the highest degree of professionalism and integrity and carry out their duties with sensitivity. The role of a FLO and a family liaison coordinator are voluntary. Officers will often carry out the role whilst managing their other duties on other investigations. They have shown themselves to be truly exceptional in this case.

104. I also want to say something about the emergency services response to the crash. The AAIB concluded that "the rescue and firefighting resources in place responded promptly to the accident". Not only were the emergency services quickly on the scene, but from what I have heard in evidence, and indeed saw with my own eyes in part during the later DVI procedure, is that large numbers of extremely brave men and women selflessly strived to deal with the aftermath of this dreadful crash. Off duty workers came to assist alongside those who were on duty that day.

105. The day of the aircrash was a warm sunny day but the days that followed we had torrential rain. Officers worked tirelessly in the most difficult of circumstances.

106. Over the next few weeks the community came together. Local businesses provided refreshments and even socks for the wet feet some of the officers suffered. Local people, not knowing what they could do to help, baked cakes and biscuits to show their support.

107. So I would again like to thank all the emergency services, but also the local authority staff, the Mortuary staff, Funeral Directors, the Red Cross along with Dr Mike Biggs and Dr Julie Roberts for assisting with the body recovery process and the sensitivity they showed throughout.

108. I witnessed firsthand the long hours that were worked and the sense that they wanted to do right by the families. I know the impact that dealing with this incident has had on them.

109. I would also like to express my gratitude to my own Coroners Officers who assisted me managed the DVI process and for their compassion and kindness for the families of the bereaved.

110. Chief Sup Carywn Hughes reminded us of his mantra "We can't make it better for the families, but we can make it a whole lot worse". I hope you have found that not only Sussex Police but the efforts of the entire Sussex community and Coroners Service have done their best to achieve this for you.

111. With regard to these inquests I would like to thank all solicitors and Counsel for the various interested persons. I have been greatly assisted by them all throughout what has been a difficult case.

112. I would like to thank West Sussex County Council for providing the Court facilities, Tina Gindra and Margaret Short for helping organise the facilities and IT. I would like to thank our ushers, Marion, Anna and Ken and Sheila from the Coroners Court support service.

113. I would like to thank Ms Gaule for keeping everyone in order both in Court and also on line but also for the tireless support she provided me with at the scene and the Mortuary following the incident and for several weeks thereafter.

She worked in difficult conditions but was determined to do what she could for the families.

114. I would like to express my gratitude to Ms Dolan who has helped me with this case. I can honestly say I could not have managed without her. Ms Dolan I am truly indebted to you for your wise counsel as well as managing the extensive communications between IPs, both before and during the course of these inquests. I know you have also provided a great deal of support for the families and all the Interested Person. Thank you very much.

115. Finally, I want to use the last words of these inquests to remember again the men who lost their lives in this dreadful air crash:

Maurice Abrahams – Dylan Archer - Anthony Brightwell - Mathew Grimstone - Matthew Jones - James Mallinson, Dani Polito - Mark Reeves - Jacob Schilt - Richard Smith and Mark Trussler.

Beloved husbands, sons, brothers, partners, fathers and grandfathers. Each one of them taken from their loved ones too soon.

This concludes these proceedings.

PENNY SCHOFIELD

Senior Coroner for West Sussex

20 December 2022