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**TRANSCRIPT OF PROCEEDINGS
TRANSCRIPT-IN-CONFIDENCE**

**INSPECTOR-GENERAL AUSTRALIAN DEFENCE FORCE
INQUIRY INTO THE CRASH OF A MRH-90 TAIPAN
HELICOPTER IN WATERS NEAR LINDEMAN ISLAND
ON 28 JULY 2023**

PUBLIC INQUIRY

**THE HONOURABLE M McMURDO AC
AVM G HARLAND AM CSC DSM**

COL J STREIT, with MAJ L CHAPMAN, Counsel Assisting

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SQNLDR J GILES, representing LT M Nugent
LCDR M TYSON, representing CPL A Naggs
SQNLDR C THOMPSON, representing WO2 J P Laycock
COL N GABBEDY, representing MAJGEN Jobson
COL S THOMPSON, representing BRIG D Thompson
MAJ M BARNES, representing LTCOL A Norton
MR T SCHMITT, representing COL D Lynch
CMDR M VESPER, representing BRIG F Thompson
FLTLT S SEEFELD, representing D10
LCDR M HAY, representing D19
MR S MEEHAN SC, representing Thales Group Australia
MR G O'MAHONEY, representing Airbus Australia Pacific Limited
MS K MUSGROVE, representing the Commonwealth**

0930, THURSDAY, 21 NOVEMBER 2024

DAY 30

TRANSCRIPT VERIFICATION

I hereby certify that the following transcript was made from the sound recording of the above stated case and is true and accurate

Signed	Date	(Chair)
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MS McMURDO: Yes, MAJ Chapman?

MAJ CHAPMAN: Ms McMurdo, we have COL Lynch for cross-examination.

5

MS McMURDO: Yes. And we're still in the position where you've finished your examination?

MAJ CHAPMAN: Yes.

10

MS McMURDO: Yes, thank you. Yes, Ms Musgrove?

MS MUSGROVE: Ms McMurdo, I can indicate that the classification issue was escalated to the appropriate person. They need to make enquiries with internal and external stakeholders. It couldn't be actioned overnight, and it may not be finalised within this current sitting block, but it has been actioned and is being addressed.

15

MS McMURDO: Thank you very much, Ms Musgrove. I appreciate your assistance. Yes, applications to cross-examine? Who is going first? Yes, LCDR Gracie?

20

SQNLDR GILES: There's no witness.

MS McMURDO: No, he's just getting ready. He's very time-efficient.

25

<COL DAVID LYNCH, on former affirmation

30

MS McMURDO: Yes, good morning, COL Lynch. If I could remind you again, anytime you want a break, just let me know.

COL LYNCH: Thank you, ma'am.

35

MS McMURDO: And we're going to commence cross-examination now, with LCDR Gracie.

COL LYNCH: Roger.

40

<CROSS-EXAMINATION BY LCDR GRACIE

LCDR GRACIE: Good morning, sir.

45

COL LYNCH: Good morning.

5 LCDR GRACIE: My name is LCDR Malcolm Gracie. I represent the interests of CAPT Danniell Lyon in the Inquiry.

COL LYNCH: Okay.

10 LCDR GRACIE: I want to take you first to something you said yesterday.

COL LYNCH: Yes.

15 LCDR GRACIE: Before I do, I should just check you've got your statement there?

COL LYNCH: I do, yes.

20 LCDR GRACIE: Good, thank you. You said, to the best of my recollection, words to the effect, "I want FTOs" – being Flight Test Organisations?

COL LYNCH: Yes.

25 LCDR GRACIE: "I want FTOs to provide answers, not questions."

COL LYNCH: Correct.

30 LCDR GRACIE: Could I suggest one thing, that that attitude permeated your approach to the issues surrounding the symbology upgrade?

COL LYNCH: That we expected to get some facts so that we could inform decisions?

35 LCDR GRACIE: Yes.

COL LYNCH: Absolutely.

40 LCDR GRACIE: And can I suggest to you that you did get an answer from the FTO, AATES?

COL LYNCH: We got some answers, not all the answers required to properly articulate the risk.

45 LCDR GRACIE: Well, one answer was that the upgrade was

unacceptable. That's one answer, isn't it, to the question?

5 COL LYNCH: The flight test report, in response to the requirement to assess HMSD 5.0 symbology, was incomplete. It did not fully characterise all of the changes to my satisfaction, therefore I couldn't represent risk adequately up to the DG.

10 LCDR GRACIE: But until it was complete, it was found to be unacceptable?

COL LYNCH: There was an element - - -

15 LCDR GRACIE: Because – I'll just finish, if I may – because there was the risk of multiple deaths via controlled flight into terrain.

20 COL LYNCH: There was an element of the symbology where there was uncertainty, and that was articulated in the test report, which I can't talk to you in detail, obviously. But it was articulated in there that there was an element of concern, and in particular in the flight test report, which I'm sure you have read and we can review, if you like.

25 It also said, in the conclusions, that there was significant uncertainty about whether it was accurate function, whether it was an integration issue, whether they understood exactly how it was supposed to function properly. And they were questions remaining to be answered.

LCDR GRACIE: Do you remember the question I asked you, do you?

30 COL LYNCH: I think I do, yes. Or would you like to restate it?

LCDR GRACIE: I will. Until those further matters were looked into, the answer that AATES gave you was that it was an unacceptable risk, with the possibility of multiple deaths occurring by a controlled flight into terrain.

35 COL LYNCH: That's correct, yes. The initial assessment was that.

LCDR GRACIE: Not initial; it was their assessment.

40 COL LYNCH: Yes, it was an initial assessment, but it was incomplete.

LCDR GRACIE: No, there's no qualification to it, I respectfully suggest. It said "until the further matters are looked into", that was their answer.

45 COL LYNCH: Correct.

LCDR GRACIE: So you got the answer?

COL LYNCH: No, I got an answer, but it was incomplete, which is why further work was done.

5

LCDR GRACIE: Well, that's the next step. Was it the fact that you told AATES, through LTCOL Reinhardt, to stop the testing?

COL LYNCH: No, the testing was complete; that's why they reported.

10

LCDR GRACIE: No, it wasn't complete. It said that it had to undergo further enquiries, further information was required.

COL LYNCH: Correct.

15

LCDR GRACIE: And further testing.

COL LYNCH: Correct.

20

LCDR GRACIE: Well, it wasn't complete, was it?

COL LYNCH: So the phase was complete because they reported, and they indicated that there was further work to be done, that's correct. But the initial assessment, which was 11 to 14 June activity that was reported on 19 June, was complete. It's indicated "complete" because there was a report handed in.

25

LCDR GRACIE: All right. Let me come back to the question. Did you tell LTCOL Reinhardt to stop further testing because you were going to approach matters differently?

30

COL LYNCH: So I don't have the authority to tell him; I'm not his Tasking Authority. I indicated to him that if he had something to report, that he should report it formally, and he did that.

35

LCDR GRACIE: And when he did that and you read the report, did you tell LTCOL Reinhardt to not undertake any further enquiries or testing because you were going to approach the matter differently?

40

COL LYNCH: As I said, I'm not his Tasking Authority. I had a conversation with DACM, to say, "Hey, this is what it is", and we then started to investigate other ways to answer questions.

45

LCDR GRACIE: Let me put it differently. Did you tell him not to worry about any further testing, because you were going to approach the matter

differently?

COL LYNCH: Not at that time, no, because I didn't know how we were going to deal with the unanswered questions in his report.

5

LCDR GRACIE: When you say "not at that time", what time was that?

COL LYNCH: That was as the report was handed down, or in conversations between when the discovery was made and when the report was actually handed down on or about 19 June.

10

LCDR GRACIE: Did LTCOL Reinhardt ever say in your regular weekly discussions that you've talked about, did he ever say to you that he felt that you were seeking to use the OPEVAL process to circumvent AATES to achieve a desired outcome from the upgrade, against the advice of AATES?

15

COL LYNCH: Not to my recollection, no, did he say those words.

LCDR GRACIE: Did he convey to you something to that effect?

20

COL LYNCH: Not to my recollection.

LCDR GRACIE: Did he say to you that he was concerned about the approach taken by having an OPEVAL, rather than further AATES testing?

25

COL LYNCH: There might've been a conversation where I guess the way that it progressed in cooperation with AATES led to that outcome, you know? So it was a case of, "How can we move forward on this?" And what we ended up with was a situation where the then XO AATES – which routinely, you would have the SO1 T&E, also the Delegate of Safety Authority Flight Test, as the one person.

30

In this instance, because of a recent command changeover, the Delegate of Safety Authority was the Executive Officer of AATES, and the SO1 T&E didn't have that delegation. So there was a split, if you like, of that function. The DoSA-FT was the person who was functionally providing supervision over the CAT 4 test activity. And in this case, the DoSA-FT set the flight condition limitations. So it was a cooperative activity overseen by the DoSA-FT to basically push forward with the CAT 4 flight test.

35

40

LCDR GRACIE: Did you, or anyone to your knowledge or under your command, seek further guidance from the OEM, which is what AATES requested?

45

COL LYNCH: As far as I'm aware – now, whether it was the OEM or

CASG, as you know, the principal communication authority with the OEM, or whether it was DACM, I'm not sure where the information came from. But in terms of trying to address some of the questions, if you like, in the flight test report, where there was uncertainty, we did seek the data.

5 Because there is always a data pack provided with – particularly a mature modification, and I expected within that data pack there would be information that would have articulated or answered a lot of those questions or uncertainties.

10 So the answer is, yes, I did seek more information. I'm just not sure whether – and I asked my team to get the information – whether they got it from CASG, directly from NHI or from DACM; I don't know. Obviously, the information originally came from NHI, as part of the modification data pack.

15 LCDR GRACIE: Can I perhaps suggest this? You didn't pass that on to AATES though, did you?

COL LYNCH: They already had it, as part of the deliverables.

20 LCDR GRACIE: No. No, AATES asked for Army Aviation to seek further guidance from the OEM in relation to the software.

COL LYNCH: In relation to, what, the specification, the form of

25 specification that detailed exactly what the function of the symbology was?

LCDR GRACIE: Do you not recall what they asked for?

COL LYNCH: What they called for specifically?

30 LCDR GRACIE: Yes.

COL LYNCH: I'm happy to go to the report and actually read it verbatim, if you like?

35 LCDR GRACIE: Yes, do it.

COL LYNCH: Okay.

40 LCDR GRACIE: But can I suggest before you do that, that there were two queries effectively raised by AATES. One was, "We'd like some more information from the OEM, because if they have assessed this as a risk, or identified it, what mitigating measures have they put in place to deal with it?" Right, so did that enquiry get made by you or your team, of the OEM?

45

COL LYNCH: So let me just read the source of your question, so I understand where you're coming from.

5 MS McMURDO: Yes, just read it to yourself.

COL LYNCH: Sure, ma'am.

MS McMURDO: You're referring to the AATES report, aren't you?

10 COL LYNCH: Yes.

MS McMURDO: So just read it to yourself.

COL LYNCH: Is this para 26?

15 LCDR GRACIE: I will find it in a moment.

MS McMURDO: In the "Conclusions and Recommendations", is that the paragraph?

20 LCDR GRACIE: Yes.

MS McMURDO: Yes.

25 LCDR GRACIE: You've read that?

COL LYNCH: I have, yes.

LCDR GRACIE: And you'll see that effectively it said, "Lack of technical information makes analysis difficult".

30 COL LYNCH: Correct.

LCDR GRACIE: They wanted more information.

35 COL LYNCH: Yes.

LCDR GRACIE: They said that in, effect, if there's – I won't read it all out – but there were two scenarios. If there is an integration issue because of the way it's been incorporated into the Australian version, then that's one issue they want to know about.

40 COL LYNCH: Well, it's potential, yes.

45 LCDR GRACIE: And the other is, if – if – the OEM was aware of this

issue, what have they done to assess and mitigate the risk?

COL LYNCH: Yes, it says that.

5 LCDR GRACIE: What did you do, to provide AATES with what they had requested in that conclusion?

COL LYNCH: So it was not my function to provide that data to
10 AATES. In fact, I'd argue it was AATES's requirement – you know, it was up to them to seek that information, which is why, principally, I was concerned with this report. Because they were to be provided the data pack directly in order to inform their flight test activities. So they had a line directly from DACM, who had a line straight into CASG, who had a line straight into NHI, the OEM, who had access to all of the data that explained
15 all of these things. So the line of enquiry in terms of seeking more information is not me; it is back through that chain.

And that was the same chain that I went to, to try and get the information – through my team; I didn't do it personally. So I followed the chain that they
20 should've followed, or could've followed, or probably did follow, in order to try and get more information.

Now, I don't know whether they had the format specification, which specifies the proper function of 5.10 at the time. I presume they did,
25 because otherwise, you know, you shouldn't have really started the flight test in the first place.

But it is very clear exactly how this symbology functions, so if you had properly reviewed that, some of these questions wouldn't have been asked.
30

LCDR GRACIE: But you did say – and you repeated it then – that your team made the enquiries, about which AATES were seeking answers of the OEM.

35 COL LYNCH: Yes, whether it was the OEM, DACM or CASG, I don't know. But, yes, ultimately, it went to the OEM, agreed.

LCDR GRACIE: And I asked you, did you provide that information to AATES?
40

COL LYNCH: As far as I'm aware, they had that information. I don't know whether they had it or not, at the same time as we did. What I can say is that when they responded to the OPEVAL, they had access to the information because they made specific reference to the fact that it
45 answered a number of questions.

LCDR GRACIE: AATES are asking here for the information.

5 COL LYNCH: No, they didn't ask me for the information; they reported this to DACM.

LCDR GRACIE: Well, it goes to you though?

10 COL LYNCH: I got an info copy, yes.

LCDR GRACIE: Yes. If you obtained the information, or your team had obtained the information, can I suggest that you obtained that information for your OPEVAL, not to pass it back to AATES?

15 COL LYNCH: As far as I'm concerned, there was no barrier. If we had information that they didn't have, they would've got it. There was no reason why they wouldn't have got it.

20 LCDR GRACIE: Well, can you show me where you, or your team, have provided that information back to AATES?

25 COL LYNCH: No, I couldn't point to a record that says that. I don't know they didn't have it; I don't know they did have it. My presumption is they had a full data pack. If we so easily got access to a format specification when we asked for it, then it would have been provided as part of the data pack for their flight test activity. I might just have a look, because there should be references at the front of this flight test.

30 So if you look at page 4, there's some diagrams.

LCDR GRACIE: Yes.

35 COL LYNCH: You couldn't have got that 5.10 description diagram unless you had access to the format specification, because it's all laid out there.

LCDR GRACIE: Yes. But in that same report, they're saying, "We want further information".

40 COL LYNCH: It's interesting, because the information was in the format specification. It was quite clear how it properly functioned.

45 LCDR GRACIE: But they're raising then the question, "Well, is it an integration issue, or is it something else?"

COL LYNCH: Mm-hm.

LCDR GRACIE: “And if it is that something else, what is the OEM doing to (a) assess that risk, and (b) mitigate it?”

5

COL LYNCH: Yes, they’ve raised a question.

LCDR GRACIE: And?

10

COL LYNCH: And they should’ve answered that question by making appropriate enquiries, which they didn’t do.

LCDR GRACIE: But they did give you the answer, which is coming back to what I said before.

15

COL LYNCH: No, they gave me questions.

LCDR GRACIE: If you look at 25(b), just read that to yourself. It sounds like an answer to me, I respectfully suggest.

20

COL LYNCH: Yes, [REDACTED] That is a reasonable request, and that certification documentation should’ve been part of the data pack.

25

LCDR GRACIE: It’s not just that. They’re saying, “Return it to the OEM for rectification”. They’re telling you what – they’re giving you the answer that you - - -

30

COL LYNCH: No, they’re not giving an answer; they’re giving a part response. Because if you go back to the description on page 4, there are 19 elements in HMSD 5.10, and a lot of those changes have a significant effect on workload, a significant effect on safety, and represent an evolution in how that software represents information to a pilot significantly, potentially, enhancing situational awareness. I’d say 17 of those were ignored in the assessment. It was incomplete.

35

LCDR GRACIE: Well, can I respectfully suggest they weren’t ignored? They focused on what they saw as an unacceptable risk of multiple deaths caused by controlled flight into terrain. That’s pretty significant, isn’t it?

40

COL LYNCH: Well, I can only assume they were ignored because they weren’t reported on.

45

LCDR GRACIE: Let me just come back to it. They focused on what they saw as an unacceptable risk. Is there a problem in them focusing on that?

COL LYNCH: It's incomplete. So flight test reports, in my experience, cover everything. So, yes, you might pull out "Unacceptables", but it's routine to have "Unacceptables", "Satisfactories", "Enhancing features", "Unsatisfactory", all within one report, so you get a complete understanding of a full-scope test. It's not normal to stop when you find something without actually doing a full assessment. That is not representative of how a flight test report normally gets handed in.

10 LCDR GRACIE: Whether that's how it's normally done, can I respectfully suggest, is irrelevant because they conducted their tests, formed the view that it was unacceptable, that there was a risk of multiple deaths in controlled flight into terrain, and they stopped the testing? They didn't even go to the night testing because of their serious concerns at that initial stage.

COL LYNCH: It's not irrelevant, because we function in a comparative risk environment. So we don't get to consider silos; we have to look at full scope of an activity and the performance of a system and understand where risk is treated, where risk is not treated, and then make an assessment across a broad context as opposed to a singular thing. What I didn't get from the flight test report is an understanding of that full environment as it pertained to 5.10; I got just a little bit. And so I couldn't actually draw a comparison and make an appropriate representation up for an appropriate decision.

25 LCDR GRACIE: AATES are telling you, I respectfully suggest, "Forget everything else, we've identified this as an unacceptable risk. Forget the risk. It doesn't matter about your 17 or your 19 other features; this overrides everything else because it's unacceptable and can cause multiple deaths". Forget your workload. Forget the workload improvement. Forget all the other wonderful features of the "to go" symbology, this was so fundamental that they stopped the testing. And you say, "Well, that's not good enough. They didn't look at everything else". What more could they have looked at to satisfy your questions?

COL LYNCH: I think I've made that pretty clear. I certainly made it clear in my statement that there was insufficient information for me to appropriately represent risk up to a decision-maker.

40 LCDR GRACIE: They said - - -

COL LYNCH: There was more work that needed to be done. That work was done.

45 LCDR GRACIE: But they said, paragraph 25(a):

5

COL LYNCH: Yes, absolutely they said that.

LCDR GRACIE: And you didn't do that.

10 COL LYNCH: Well, retaining version 4 – 4.07 and 5.10 were both live
options. There was no intent to go one way or the other. There was an
intent to understand whether there was advantage in going down 5.10 and
whether it was going to enhance the capability, the presentation of
15 information, across the board or whether staying with 4.07 was the answer.
Now, the OPEVAL did actually address that.

And, you know, there's some good information in the OPEVAL report
about whether it was necessary to have distance to run information, whether
20 5.10 was an improvement overall for role, whether 4.07 was a better answer.
And both options were live all the way up until the point when it became
clear that the balance tipped in favour of 5.10.

LCDR GRACIE: Well, the balance tipped in favour of 5.10 because you
were more interested in the development of capability relative to risk, can I
25 suggest that?

COL LYNCH: That's not true.

LCDR GRACIE: But it is the fact that you - - -

30

COL LYNCH: It's not a true statement.

LCDR GRACIE: Those 17 or other 19 factors, they're all about
35 capability, aren't they?

35

COL LYNCH: No, the presentation of information – so capability is based
on reliable execution of aviation. And no part of that – no part of executing
our business unsafely or in a non-repeatable way is an effective way to
40 deliver our combat effect. So everything is based on operating safely,
operating effectively, operating repeatably and making sure that you can
consistently deliver the same outcome.

And then every now and then we might have to go into a situation where
there's enemy action. That's the top 10 per cent that you don't control. But,

actually, you do business the same way for the 90 per cent of things that you do routinely, whether in peacetime or in combat.

5 So it's not just about capability. This is about evolutionary change of symbology to better present information to crews. Now, it's not necessarily being considered here, but this was happening in context of a significant accelerated information – or IIT upgrade to the helmet, so Image Intensifier Tube upgrade to the helmet, because one of the other key findings in a previous flight test report was that visual acuity was a significant issue. And
10 that was being traced as a significantly fast-tracked improvement that went hand-in-hand with symbology.

15 LCDR GRACIE: We'll come to that. But when you say "the symbology was an enhancement of information", yes, except for one critical bit of information, which was an ambiguous or misleading flight attitude.

20 COL LYNCH: So some of the improvements – how do you use symbology? I touched on this yesterday. The expectation that people are staring at a pitch ladder and setting an attitude from an HMSD, that is not the way that system is used. Principally, when you're looking outside using symbology overlaid on the outside world, you are flying visually. That's important. You're not flying with reference to instruments. You are flying visually and your instruments are a performance check.

25 So the key information in that symbology is available to you. Your distance to run information. Your heading tape, which in this particular case was moved down to make it easier to scan and access information, requiring no internal movement or head movement that's excessive. The velocity vector, that key five-second trend indicator that is providing reference to
30 the horizon, that indicates whether you're climbing or descending on a five-second trend. Your improvements to your instantaneous vertical speed indicator, which very – much better than the previous representation, indicated whether you had an instantaneous climb or descent. Key performance information – your RADALT key performance information.
35 Those were the things that were important.

40 And, fundamentally, a lot of the information we're talking about here – maybe the pitch ladder, if you're in declutter modes. That pitch ladder is not in your face, the way that it has necessarily been represented. And the centroid – this is one of the big improvements for HMSD 5.10 – a lot of the information that was cluttered in the centroid of the display, which sometimes obscured other aircraft, other obstacles, those sorts of things wasn't there. And particularly if you're in a decluttered mode, it created a clear centroid that improved the visibility outside, which was an

enhancement for formation, when you are looking outside for your information.

5 So I could go on, but there are some – I guess, I’m concerned that there are some misconceptions about the importance and how symbology is actually used. In a visual flight regime, attitude is set outside. Look out to find out what’s going on. You check attitude, again outside, and then you check performance. And the performance check is a scan to use symbology.

10 LCDR GRACIE: And the difference though, I respectfully suggest, between the AATES testing and the OPEVAL was that the flight test that you had with the OPEVAL required visual horizon at all times; correct?

15 COL LYNCH: Yes, that was part of the flight limitations imposed by AATES.

LCDR GRACIE: So it’s not being tested under what would be normal or some expected operational environment, i.e. a degraded environment?

20 COL LYNCH: So what do you mean by “normal”?

LCDR GRACIE: Well, the OPEVAL test – and I think there was evidence to the effect that the number of conditions that were put on the flight test for the OPEVAL was unprecedented. Would you agree with that?

25 COL LYNCH: I wouldn’t necessarily describe it as that. It was normal during test activity for the DoSA-FT, the Delegate of Safety Authority Flight Test, to impose flight conditions to control what they perceived as risk for that activity. I don’t recall exactly what those flight conditions were, but there were limitations imposed.

LCDR GRACIE: Let me give you a snapshot of some of them.

35 COL LYNCH: Can I get a copy of that, please?

LCDR GRACIE: No, I’m going to give you a snapshot of some of them because it’s in a statement, ma’am. I might just give the exhibit reference. For your purposes, ma’am, it’s Exhibit 86.

40 MS McMURDO: Yes. Do you want him shown Exhibit 86?

LCDR GRACIE: No, I’m referencing it for you, ma’am.

45 MS McMURDO: You don’t want him shown the statement?

SQNLDR SCHMITT: Sorry, ma'am - - -

COL LYNCH: I'm just concerned here that I'm going to be given an excerpt without context, and that's of concern to me, because - - -

5

MS McMURDO: All right. Well, I can have a look at Exhibit 86.

COL LYNCH: - - - it could be a misrepresentation of information that is quite technical.

10

SQNLDR SCHMITT: Yes. And, likewise, ma'am, I don't have a copy of that, in representing COL Lynch. So if I could be provided a copy as well?

LCDR GRACIE: Ma'am, I can identify the source of it.

15

MS McMURDO: Thank you.

LCDR GRACIE: I don't need to now.

20

MS McMURDO: Yes. This is MAJ Lamb's statement.

LCDR GRACIE: I was just mindful of not putting to - - -

MS McMURDO: Well, I think they were in the expert field. That's - - -

25

LCDR GRACIE: Do you mind?

MS McMURDO: No, that's perfectly proper, now that we're in the expert field, yes. But just a moment, we still have a problem here.

30

LCDR GRACIE: Do we?

MS McMURDO: This - - -

35

SQNLDR SCHMITT: I haven't been provided a copy of MAJ Lamb's statement. If I could, just so I can follow along.

MS McMURDO: Just while we sort this out. So what can we do – MAJ Chapman, what can we do about providing a copy of Exhibit 86? Or is there a problem with putting – can we put it up on the screen? Is that one way that we can deal with this?

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MAJ CHAPMAN: Just give me a moment.

45

MS McMURDO: Is it the statement itself or one of the annexures?

LCDR GRACIE: It's para 56, ma'am.

MS McMURDO: Yes.

5

UNIDENTIFIED SPEAKER: Ma'am, if it assists, we have a copy here. I don't know if that's an issue.

SQNLDR SCHMITT: Yes, I can just use that, that's fine. Thank you.

10

MS McMURDO: All right then. Thank you.

LCDR GRACIE: I'm just going to read out a summary of some of the flight test conditions that AATES, through LTCOL Reinhardt and MAJ Lamb, provided for the OPEVAL.

15

COL LYNCH: Okay.

LCDR GRACIE: Just before I move on, are you aware that it was MAJ Lamb and LTCOL Reinhardt who prepared the flight test - - -

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COL LYNCH: Yes, so DoSA-FT. And the restrictions were specifically MAJ Lamb's responsibility. So he would have done that in consultation with SO1 T&E, but he held the responsibility for – or the delegation for DoSA-FT at the time.

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LCDR GRACIE: Just tell me – I'll step through some of them, not all of them - - -

MS McMURDO: Just so you understand the context, this was MAJ Lamb's statement that was tendered as an exhibit, the same way as your statement was tendered as an exhibit. And he gave evidence of the 24 flight conditions and controls imposed by AATES on the OPEVAL activity, and that was his evidence. So I'll hand over to you.

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LCDR GRACIE: Thank you, ma'am.

And MAJ Lamb said that in the 50-plus test activities that he'd been involved with, he'd never before or since imposed on a testing activity the number of controls and conditions that were imposed in respect of the OPEVAL.

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COL LYNCH: Okay. I wasn't aware of that, but - - -

LCDR GRACIE: And he said there was, as ma'am said, 24 conditions and

45

controls. The key ones I just want to identify as following, and ask whether or not that accords with your recollection. One of the conditions was that:

5 *A night VMC sortie had to be greater than two millilux at terrain flight levels.*

COL LYNCH: Greater than two millilux. That's fairly reasonable, yes.

10 LCDR GRACIE: That:

The version 5.10 symbology was to be used in a decluttered mode in conditions less than VMC.

15 COL LYNCH: Okay.

LCDR GRACIE: "VMC" being Visual?

COL LYNCH: Meteorological Conditions.

20 LCDR GRACIE: The third was that:

The maximum use of Auto Flight Control System –

25 the autopilot system –

upper modes be in accordance with Flight Manual limits engaged for flight below 500 feet.

30 COL LYNCH: Yes.

LCDR GRACIE: Can you put that into lay terms for me.

35 COL LYNCH: So there's – the aircraft have basic modes. Basic modes of the AFCS, the Automatic Flight Control System, are things like attitude hold, so typically roll or the normal attitude hold you get without the upper modes engaged. The upper modes rely on you setting a reference. So if I take you to an airline example, if you set 35,000 feet, it'll set an altitude bug, BARALT – barometric altitude bug – and the aircraft will achieve that reference. You can have that in four axis mode. You can have it for speed. 40 You can have it for heading. You can have it for altitude, whether it be radar altitude, barometric altitude. There's a whole lot of references you can set.

45 And once you've set the reference, the Automatic Flight Control System will manipulate the controls to achieve that reference. So what it's

essentially saying is automate flight as much as possible. So the autopilot's in control, so you can make the evaluation with that additional control in place.

5 LCDR GRACIE: And can I suggest to you this next one is the rub?

When using HMSD v 5.10 with full symbology, there must be a visual horizon.

10 COL LYNCH: Okay, yes.

LCDR GRACIE: But that comes back to what you were saying; that is, that subject to the individual, you're not utilising the symbology, you're visually setting your attitude to the horizon.

15 COL LYNCH: Yes. Or to other aircraft if you're in formation.

LCDR GRACIE: So whatever inconsistencies, ambiguities or misleading symbology might be apparent on the visor, it's going to be ignored because you've got a full visual horizon.

20 COL LYNCH: So it's not abnormal to set flight conditions - - -

LCDR GRACIE: Just if you could just focus on - - -

25 COL LYNCH: Okay, ask the question again.

LCDR GRACIE: Your evidence earlier was that you primarily determine your attitude visually?

30 COL LYNCH: Yes.

LCDR GRACIE: And the symbology is therefore supplementary?

35 COL LYNCH: Performance information, which is a key part of assessing performance of the aircraft.

LCDR GRACIE: Just go slow on this. The symbology is supplementary, if you have a full visual horizon?

40 COL LYNCH: It's supplementary from an attitude setting perspective.

LCDR GRACIE: Yes.

45 COL LYNCH: But it's critical to understanding.

LCDR GRACIE: But it is the false attitude that is the problem with the symbology that AATES identified. So let's just focus on attitude, right.

5 COL LYNCH: Okay.

LCDR GRACIE: You're saying that if you've got a visual horizon, you're going to be setting your attitude visually.

10 COL LYNCH: Yes.

LCDR GRACIE: In preference to the symbology.

15 COL LYNCH: Routinely, yes.

LCDR GRACIE: So would it surprise you if the pilots who were testing this symbology were not distracted by any ambiguous attitude information because they had a full visual horizon that they would have been prioritising when setting attitude?

20 COL LYNCH: Sorry, ask that question again?

25 LCDR GRACIE: It wouldn't surprise you, would it, that the pilots who were undertaking the OPEVAL were not confused, disturbed or worried about the ambiguous or misleading attitude symbology because they were flying with a full visual horizon, which would have been their primary source of setting attitude.

30 COL LYNCH: Yes. Potentially, yes.

LCDR GRACIE: The fifth one was that flight - - -

35 COL LYNCH: Sorry, can you just confirm that was two millilux, not 10 millilux was the limit?

MS McMURDO: Two.

COL LYNCH: Okay.

40 LCDR GRACIE: That's the next one. There was two millilux in, I think it was the decluttered mode. Let me just check that.

45 MS McMURDO: A night VMC sortie greater than two millilux at terrain flight levels was the first one.

LCDR GRACIE: Thank you, ma'am. And then that last, of the five anyway, not the full 24 - - -

5 MS McMURDO: Just before you go on. We understand millilux is a precise measure of measuring light. But in layperson's terms, what would you expect to be around the two millilux? What would it look like?

COL LYNCH: It's dark, ma'am. You end up having - - -

10 MS McMURDO: Would you say no moon?

COL LYNCH: No moon, or you – absolutely no moon, but also no starlight.

15 MS McMURDO: Cloud cover?

COL LYNCH: So typically in a situation where you've got an overcast – where there's a lot of suppression of light or there's a low-level obscuration layer, like dust or something, that's suppressing any natural light.
20 Sometimes with cloud cover you get reflected light from cities and areas like that, which creates a light effect which enhances, so it's highly variable.

MS McMURDO: Highly variable.

25 COL LYNCH: It's highly variable. And it's judged - - -

MS McMURDO: Well, pitch black. It goes up, not necessarily pitch black. Some light but very little light, is that how you'd describe it, roughly? Just to give a difference between two millilux and 10 millilux,
30 because they're two terms that have come up a lot in the evidence.

COL LYNCH: Yes. It's really – I mean, you can measure it, but there are so many other factors that go into how much you can see outside. The albedo of the terrain. So, for example, if you're flying over an expanse of
35 water that is relatively flat, that's featureless. If there's a slightly rough sea and you get whitecaps and that, you'll get some information. If you're flying over a ploughed field, that can be really difficult to detect because you can't see. But if you're flying over a green field where there's trees and other obstacles, you start to get reference information available to you
40 and you can see.

A lot of the times it affects how far you can see and the darker it is, the slower you go, typically, particularly when you're low. But 200 feet is not considered low. It's when you get down to your terrain flight altitudes

where you start to bring in – you lower your speed and start to bring in your scan.

5 MS McMURDO: So comparing 10 millilux to two millilux, 10 millilux would still be night-time or is that moving into twilight?

COL LYNCH: No, it's still dark, ma'am.

10 MS McMURDO: Still dark.

COL LYNCH: We're just talking about grades of darkness here.

MS McMURDO: Grades of darkness, yes.

15 COL LYNCH: Yes, absolutely.

MS McMURDO: Yes, okay. All right, thank you.

20 AVM HARLAND: Two millilux, would you typically have a horizon?

COL LYNCH: Yes, sir, you would. And again, it's highly dependent on where you are. If you have, you know, cultural lighting, it provides a horizon effect. And you can typically detect the difference between cultural lighting and starlight in terms of defining what the horizon is. Because
25 cultural lighting is amplified a lot more than starlight. So you'll get that amplification effect and you'll get a fairly clear division. If it's clear conditions, you'll have horizon information. Sometimes you can get – if the visibility is a lot lower, you'll get a horizon but not a distant horizon, if you like. So, yes, it's variable on the circumstances.

30 AVM HARLAND: So no reference. Did I hear you say that overwater, unless you've got whitecaps, it can be very challenging to get a horizon?

COL LYNCH: Absolutely. So overwater and ploughed areas are
35 notoriously poor because of poor reflectance. You don't get that reflectance back to understand where things are. That's where you start to rely heavily on RADALT, rate of descent and your decision height warning and things like that to make sure that you've got no undetected divergence.

40 AVM HARLAND: Yes. So if I'm to sort of extend that, if you're overwater in a degraded visual environment, the chances are higher to become disoriented because you won't have a good, clear reference?

45 COL LYNCH: Yes. So with reference to the ground or the water surface, yes. Will you get cues from that, speed cues or any other cues? Less likely.

AVM HARLAND: Less likely. Okay, thank you.

MS McMURDO: Yes, thank you.

5

LCDR GRACIE: I just come back to that fifth point. And the restriction was:

10 *Flight with full HMSD 5.10 symbology is to be in greater than two millilux conditions.*

COL LYNCH: Yes.

15 LCDR GRACIE: So would you agree with me, at least insofar as those conditions are concerned, they're very conservative in terms of the operating environment, aren't they?

20 COL LYNCH: So I wouldn't say they were very conservative, because the previous report, the one on the SO approach, had set a limit at 10 millilux, and this one dropped it to two millilux. So we were extending into grades of darkness here, where we were assessing the performance of that system at night.

25 LCDR GRACIE: So you have either full symbology with a visual horizon, or in conditions greater than two millilux? Or both?

COL LYNCH: Sorry, the – can you - - -

30 LCDR GRACIE: The last two points were when using HMSD 5.10 in full symbology there must be a visual horizon.

COL LYNCH: Okay. Yes, got that.

35 LCDR GRACIE: Does that also apply at night, because you've got "greater than two millilux"? It would, wouldn't it?

COL LYNCH: I presume so, yes.

40 LCDR GRACIE: Because – and I appreciate you don't have it, but it says:

Flight with full HMSD 5.10 symbology is to be in greater than two millilux conditions.

45 So that's day or night.

COL LYNCH: Yes. But by day you'll be well above two millilux. Two millilux clearly refers to a night environment. You can't get two millilux during the day.

5 LCDR GRACIE: But the other one that talked about, "Full symbology must be a visual horizon", would apply at night also?

COL LYNCH: Yes.

10 LCDR GRACIE: So can I suggest this, that the limitations in terms of the testing environment, the flight test, would not replicate SO conditions?

COL LYNCH: No.

15 LCDR GRACIE: But when the OPEVAL - - -

COL LYNCH: Well, not all conditions, no.

20 LCDR GRACIE: Well, it certainly wouldn't replicate night flying, low level, in degraded visual environment, in formation, would it?

COL LYNCH: Not all of those things, no, it didn't. It didn't assess all of that in specific – the restrictions didn't permit that to be, yes.

25 LCDR GRACIE: So when the OPEVAL reassessed the risk, if I can put it that way, from unacceptable to – was it unsatisfactory?

COL LYNCH: Undesirable.

30 LCDR GRACIE: Undesirable. When it did that, it did that assessment based on a test plan or a test environment that had limitations that would not necessarily be replicated in Special Operations.

35 COL LYNCH: So that's representative of every test environment. Every test environment has flight conditions applied to it to control the environment under which the test occurs.

40 LCDR GRACIE: But the OPEVAL, that was imposed because it wasn't being done by AATES, it was being done by non-test pilots.

COL LYNCH: No, every flight test activity has flight conditions imposed, and that's the thing the DoSA-FT actually approves.

45 LCDR GRACIE: But those conditions were imposed for the OPEVAL. They weren't the conditions under which AATES performed its test?

COL LYNCH: No, because they only did their test by day.

5 LCDR GRACIE: Well, they cancelled it after that because they said that it was so fundamentally flawed that they didn't need to go to night testing to find out what they had already discovered – that there was an unacceptable risk of controlled flight into terrain and multiple deaths.

10 COL LYNCH: That's your assessment.

LCDR GRACIE: Well, no, that was their assessment.

COL LYNCH: Okay, I wasn't here for their testimony, sorry. That's not what was reported - - -

15 LCDR GRACIE: That is what's in the report.

COL LYNCH: No, not those words.

20 LCDR GRACIE: If you want, we can go back to it. I don't want to be too semantic about it.

COL LYNCH: No, let's go back to it.

25 LCDR GRACIE: What did "unacceptable" mean to you?

COL LYNCH: No. So what would you like to specifically address in the AATES report?

30 LCDR GRACIE: In the AATES report, where they made the assessment that there was an unacceptable risk, what did you mean – or think they meant by saying that?

35 COL LYNCH: So I read the report quite cover to cover, in detail, and I took a lot from, as I always do, conclusions and recommendations. What I got was they found it unacceptable. What I also got was there's a lot of lack of understanding of system function here, and there was a lot of detail missed. I think I'm repeating what I said before. I needed to understand the total impact of the changes to understand whether things were
40 outweighed in terms of enhancing safety versus their finding.

That finding was also completely against the finding of the German flight test authority. So we now have a Military Airworthiness Authority that we recognise and they had provided input into the OEM and provided us a
45 turnkey modification to the aircraft that had been flight tested by a

5 recognised MAA. And we now had a result that said, “That’s not true. That whole process is invalid”. So this is not just one thing – one person said one thing and we just run off on a tangent. This is – there’s an environment here where there’s a lot of other evidence that needs to be considered in context to say, “Is this credible? Do we need to further investigate it?” And it seems clear from this report that there is actually a bunch of things they did not know.

10 So in the context of a cleared OEM modification, to get this – okay, so we’ve now got one Flight Test Organisation saying this, another recognised Flight Test Organisation – First World by the way – saying something incredibly different, and having then tested it and implemented it and taken it on operations. So we’ve got a mismatch in two Flight Test Organisations across the world that we now have to resolve.

15 MS McMURDO: Well, does this mean you looked at the German flight test information in preparing the OPEVAL?

20 COL LYNCH: As far as I’m aware, that was reviewed by AATES as part of this activity and it was available; I never personally read it.

MS McMURDO: You didn’t.

25 COL LYNCH: I don’t know if that’s been tendered.

MS McMURDO: No, it hasn’t. So it’ll be available, will it?

COL LYNCH: I presume so, ma’am, yes.

30 AVM HARLAND: Well, you relied on that background to inform your decision on how to proceed, the fact that another MAA had – or another Military Airworthiness Authority had approved this modification?

35 COL LYNCH: Yes. Logically, sir, if we had a new rotor blade and it had been OEM-approved and delivered to us as a technical substitution and, “You take these rotor blades off; you put those on”, we’re not going to test that. We just put it on and go flying, because it’s an OEM-endorsed product that’s been properly engineered, delivered with a data pack, and we just accept that. And we do that across all of our fleets.

40 AVM HARLAND: But this wasn’t a technical substitution; this was actually a change to the functionality of a display.

45 COL LYNCH: It was a change in symbology, absolutely. But it was an OEM modification that had been fully tested, endorsed and was delivered

as a, "There's a mod. This is what it does, here's all the description documentation that goes with it".

5 AVM HARLAND: So if that's the case, why did you do the flight test in the first place through AATES?

10 COL LYNCH: That is a good question, sir. Why was it CAT 2 flight tested in the first place? I don't know because I didn't direct those activities.

AVM HARLAND: Right.

15 COL LYNCH: That was directed by DACM. And I contend that, you know, in that context a CAT 2 flight test probably wasn't necessary in the first place.

LCDR GRACIE: Could I perhaps provide an answer?

20 COL LYNCH: A question or an answer?

LCDR GRACIE: No, an answer.

COL LYNCH: Okay.

25 LCDR GRACIE: Because you said you don't know, so I might just suggest an answer. Are you aware whether or not there is any provision in the Defence Air Safety Regulations to bypass Category 1, 2, 3 or 4 testing by AATES by relying upon another test organisation's findings?

30 COL LYNCH: That's why we have Military Airworthiness Authority recognition.

35 LCDR GRACIE: Are you aware that if there is any provision in the DASR for that to occur without AATES undertaking testing prior to Service release?

40 COL LYNCH: So the DASR, you can point to the DASR if you like. If you've got a specific reference in the DASR, I'd love to review it. But the DASR isn't, "You must do this". The DASR is, "You must have a rule that exercises this degree of control". There is often guidance material in there that says, "It should look like this". There's other amplifying notes that says, "Here are some examples that you might have". It says, "Acceptable means of compliance: if you are to be compliant with this general Regulation, your AMC would be these sorts of things".

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5 So, essentially, what an organisation does, an MAO, Military Air Operator, is you take the DASR and you confirm you've got a Regulation that addresses the requirements of the DASR, and then you work through your guidance material and your acceptable means of compliance, and work out whether you comply.

10 Now, we were still in – in '19, we were still in transition from the previous regulatory system to DASR, so we were going through this process. The audits were long and sometimes painful, while we worked out how we were going to transition to make sure we were compliant. And the reality was, a lot of the DASR were configured for fixed-wing operations, and a lot of them didn't cover helicopter operations.

15 So we had to do extra work to develop alternate means of compliance to specify, "Okay in this context, that particular description, your guidance material, your acceptable means of compliance won't work because we're operating in a completely different environment to what that assumes". So then we need to develop acceptable means of compliance.

20 So when you talk about, "Does DASR say that?", DASR is prescriptive in terms of requiring certain Regulations, but it leaves it to the Military Air Operator to build that Regulation set, to meet the compliance requirement of the Reg.

25 LCDR GRACIE: That would include the Standing Instructions part of that umbrella?

30 COL LYNCH: Absolutely. The Standing Instructions Aviation Operations is one of our key mechanisms of complying with DASR.

LCDR GRACIE: And you said before that the DASR doesn't necessarily say much, but the Standing Instructions does say that.

35 COL LYNCH: Absolutely. That is our means of complying with the DASR.

LCDR GRACIE: Just to come back on something – sorry, you talked about the operating environment. Do we know what the operating or test environment was for the German test organisation?

40 COL LYNCH: I haven't reviewed it. I know they did a battery test in Germany in varying light conditions. The principal focus of that symbology set, as briefed to me, specifically was they were concerned about having a symbology set that supported operations in degraded visual environments. And so they wanted the information to be displayed

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differently, and they obviously did some evolutionary changes to the way performance information was displayed in the symbology set.

5 So they did a test battery in Germany, I think, from that, because they didn't have representative conditions for Northern Afghanistan, which is where they were deploying to, they deployed aircraft to the US, into the high desert – I think it was in Nevada or Arizona – and conducted some more testing activity there in dust conditions, so they could assess whether it met their needs or not.

10 That's the extent of the information I have access to. I don't have a report that says that.

15 LCDR GRACIE: Who gave you that information?

COL LYNCH: That was from the Manager, if you like, of the SUZ facility that I visited in 2013/2014, which is in my statement.

20 LCDR GRACIE: So you got the information back then?

COL LYNCH: So I initially reviewed HMSD 5.10 symbology when it was in development – it's in my statement – in 2013, I think it was – 2013/2014; I couldn't put an exact time on it. And at that time, initially reviewed it, jumped into the simulator, had a look at the symbology, reviewed the changes that they were proposing – this is before their flight test activity was undertaken – and subsequently requested that the then MRH test pilot was sent over to review it. And I understand that happened in – I think it happened in 2013; I don't recall exactly – 2013/2014.

30 LCDR GRACIE: We're talking about symbology 5.1, are we?

COL LYNCH: Correct.

35 LCDR GRACIE: And that's five years before AATES got around to testing it?

COL LYNCH: Correct. That's actually before the Germans tested it.

40 LCDR GRACIE: And do you know what happened in that interim in terms of the symbology and the way it was integrated into the Australian environment, or not?

COL LYNCH: Talking about 5.10 now?

45 LCDR GRACIE: Yes.

COL LYNCH: Well, as far as I'm concerned, 5.10 was in the early stages of development in 2013/2014. It subsequently went to flight test with the Germans, was tested, confirmed, incorporated as a modification for their deployment to Afghanistan – which I couldn't tell you when that was, but it was around about the 2014 period – and then subsequently became an approved modification.

So it was on the streets, if you like, being used by the Germans for five years before it came up as an option for us to use it, to address the flight test report on SO approach.

LCDR GRACIE: Because one of the things that AATES identified, or raised a question, was whether or not the Germans had identified and assessed the ambiguous symbology.

COL LYNCH: As far as I'm aware, there was some dialogue with the German Flight Test Organisation. I didn't execute that. But test pilot to test pilot, there's a lot of relationships from their qualification course, and the feedback was there'd been no adverse feedback at all on that symbology, and that included their deployment to Afghanistan.

LCDR GRACIE: So five years after you had your discussions with the Germans about the development of the upgrade, in the AATES report, it raised three issues in the Executive Summary, if you want to look at it. I'll be careful about the - - -

COL LYNCH: Executive Summary. So it's right in the front, yes.

LCDR GRACIE: Be careful about the classification. But I would just suggest there were three things. One is, it was unclear if it was the Australian version of the symbology that gave rise to the issue. That's five years after you were involved in your discussions with the Germans.

So the question is, has something happened in the last five years in terms of the integration or the Australian version of the symbology? That's one question. The second is whether it's a purposeful characteristic, which AATES doesn't fully understand? And then the third was, well, if the German Air Force already know about this issue and have assessed and put in place mitigations or guidance to deal with it?

So after your visit in 2014, what did you or your team do to ask what the German Air Force were dealing with in terms of assessing any issue with the off-axis symbology, and mitigation measures or guidance to deal with it?

COL LYNCH: Okay. So my involvement was identifying that it existed.

LCDR GRACIE: No, what did your team do?

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COL LYNCH: My team did nothing because it wasn't my function. I was involved in identifying that that was a potential future option. My job was to find these things; that's why I was in Europe. I requested that the MRH test pilot come and review that, and that was the limit of my involvement.

10

So I did nothing more, except say, "Hey, there's something here that the test organisation needs to be aware of, because it's a potential future upgrade. Come and have a look at that". The expectation, certainly that I had, was since this had not yet started flight testing with the Germans, all of that information you just asked about comes out in flight test.

15

LCDR GRACIE: So let me see if I've got the sequence correct. I thought your evidence was that after the AATES testing your team had some discussions with the Germans.

20

COL LYNCH: Okay. In terms of answering that particular element, was there a problem?

LCDR GRACIE: Yes.

25

COL LYNCH: Yes, there was an informal interaction, I understand. I couldn't point to a date as to when that occurred, but it was obviously post this report. To try and answer was there any concerns, are there any risk controls, have you experienced any issues in the, I guess, four or five years you've been operating this? Is there anything we need to know? And my understanding was, from that interaction, there was nothing.

30

LCDR GRACIE: But you're saying you relied upon that in lieu of AATES, being the Flight Test Organisation, and you say that there is nothing in writing that you have to corroborate or verify what you relied upon from the German Air Force?

35

COL LYNCH: What I'm saying is, there's some questions that were asked in here that we should seek that information, and that information was sought.

40

LCDR GRACIE: You've said in your evidence that you relied upon the fact that this had been approved by a foreign test organisation.

45

COL LYNCH: Correct.

5 LCDR GRACIE: You have nothing in writing to tell you anything about the assessment that they made, the mitigating measures that AATES raised, and you relied upon that, and you have absolutely not one bit of evidence that you could provide to show what you relied upon?

COL LYNCH: So I would go to my team to see if they had something, because - - -

10 LCDR GRACIE: And did they?

COL LYNCH: I don't necessarily have access to that personally – well, I don't have it in my email record. But if that is a request for information, I think that should be put forward because there is likely something there.

15 LCDR GRACIE: But you have hung your hat on that approval by the Germans. You've said, "I don't need to worry about AATES, because I've got an approval from another" - - -

20 COL LYNCH: I think that's a mischaracterisation. I think it was still part of the evidence pack. So what AATES said was not disregarded; that was actually part of the fabric of the risk assessment of that particular symbology. But what the MAA in German had said was also relevant, and what NHI had assessed through their intervening process was also relevant.

25 There is a lot of relevant information here, that I think you're seeking to exclude and say, "The AATES report is the only thing that mattered". It wasn't the only thing that mattered.

30 LCDR GRACIE: I appreciate that's what you say, but what I'm not trying to exclude is the evidence that the German MAA provided to you or your team, for you to rely upon that in lieu of AATES - - -

COL LYNCH: So, no.

35 LCDR GRACIE: - - - as the Flight Test Organisation under the DASR.

40 COL LYNCH: So, no. So the evidence – so all it says in here is, "Have they had any issues? Were there any risk controls? Are they aware of it?" That question was asked, so it was about answering questions that were posed in the AATES flight test report. So this is question, answer, full stop.

45 LCDR GRACIE: Let me just see whether I've mischaracterised your evidence. I thought your evidence was to the effect that you relied heavily upon the German MAA because they had approved, and used for five years

or so, the upgraded symbology, and therefore you did not need to have an assessment or an authorisation for airworthiness made by AATES as the authorised Flight Test Organisation. Is that right, or - - -

5 COL LYNCH: To be very clear, that evidence from a recognised Military Airworthiness Authority is relevant in considering whether or not the AATES finding was rational, in the circumstance. So if you have two conflicting references from flight test authorities that are more or less equally trusted, you now have a conflict that needs to be resolved.

10 LCDR GRACIE: Let me come back to the question. It was a little bit more nuanced than your answer. My question was whether or not you could effectively bypass AATES as the authorised Flight Test Organisation under DASR, by relying upon an approval by the German MAA?

15 COL LYNCH: If just that had been the case, there would have been no further activity.

LCDR GRACIE: Can you just answer the question?

20 COL LYNCH: So I refute the term “bypass”, because that did not occur.

LCDR GRACIE: So who did you rely upon in terms of being the Flight Test Organisation, authorised Flight Test Organisation, under DASR, to approve the release into Service of this upgraded symbology?

25 COL LYNCH: Okay, so I’m going to go to terminology. They don’t approve the release into Service; that is done above them. They make recommendations, they make findings in their flight test report, and that aims to characterise risk. I think we’ve covered that there were some deficiencies in that.

30 So we need to be very precise with the terminology here. This is quite a methodical environment, and getting loose with terms is not helpful in terms of the record.

LCDR GRACIE: Who did you rely upon in reassessing the AATES assessment?

40 COL LYNCH: So the AATES – the CAT 4 activity I think is what you’re talking about. The CAT 4 test activity, which was the Operational Evaluation, which was supervised by the DoSA-FT. It’s a cooperative activity because the DoSA-FT was involved. There is only one DoSA-FT in Army, and he was involved in setting the flight conditions for a test activity that he had oversight of.

So that isn't a bypass; that is a cooperative activity to execute a CAT 4 flight test to achieve some outcomes, to answer questions that were posted in a flight test report. So I absolutely refute your characterisation.

5

LCDR GRACIE: Well, AATES did not change their assessment, did they, of "Unacceptable"?

COL LYNCH: They changed their assessment of a lot of other things, but they didn't change that one.

LCDR GRACIE: So you have the authorised Flight Test Organisation, approved under DASR, saying that this is unacceptable?

15 COL LYNCH: Correct.

LCDR GRACIE: You though, in your decision to deal with an OPEVAL, reassessed that scenario, that outcome?

20 COL LYNCH: Absolutely.

LCDR GRACIE: Under different performance characteristics.

COL LYNCH: In set flight conditions that extended further than those that were executed under the initial AATES flight test, absolutely; with a representative audience that was going to operate this system, absolutely; with people from the Royal Australian Navy, absolutely; to understand whether they believed, those people who were actually going to operate the capability, there was value in moving this to 5.10 or to stay with 4.07.

30

And that's exactly what the OPEVAL intended to execute, is an activity that understood whether staying with 4.07 was the best option, or moving to 5.10 was the best option overall.

35 LCDR GRACIE: Can I suggest this, though: it wasn't a test, was it?

COL LYNCH: Well, it didn't have "test" in the name. It was an Operational Evaluation.

40 LCDR GRACIE: And that's what you said yesterday. You said, "Take the 'test' out of it. It's an Op Evaluation."

COL LYNCH: That's exactly what it was.

45 LCDR GRACIE: There has been no testing done by Standards.

COL LYNCH: It was an evaluation.

5 LCDR GRACIE: So who did the testing to approve the Service release?

COL LYNCH: The MAA in Germany did the testing. That was a test outcome. It was an approved modification. The evaluation was, “Is this suitable for our needs?”

10 LCDR GRACIE: So the MAA is the body that you relied upon to do the testing, and you did the Op Evaluation?

15 COL LYNCH: Is this suitable? Yes, is this suitable for our needs? Does this actually improve our ability to execute that particular mission, to address some of the concerns raised in the previous SO approach report? Yes or no?

20 LCDR GRACIE: Where would the MAA, the German MAA, testing documentation be? Would it be with Standards, or AATES?

25 COL LYNCH: No, that would’ve been delivered as part of the data pack, so I presume CASG would have access to that. AATES should’ve been provided with that information, and I presume as part of their enquiries that they would’ve sought that information. I didn’t personally see it, but that would, for me, form part of the data pack because it would contain some pretty key information about their findings from flight test.

30 So, you know, a flight test report or something like that, that laid out everything from their flight test activity, that would be reasonable substantiation.

35 LCDR GRACIE: So just coming back to something that AVM Harland asked you. What was the point of the OPEVAL, if you had the MAA test and relied upon that?

40 COL LYNCH: So it was actually about assessing whether it was suitable for role. So there was still – again, there’s live options, right? 4.07 delivered information in a certain way. It required you to look inside to the multifunction display to get distance to run information. That was manageable, and that was a live option at the time.

The assessment was going to the SO approach flight test report. “Does this symbology help you achieve your role outcomes? Does it provide better representation of information than 4.07? Is this” – essentially by you know,

the senior operators, SO operators, “Is this advantageous for you, or would you prefer to stay with 4.07?”

5 That was the key question in the evaluation. “Does this actually address the concerns of the SO approach report? Does this make execution of your role easier or not?” And I didn’t care what the answer was, because not my role. It was a – there was no intent to go either way; I just wanted an answer one way or the other.

10 AVM HARLAND: So can I just confirm then, that under Plan Palisade, which was the realisation of MRH-90 into the Special Operations Aviation community – so bringing on that capability, did version 4.07 satisfy the requirements of Plan Palisade?

15 COL LYNCH: You could’ve achieved – and in fact it was in the SO report which has been tendered – you could’ve achieved that outcome, with the exception of the distance to run information. So it was the only – if you were going to significantly enhance, it wasn’t – I think it was highly desirable.

20 AVM HARLAND: Highly desirable.

COL LYNCH: Highly desirable, you would put the distance to run information with a one decimal place, you know, to stop you from having to look inside the cockpit to the MFD to get that information. It depended on the generation of pilot as to whether or not you wanted it in the HMSD upfront, or whether you were happy looking inside the cockpit. So it wasn’t a uniform thing.

30 AVM HARLAND: So to sort of get into that, so Plan Palisade was satisfied by version 4.07?

COL LYNCH: Absolutely. Plan Palisade didn’t require 5.10; it required – so, essentially, the flight test report was the thing that was driving distance to run because it had said that it is a highly desirable optimisation, to make it easier to execute this role.

40 AVM HARLAND: Yes. So essentially, there was no burning requirement to transition to version 5.10 to meet Plan Palisade requirements?

COL LYNCH: No, sir.

45 AVM HARLAND: Okay, thank you.

COL LYNCH: It was to address the flight test report, which was – I mean, technically the SO approach flight test report was – or that flight test activity was executed to try and assess any issues associated with introducing the MRH into the SO role. It reported on all of those things, and one of the outcomes – and that was – I think I mentioned in my testimony that report was handed to me as I walked into the job, saying, you know, “This is the report that was just handed down”, in December ‘18, I think.

And that became a list of, “These are the things that, you know, we need to address to get after enhancing the circumstances for operators of MRH in that context”.

AVM HARLAND: Yes.

COL LYNCH: So 5.10 was discovered, if you like, when CASG went back to NHI, and it was then presented as an option to address that first one, the distance to run information. But, as has been discussed, there were a lot of other evolutionary enhancements that came with it that were also relevant.

AVM HARLAND: Yes, okay, thank you.

LCDR GRACIE: You mentioned about the goal being to test the operational environment.

COL LYNCH: Yes. So to test – essentially, the reason we used experienced operators is because they understand their role – they understand the full scope of their role, which is not just – you know, it’s not just land-based. There’s a broad role. And they understand some of the places where they might need to look and where they might need to have access to information; how they might need to be scanning. And we used experienced operators because they would understand the value of some of the enhancements in the context of that role.

LCDR GRACIE: Unlike test pilots, you’re saying?

COL LYNCH: I’m thinking that there’s a level of role proficiency that possibly a test pilot who wasn’t executing that function or wasn’t up to speed on that role might not have. But the evaluation was conducted with those representative operators to make sure we were actually moving in a direction that was positive for them. So, essentially, I wanted to get to a position where they kind of had the reins to say, “Is this going to help us, or is this not going to help us?” Whatever answer they gave was going to be the right answer.

45

5 LCDR GRACIE: One of the test pilots on which you relied in the OPEVAL made certain comments in the OPEVAL, in the table. But one that was important was that he was unable to test the symbology at night. He didn't get to do the night sortie, and so many of the matters that he had to look at – if you want to look at Annex B to the OPEVAL, I'm looking at the last column on the right.

COL LYNCH: Sorry, what tab is that? Sorry.

10 LCDR GRACIE: Annex B of the OPEVAL.

MS McMURDO: It's tab 6, yes.

LCDR GRACIE: Sorry.

15 COL LYNCH: Got it, thank you. Yes, got it.

LCDR GRACIE: My apologies. Mine is not tabs, so I can't help you there.

20 COL LYNCH: So Annex B, sorry, just moving to it. So which - - -

LCDR GRACIE: Far right column.

25 COL LYNCH: Near the Table B2, are you?

LCDR GRACIE: Yes.

COL LYNCH: Which line in particular, or are you just looking at - - -

30 LCDR GRACIE: Mr Norton, or was it LTCOL Norton?

COL LYNCH: Yes, correct. So end?

35 LCDR GRACIE: Yes. He was probably, of those pilots, the most qualified in terms of having test pilot experience?

COL LYNCH: So test pilot experience, he was less experienced than LTCOL Langley, but more proficient on MRH-90 because he was a previous senior Instructor MRH at SAA.

40 LCDR GRACIE: Well, I think LTCOL Langley only has about 223 hours on an MRH-90.

COL LYNCH: I'm not going to contest that. You've probably heard that in evidence. So I haven't checked PEX. Most of his experience is Tiger. Sorry, which particular line item are you after? Serial - - -

5 LCDR GRACIE: Well, I'm looking at the right-hand column and it says:

What issues did you encounter when operating?

Let's look at serial 2.

10

COL LYNCH: Serial 2, yes.

LCDR GRACIE: He said:

15

It was beneficial during DVE ops; however, the HUD info would provide extra SA –

what's "SA"?

20

COL LYNCH: Situational awareness.

LCDR GRACIE: Yes:

25

on immediate attitude/aircraft performance whilst transitioning to –

what's "FND"?

30

COL LYNCH: It's an MRH term.

LCDR GRACIE: Okay, that's all right.

35

COL LYNCH: Hang on. No, I don't know. I can take it on notice. I could probably find out. But off my head, I don't know.

LCDR GRACIE: I mean, if we have a look at serial 4, it's really coming back to what we were talking about before:

40

Did the new symbology clutter or obscure the overall outside view scan at any time? Please describe.

COL LYNCH: So you're looking at serial 4 now?

45

LCDR GRACIE: Yes, just jump down to 4:

Nothing directly observed by day; however, may pose an issue during red illumine –

that's less than two millilux?

5

COL LYNCH: Correct, yes.

LCDR GRACIE:

10

– if the symbology is too bright.

COL LYNCH: Yes.

LCDR GRACIE:

15

Difference in HUD clutter in 5 compared to 4, was immediately obvious - - -

COL LYNCH: Yes, which is - - -

20

LCDR GRACIE:

25

- - - but I am sure it will not pose any extra risk to safety. It can be trained for. Pilots with no version 4 background will not ever know the difference.

COL LYNCH: Yes.

30

LCDR GRACIE: But that comes back to the point that we were discussing before, if you've got a full visual horizon, you are not looking at the symbology, it's not going to clutter or obscure your outside visual scan because, as you say, you're ignoring it because you're focusing on your visual attitude, it seems.

35

COL LYNCH: There's actually a range of other issues that come out in here, that come out in the OPEVAL report. And it talks a little bit about your in-symbology brightness.

40

LCDR GRACIE: Yes.

45

COL LYNCH: So I think at serial 4 it talks about, "This symbology is too bright". So one of the enhancements that came out in 5.10 was that – and it talks about it there – the decluttering of the centroid, and so getting rid of potentially cluttering information and actually, in some cases, moving it; in some cases getting rid of it altogether. The declutter modes obviously help

with that, in terms of opening up the centroid to allow you to see the outside scene.

5 And one of the other things that came out in the OPEVAL report, which was subsequently picked up in the response to OPEVAL report from AATES, was the fact that the symbology brightness control – and not having that brightness control on hand on collective and stick, on the HOCAS controls, like was on Tiger, was an issue that should be resolved.

10 So this is some good information coming out that relate to things that we can do to further improve that system that, for me, should've been a priority. And actually, you know, were now recorded, picked up by AATES, agreed that that was a way forward and we're starting to inform where we could actually apply our, you know, sometimes limited effort to
15 generate best effect.

LCDR GRACIE: Can you assist me and the Inquiry, hopefully, with this? Where is the jump made from the flight limitations, the test plan limitations, to the Service release without those limitations? Where is that jump made?

20 COL LYNCH: So there's a confluence here of factors. So the presumption here is that the flight limitations that have been imposed by DoSA-FT for this activity is because of 5.10. But it's not. It's actually because of – and this is outlined in the SO approach report – because of a
25 combination of 5.10 and the visual acuity in the current then generation Image Intensifier Tubes in the TopOwl helmet. So conflation of issues, most of the restrictions that were applicable in terms of, you know, the light conditions and all those sorts of things actually had to do with visual acuity, not necessarily the symbology set. Because the symbology set, in most
30 instances, enhanced information available to understand in an environment where your visual acuity was relatively low.

So it's already pretty low under night-vision goggles. In low visibility or in low illumination conditions, it's even worse and the symbology becomes
35 more important. But, you know, the key element is the restrictions aren't singularly being applied to 5.10; they're being applied in combination to 5.10. And the visual acuity limitations are articulated in the SO approach report.

40 So those two things are together because we're talking about an integrated helmet. You can't just split out one little bit of it, because it's an integrated helmet.

LCDR GRACIE: I appreciate that you're saying that there's a confluence
45 of events, but one of the conditions was – forget IITs - - -

COL LYNCH: No, you can't forget IITs; it's part of the integrated helmet.

5 LCDR GRACIE: You can forget IITs - - -

COL LYNCH: No, you can't.

10 LCDR GRACIE: Well, let me just finish the question. When using full symbology, there must be a visual horizon?

COL LYNCH: Yes.

LCDR GRACIE: You don't need the IITs for a visual horizon, do you?

15 COL LYNCH: You don't get a visual horizon without IITs. They're Image Intensifier Tubes, they allow you to see.

LCDR GRACIE: Assuming you're flying at night. What about day?

20 COL LYNCH: Yes.

LCDR GRACIE: You're not using them in daytime.

COL LYNCH: No.

25 LCDR GRACIE: So let's just focus on the fourth of these five limitations I've put:

When using the full symbology, there must be a visual horizon.

30 That's pretty significant isn't it, in terms of a limitation?

COL LYNCH: It is a limitation routinely imposed on a flight test activity. Yes, it's a limitation. You're trying to draw something out of this which is

35 – it's not abnormal to have limitations imposed to a flight test activity to contain the scope of that activity.

LCDR GRACIE: Well, I read you what MAJ Lamb's evidence was, to the effect that in the 50 plus test activities that he's been involved in, he's never

40 before or since imposed on a testing activity the number of controls and conditions that he did, and he identified those five I took you to as being the most severe limitations.

COL LYNCH: Okay, if that's his testimony, I don't contest that.

45

LCDR GRACIE: What's your expertise as a test pilot?

COL LYNCH: I don't have any expertise as a test pilot.

5 Lcdr GRACIE: I just want to move on to a slightly different topic, if I may? And you mentioned the Navy operators who participated in the OPEVAL.

10 COL LYNCH: There was one, I believe.

LCDR GRACIE: Yes. And I think part of the OPEVAL, you're welcome to look at it, I'm just going from memory, but part of the OPEVAL emphasised the fact that the Navy had identified the upgrade as satisfactory.

15 COL LYNCH: So they were the first ones to test it in the – I think there was an efficiency component to this. They were doing the first of class flight trials and there was a rush to try and get 5.10 symbology available to them during their test activity, so they could evaluate it, so it wouldn't have to result in an additional test activity. And that was mainly because, you
20 know, access to ships and everything is quite difficult.

So that happened, from my recollection, in about March 2019. They certainly flagged that there was something that they'd seen but there wasn't, from my recollection, in their report. I think they suggested something like
25 words to the effect of, "It should be further reviewed, but at this stage our review is it's satisfactory for maritime operations". So, look, I'd have to refer to the flight test report, and I don't know if I've tendered that. But has that been tendered?

30 Lcdr GRACIE: No. It probably will this afternoon though.

COL LYNCH: The AMAFTU one?

35 Lcdr GRACIE: Yes.

COL LYNCH: Yes, okay.

LCDR GRACIE: But I will - - -

40 AVM HARLAND: Are you - - -

LCDR GRACIE: Sorry, sir.

45 AVM HARLAND: Sorry. Are you aware of the environment and set-up for that flight test from AMAFTU?

COL LYNCH: No, I'm not, sir, not specifically.

5 AVM HARLAND: Because that work, to me, would be important because they may have been operating under limitations or they may have been operating with a visual horizon or a ship or something like - - -

COL LYNCH: Agreed, sir.

10 AVM HARLAND: Which would obviously impact on the weight that you would be able to give to the finding.

COL LYNCH: Yes, sir, agreed. With that IIT configuration and the symbology, absolutely.

15 AVM HARLAND: Yes. So when that was used as part of the consideration for moving forward to Service release, did you delve into that and - - -

20 COL LYNCH: Into the flight conditions?

AVM HARLAND: Yes.

COL LYNCH: Or the test activity?

25 AVM HARLAND: Yes.

COL LYNCH: No.

30 AVM HARLAND: Okay. Okay, thanks.

LCDR GRACIE: I mean one of the things – we can go to it if you want, but one of the things in the Standing Instructions in relation to maritime operations is that when conducting ship operations at night, the flight has to be within the carrier control zone or the ship's control zone; meaning, basically, in communication with the ship.

35 COL LYNCH: I don't know what reference that's from. Is that - - -

40 LCDR GRACIE: But do you know whether that's the case or not in terms of maritime operating environment?

COL LYNCH: That would seem to be a very restricted – I don't know what context that's in because obviously when you fly from a ship you don't just stay inside the ship's control zone/flight circles, you go and do

45

things. So I don't know what context what you just read out is in. Is that a test limitation? Was that a specific activity limitation? Was that something else?

5 LCDR GRACIE: Let's be more specific. One of the things – and this is your brief for DGAVN. This is the document signed by you on the 20th - - -

COL LYNCH: 20 April?

10 LCDR GRACIE: - - - April, yes.

COL LYNCH: Yes.

15 LCDR GRACIE: I think that is the document – is it in your report?

COL LYNCH: Yes, I've got it.

LCDR GRACIE: Yes, I've got it as a standalone document, my apologies.

20 COL LYNCH: I think it's - - -

LCDR GRACIE: Is it Reference 1, I'm told?

25 COL LYNCH: Yes, Roger. Did you have a specific paragraph?

LCDR GRACIE: Well, yes, Reference A is the AMAFTU report.

COL LYNCH: Yes.

30 LCDR GRACIE: And one of the things, can I suggest – and tell me whether I'm overstating this – but one of the things in this brief that is relied upon in terms of the reporting to DGAVN to assist in the Service release of the upgraded symbology was the finding by AMAFTU that the symbology upgrade was satisfactory.

35 COL LYNCH: Yes. It's actually part of the – that's why it was included as a reference because it's relevant.

40 LCDR GRACIE: Did you see it, though, the AMAFTU report, when you cleared this brief?

COL LYNCH: I think I did. I certainly recall, I guess, some of the words in it, but I can't be definitive and say that I read it cover to cover. But it

would've been irregular for me not to have reviewed the references, so I can't be certain.

5 LCDR GRACIE: You'll see here in para 5 – what's the classification of this? I'm not sure. If you just read the first sentence of para 5 about the new symbology being satisfactory for use in maritime role environment.

COL LYNCH: Yes. Yes.

10 LCDR GRACIE: Can I suggest to you that there was a serious limitation in terms of that assessment of "Satisfactory" by AMAFTU?

COL LYNCH: You can suggest anything you want. Can you show me a reference?

15 LCDR GRACIE: Well, I just want to suggest – do you recall that there was some qualification in terms of the AMAFTU - - -

20 COL LYNCH: Yes, the words – as I said before, I understand the words were, "should be further reviewed".

LCDR GRACIE: All right. Ma'am, the AMAFTU report is an annex to LTCOL Langley's statement, which obviously hasn't yet been put into evidence. But I think it's the only source of the document so far.

25 MS McMURDO: Yes, okay. And you're wanting to ask some questions about it?

LCDR GRACIE: I was going to take the Colonel to the - - -

30 MS McMURDO: All right. Well, I'll ask you to be supplied with that. We could perhaps tender it now.

SQNLDR SCHMITT: I'm just seeing if I have a copy of that document.

35 MS McMURDO: Okay. Well, we can certainly email it to you. Is that sufficient, or do you want a hard copy?

UNIDENTIFIED SPEAKER: I've got one in my brief, so - - -

40 MS McMURDO: So we're just trying to get a hard copy of that now. What's the security classification?

45 MAJ CHAPMAN: "Official".

MS McMURDO: Sorry?

MAJ CHAPMAN: "Official" - - -

5 MS McMURDO: "Official", okay.

UNIDENTIFIED SPEAKER: "Official: Sensitive".

MS McMURDO: "Official: Sensitive." Okay.

10 MS MUSGROVE: Yes, "Official: Sensitive."

MS McMURDO: All right then. Well, it'll be a question of you, perhaps, showing it to him.

15 LCDR GRACIE: Yes.

MS McMURDO: But not actually reading out the words of the report.

20 LCDR GRACIE: There's – and I apologise, it's only an extract of the AMAFTU report, which is Ref A in the brief. It's pages 14, 15 and 45.

COL STREIT: If I can say, I experienced exactly the same issue when I first received – and I still haven't got the full version. So, yes, there's obviously an anomaly there in terms of how it was filed. But AMAFTU would have a full version on file.

25 LCDR GRACIE: Could I ask you to just have a look at – it's page number 45. It's section 6.5.1.

30 COL LYNCH: Yes.

LCDR GRACIE: And you'll see, I think I can say this much, that the suitability was limited only in the circumstance of embarked operations.

35 COL LYNCH: Absolutely. This was an assessment conducted during first of class flight trials in the maritime environment. So, absolutely, that is the context of this activity. No question.

40 LCDR GRACIE: And then if you look at 6.5.2, there's an assessment overall allowing aircrew more time eyes out.

COL LYNCH: Mm-hm.

45 LCDR GRACIE: And then it was referred to as, "Satisfactory for

embarked operations”.

COL LYNCH: Yes.

5 LCDR GRACIE: So it’s quite qualified in terms of its operating environment.

COL LYNCH: Absolutely. That was the intention of the activity.

10 LCDR GRACIE: But the brief which you cleared doesn’t say that it was satisfactory only for embarked operations. You say, “For use in the maritime role and environment” – much broader.

15 COL LYNCH: So you have to operate in the maritime environment to operate in an embarked. So, sure.

LCDR GRACIE: But embarked is generally you’ve got your eyes on the ship, haven’t you?

20 COL LYNCH: As soon as you leave the ship – okay, so embarked operations you are embarked upon the ship. You are not just flying to the vessel. Your footprint, if you like, your maintenance footprint and everything is on board the ship as opposed to ashore, and you’re going to the ship.

25 So embarked operations presumes the ship is your home. But as soon as you leave the ship, or you leave the ship’s control zone, you’re in the maritime environment. In fact, arguably, as soon as you leave the ship, you’re in the maritime environment.

30 So, sure, we can argue nuances, but the reality is that first of class flight trials are conducted in the maritime environment and they happen to be embarked at the time. So the two terms are – I wouldn’t say synonymous but very close to related.

35 LCDR GRACIE: And let’s just look at the last sentence at section 6.5.2.

COL LYNCH: Yes.

40 LCDR GRACIE: It says really what AATES says: needs some more testing on non-aircraft conformal pitch ladder.

COL LYNCH: Yes. Because they found something and they said we should investigate that. So - - -

45

LCDR GRACIE: So, really, AMAFTU and AATES are ad idem, in agreement with each other, that further testing needs to be done in relation to non-aircraft conformal pitch ladder.

5 COL LYNCH: I'd say the agreement is that there should be more testing, but they don't agree on the significance of the limitation.

LCDR GRACIE: And where is the significance of the limitation in the brief that you cleared for the information or assistance of DGAVN making
10 a decision about Service release?

COL LYNCH: Sorry, in the brief?

LCDR GRACIE: Yes.
15

COL LYNCH: In the brief, it provides that as a reference.

LCDR GRACIE: But if that's all it is, then just give DGAVN the reference. Instead, what you say is, it was the new symbology was
20 satisfactory for use in the maritime operating environment.

COL LYNCH: And - - -

LCDR GRACIE: And, with respect, it wasn't.
25

COL LYNCH: So it was. That was a statement of fact. Yes, the qualification statement was not provided in the brief.

LCDR GRACIE: Well, I mean the words "embarked operations only" that
30 appear in section 6.5.1 are pretty specific, aren't they? "Only"?

COL LYNCH: So you're talking about a difference in terminology between "embarked" and "maritime"?

LCDR GRACIE: No, I'm talking about "embarked operations only". You
35 didn't use those words.

COL LYNCH: Yes, embarked operations are conducted in the maritime environment.

LCDR GRACIE: Only?
40

COL LYNCH: Yes. Embarked operations are conducted in the maritime environment. I don't know what you're seeking here. Ships exist on the

ocean, and when you are conducting operations from a ship you are in the maritime environment.

5 LCDR GRACIE: All right.

COL LYNCH: So you can play with the nuance, but the facts are facts.

10 LCDR GRACIE: Well, I won't play with the nuance; I'll use the words that are here.

COL LYNCH: Sure.

LCDR GRACIE: It said:

15 [REDACTED]

COL LYNCH: So if you are saying - - -

20 LCDR GRACIE: Let me just finish reading - - -

COL LYNCH: - - - that it says "embarked" and it says "maritime" here, I agree with you.

25 LCDR GRACIE: Well, let me finish.

COL LYNCH: It says that.

LCDR GRACIE: I'm going to put the words exactly to you:

30 [REDACTED]

COL LYNCH: It says that.

35 LCDR GRACIE: Let me finish.

COL LYNCH: It says that.

40 LCDR GRACIE:
[REDACTED]

Well, that's a big qualification, isn't it?

45 COL LYNCH: But it just says, "Further testing" – good, yes. But - - -

LCDR GRACIE: [REDACTED]
[REDACTED]

5 COL LYNCH: I agree.

LCDR GRACIE: - - - the Special Operating environment that Bushman 83 would be flying in; correct? Yes? Do you agree with that?

10 COL LYNCH: I agree it says the first part of what you said. So it does say:

[REDACTED]

15 MS McMURDO: You probably shouldn't be reading out slabs of the report. So this document is going to be tendered later and you're going to have an opportunity to speak to people who know perhaps more about it than this witness does. Could you just try and frame any questions in more general terms?

20

LCDR GRACIE: Yes. I will come back to it.

25 What I'm putting to you, sir, is that it was entirely misleading to clear a brief that went to DGAVN for the purpose of the Service release of this upgraded symbology to simply say that AMAFTU regarded the new symbology as satisfactory for use in the maritime role and environment when Reference A put on much more serious limitations to its assessment as satisfactory.

30 COL LYNCH: Yes, I don't agree given the timeframes that were in place here. So this is an early test in March. There was a subsequent test activity in June and then there was an evaluation that happened in November, that reported in February. The first brief was generated in March of the following year, so one year later. And then the second brief, which is the
35 one you're referring to, was 13 months later. So this is an early report, right at the start of the process. By the time we got to the brief, a lot more was known about that symbology set.

40 LCDR GRACIE: Well, you've referred to it. It's there in para 5. It obviously had some relevance.

COL LYNCH: It had relevance, absolutely.

45 LCDR GRACIE: And can I also suggest that it – sir, touched on this yesterday in terms of paragraph 4 of the brief, referring to the distance to

go symbology as an essential requirement.

COL LYNCH: Which brief is this? This is the - - -

5 LCDR GRACIE: Yes, your April 21. The one you cleared.

COL LYNCH: Yes. Yes.

10 LCDR GRACIE: Para 4, Essential Requirements, sir, picked up - - -

COL LYNCH: Yes.

LCDR GRACIE: - - - the fact that that's probably overstating.

15 COL LYNCH: Agreed. Agreed.

LCDR GRACIE: All right, yes. And can I suggest also that the reference to "reassessing" in para 3(a) – and you'll see it in other parts of this brief – but the upshot of the brief, as you were taken to yesterday by Counsel Assisting, was that the AATES flight assessment was reassessed as undesirable through OPEVAL.

20

COL LYNCH: Yes, essentially. That's exactly what happened during the following activities.

25

LCDR GRACIE: Well, can I suggest that that is entirely misleading to say that it was reassessed. AATES made an assessment and did not change its assessment. The OPEVAL was not a reassessment.

30 COL LYNCH: No, it actually said - - -

LCDR GRACIE: It was its own assessment.

COL LYNCH: It said, "Reassessed by the OPEVAL". So it's pretty clear. It's pretty clear what reassessed it.

35

LCDR GRACIE: The OPEVAL had no role at all in reassessing something that AATES had already assessed. It was doing its own assessment.

40

COL LYNCH: It was under supervision by the same DoSA-FT, so it actually did have a role.

LCDR GRACIE: It wasn't under supervision by AATES. They provided a Flight Test Plan to assist.

45

COL LYNCH: Yes.

5 LCDR GRACIE: But they didn't authorise the OPEVAL. They didn't endorse it. In fact, LTCOL Reinhardt said that he repechaged it and maintained their position. So, with respect, I don't think you could really advance a proposition to say that this was done under the auspices or with the imprimatur of AATES.

10 COL LYNCH: That is not what I said. I said it was done within their supervision, the supervision of the DoSA-FT, and within the flight restrictions imposed.

15 LCDR GRACIE: With respect, they didn't supervise it. There was no AATES' person involved. They provided a test plan.

20 COL LYNCH: They understood the test plan. That is a level of supervision. And if you apply flight restrictions, that is also a supervision activity because you're boxing out the activity; it's a controlled risk. That is absolutely what was provided. Now, the execution of the activity within those limitations, it wasn't an AATES activity, I concur with that.

25 But in terms of setting the conditions for the CAT 4 activity, absolutely. You know, this was not done devoid of AATES. It wasn't necessarily supervised directly by AATES, but the DoSA-FT was involved in setting conditions that were complied with.

LCDR GRACIE: But it wasn't accepted by AATES.

30 COL LYNCH: Not true.

LCDR GRACIE: But you're saying that the OPEVAL effectively reassessed the AATES flight assessment.

35 COL LYNCH: That's what the brief says.

LCDR GRACIE: That's misleading, I'm suggesting.

40 COL LYNCH: No, it says it was reassessed through OPEVAL.

LCDR GRACIE: It's not a reassessment of AATES; it's your own assessment or the OPEVAL's assessment. It's not a reassessment. You're not downgrading the finding of "Unacceptable" to "Undesirable" in terms of the AATES' parameters.

45

COL LYNCH: So I would suggest misleading would be something like actually not talking about the “Unacceptable” at all. But it’s been included here as part of the fabric of the assessment as it progressed through this phase. So it was made very clear, in this brief to the decision-maker, that
5 this happened, and it remains that way. There was another activity, and it assessed it as this. And that is part of the journey that we’ve been on for the last 12-ish months, and it’s recommended a decision.

10 So, in terms of characterising risk, the intention of this brief was to actually – so the initial brief that went out on 20 March, it was about decision. I wasn’t comfortable – certainly during some follow-on conversations in April and after further discussions with AATES about the flight limitations and their response to the OPEVAL report, there were some changes. I wasn’t comfortable that we had properly encapsulated the activities that had
15 occurred over the previous nine to 12 months. This brief was designed to encapsulate all of that.

LCDR GRACIE: And I want to also suggest to you that in terms of a person reading this brief without all of the familiarities of the nuances of what occurred would regard the reassessment of “Unacceptable” to
20 “Undesirable” as a reassessment of the AATES’ position.

COL LYNCH: There was no one that read this brief that wasn’t absolutely kept informed of the progress of this activity all the way through. This was
25 intended for the DG and the DG was briefed, you know, at least weekly on a range of different things. Not necessarily there was an activity on this weekly, but he was informed, already, as to how this was tracking and where we were.

30 So this brief was largely about recording the decision and encapsulating it in a form that could be interrogated. He was absolutely informed. There was no person that read this brief that wasn’t actually informed about this whole activity.

35 LCDR GRACIE: And in paragraph 6, as you were in your evidence yesterday, you’re quite keen to say that the AATES testing was a very limited scope. I think you even said it was, effectively, useless.

40 COL LYNCH: I don’t think I said that.

LCDR GRACIE: I’ll come back to it later. But it was certainly a fairly disparaging assessment of AATES.

45 COL LYNCH: I didn’t use those words. They’re your words.

LCDR GRACIE: No, I'm saying it was a fairly disparaging assessment. I think you, effectively, said that it was "unhelpful", "irrelevant".

COL LYNCH: I don't think I used that word either.

5

LCDR GRACIE: "Uninformative". Well, what - - -

COL LYNCH: I'm more than happy to review the statement and if you could point out where that language is used, I'm happy to talk to it.

10

LCDR GRACIE: Anyway, we don't need to – I'll come back to it, just in fairness to you, but - - -

COL LYNCH: Okay.

15

LCDR GRACIE: And just rather than get sidetracked with that, and I apologise, if you look at para 6 you're saying that, effectively, the AATES test was of limited scope.

20

COL LYNCH: This is back to the brief? Yes, para 6.

LCDR GRACIE: Para 6.

COL LYNCH: Yes.

25

LCDR GRACIE: And you've said, in effect, that the OPEVAL was to emphasise the SO role.

COL LYNCH: Correct.

30

LCDR GRACIE: Which it doesn't, does it?

COL LYNCH: Well, it actually went to experienced operators who understand the role, and people are able to make an assessment as to whether or not there was a valued proposition in transitioning from 4.07 to 5.10; that was the intent.

35

LCDR GRACIE: But the 24 flight limitations did not replicate an expected operating environment for SO.

40

COL LYNCH: So you will never get a test activity that explores every single part of the flight envelope. It's just not an efficient way of doing business. Flight limitations are imposed to control the test activity and then findings are made in terms of its suitability in other environments. The intent here was to make sure that the operators who would operate that

45

platform in that environment, who understood the role and some of the specifics of the role, were able to assess whether or not this was going to be of value to them.

5 LCDR GRACIE: You say – if you could just read out the second sentence of para 6, “The OPEVAL increased scope in light levels” - - -

COL LYNCH: Yes.

10 LCDR GRACIE: Down to - - -

COL LYNCH: Do you want me to read it? Yes?

LCDR GRACIE: No.

15

COL LYNCH: Okay.

LCDR GRACIE: Just to yourself.

20 COL LYNCH: Yes.

LCDR GRACIE: “In high and low cue environments”.

COL LYNCH: Yes.

25

LCDR GRACIE: It doesn’t say “provided the symbology was off and in a decluttered mode”.

COL LYNCH: No, it doesn’t say that.

30

LCDR GRACIE: But that was the restriction, wasn’t it, if you were going to fly in the conditions that you’ve described in para 2?

COL LYNCH: Which were consistent with the flight condition limitations.

35

LCDR GRACIE: Yes. But the condition imposed was to require if the symbology was to be utilised in full visual horizon.

40 COL LYNCH: Yes, okay. Yes, but that was articulated in the high conditions.

LCDR GRACIE: Yes. But this doesn’t say - - -

COL LYNCH: So it's a brief. It's a brief. So at some point you have to, like, condense content to create a brief, otherwise it's no longer a brief, which is why we point to references.

5 LCDR GRACIE: But the increased scope to encompass all these things for the SO role, as you referred to it, did not say, well, that role was replicated without – provided full symbology was not used.

COL LYNCH: Correct, it didn't say that.

10

LCDR GRACIE: But this is recommending the release into Service of that symbology upgrade.

COL LYNCH: Yes, that's what it does.

15

LCDR GRACIE: And it doesn't say the one critical thing: it can't or shouldn't be used or hasn't been tested or evaluated in full symbology mode unless there's always been a full visual horizon.

20

COL LYNCH: I don't concur that that's the one critical thing, as characterised by you.

LCDR GRACIE: Well, it's not a bad one, is it? It's pretty fundamental in terms of attitude - - -

25

COL LYNCH: So what is - - -

LCDR GRACIE: - - - aircraft attitude.

30

COL LYNCH: So, what, the limitation?

LCDR GRACIE: Yes. It's a very fundamental limitation, isn't it?

COL LYNCH: It was part of the flight condition limitation, yes.

35

LCDR GRACIE: And the limitation was imposed because AATES said this was unsafe in a low visual environment or degraded visual environment because of the misleading symbology?

40

COL LYNCH: In an earlier report where they had a lot of qualifications that I can't probably read out, where it said, "There's a bunch of things we don't understand, and once we understand those, we can reassess and reevaluate".

45

AVM HARLAND: Could I just ask a question? In the briefs that went up

to DGAVN, both the one where you provided more information in the initial brief, the 20 March - - -

5 COL LYNCH: Yes, sir.

AVM HARLAND: - - - which was seeking Service release, I note that none of them actually reference the Flight Test Plan.

10 COL LYNCH: Yes.

AVM HARLAND: And neither does the OPEVAL report. I would've thought that would've been ordinary to do that because the Flight Test Plan actually contains all of those limitations. So, I guess, to get to the question, did you appraise DGAVN of the limitations that were imposed? And we've had them characterised as "substantial limitations", when this brief was going through and he was considering writing a Service release recommendation.

20 COL LYNCH: I don't recall specifically covering with him flight condition limitations on the test activity.

AVM HARLAND: Yes. And just looking at some of those limitations, I think we covered it yesterday, given the limitations that were put on the testing and the modes that were actually talked about, would it be ordinary to consider that as part of your Service release consideration put up to DGAVN whereby you would actually say, "Well, we're seeking Service release, but because of the nature of testing being quite constrained, we would recommend that these limitations are put on the operation of it in the wider sense for Special Operations", for example?

30 COL LYNCH: I think the – and this is another example of the confluence of the visual acuity issue, with the IITs and the symbology, they're kind of two things that were together. And in terms of the limitations on light levels and those sorts of things, the principal driver of those limitations was visual acuity and performance of the then current generation IITs, not the symbology.

40 AVM HARLAND: So when that Service release happened, were the new IITs - - -

COL LYNCH: They weren't.

AVM HARLAND: They weren't on it.

COL LYNCH: They weren't. They were, I think, delivered – the first versions were delivered just after that.

5 AVM HARLAND: Yes. So this Service release, the decision briefs and the recommendation to proceed, was based on the fact that the visual acuity issue still existed?

10 COL LYNCH: It still existed. I couldn't actually tell you when this modification was incorporated, but it was later.

AVM HARLAND: Yes, so going back to my question.

COL LYNCH: Yes.

15 AVM HARLAND: Given the configuration of TopOwl is – you're talking about version 5.10 with the old IITs, not the improved visual acuity ones.

COL LYNCH: Yes.

20 AVM HARLAND: Would it be a normal consideration to appraise DGAVN of those, the limitations of the flight test, and potentially suggest Service release limitations?

25 COL LYNCH: So the answer is yes, sir. But I don't know – I'm pretty sure we already had some limitations in SIs with regard to light levels.

AVM HARLAND: Yes.

30 COL LYNCH: We certainly have, you know, environmental condition limitations and normal restrictive conditions on how you operate the aircraft. So this is a cross-over with extant restrictions on operations, as opposed to specific restrictions that related to a modification. So I would have to, to properly answer the question, go back to the version of SI AVNOPS that existed at that time and look at the restrictions that were
35 already in place, and any attendant SFIs because they apply restrictions based on operation performance of systems, and I don't recall those.

40 But that is part of the fabric of the environment where restrictions may have already been in place or likely already in place. And so additional requirements didn't need to be heaped on top of that.

AVM HARLAND: So things like the sort of declutter mode in a particular environment?

COL LYNCH: So that specific information probably wasn't in an existing restriction, but the visual acuity performance and restrictions on visibility restrictions, et cetera, for TopOwl performance possibly were.

5 AVM HARLAND: Yes, because it would seem to me that if we had these
restrictions in the flight test, which are done for a reason – and we've talked
about the brightness sometimes getting in the way of your ability to see
integrated visual environments through the IITs – then it would seem to me
that it would be important to consider that as we move forward and make
10 the TopOwl version 5.10 with the old IITs available to the wider operating
crew who would be operating in environments that are beyond what the
flight test operated in and more challenging.

COL LYNCH: Yes. On the face of it, absolutely. There's a number of
15 factors that were playing out during Plan Palisade: Black Hawk was still in
Service; relatively few aircraft in 2019. Plan Palisade had only just started,
so the aircraft were still being delivered and people still being
qualified. Still, you know, very slowly working up to actually provide the
role, so it wasn't a full-role organisation. And I can't recall the actual time
20 line, but Black Hawk was still holding the SO capability.

So there was a very slow build-up in capability with the MRH-90 as it came
into Service. And the intention of Plan Palisade was that it ran from 2019
through to 2021. And by the end of 2021, we had the new IITs. A lot of
25 the modifications had been completed. There was some issues with, you
know, cabin configurations and things like that.

But, basically, that process was stepping over a long period of time. And
modifications had been incorporated at different times, but the capability
30 that was being delivered, was, you know, basically congruent with the
capability and, you know, equipment steps. So it wasn't a – you know, the
brief came out. The aircraft was immediately upgraded to 5.10 and people
started flying with no restrictions but that wasn't how things played out.

35 You know, I don't have, off the top of my head, when that incorporation
approval was achieved. But the process between going to CASG and
saying go to Service release, that was typically a three, four, five, six-month
process to actually get the incorporation done, get all the engineering
paperwork done, provide all the – the evidence pack, go to a Configuration
40 Control Board, get Configuration Control Board approvals, and then plan a
fleet upgrade, you know, of 47 aircraft where you modified every single
aircraft with the configuration. So it didn't happen straight after, it
happened somewhere down the track.

45 AVM HARLAND: Yes, understood. But the passage of time doesn't

really change the nature of the restrictions that the flight test was operated under and its relationship to Service release, which had no restrictions.

5 COL LYNCH: That's correct, agreed.

AVM HARLAND: Okay, thanks.

10 LCDR GRACIE: I'll just pick up on some things. I won't be much longer, ma'am.

I just want to pick up on something that I put to you earlier. Your evidence was to this effect in terms of the AATES report. I said you made some disparaging comments - - -

15 COL LYNCH: Are we in my statement now?

LCDR GRACIE: No, just your evidence yesterday. You said that it was technically deficient. Is that - - -

20 COL LYNCH: It didn't address all of the points that I expected it would address because of the scope of the changes in HMSD 5.10.

LCDR GRACIE: Was it technically deficient?

25 COL LYNCH: It was deficient in it didn't report on the full scope of activity.

LCDR GRACIE: Right.

30 COL LYNCH: So I won't speak to the term "technical" because that relates to a flight test assessment, I'm not qualified to make that assessment. It did not give me sufficient information to carry that forward and give a full-scope risk assessment of this in comparison to something else. I needed more information.

35 LCDR GRACIE: Full scope aside, in terms of performance capability, just in terms of the risk it identified, did you regard that risk that it identified as unacceptable to be technically deficient?

40 COL LYNCH: At that point – so this is when it was first delivered to me? No, not necessarily.

45 LCDR GRACIE: You said, "It was a narrow report with not much substance in it".

COL LYNCH: It was, what, four or five pages, not too far. It focused on things that captured them. It didn't actually do what – you know, if you read another example of a flight test report that was full scope, the SO approach example, where it went through and you typically get a long table list of the things that are really, like, “Not good”, “Unacceptable”, et cetera, and then you get an assessment of all the other systems. And what that does is it provides a really clear understanding of, “Right, so this is stuff we can live with. This is stuff we should change, and that will happen over a longer period of time, or we initiate a configuration change more deliberately via contract with that block of thing. This stuff, well, we really need to get after that straightaway or consider”.

So what I didn't get was this full scope of what do I actually need to do. I think in my statement I listed out the key outcomes, which is only an excerpt from the SO approach flight test report, which was pretty comprehensive, right. It gave a long list of things that needed to be done. I was kind of expecting the same thing from that test report to say, “Well, what do we need to do? You know, is this, you know, of value? Do we need to do anything to sort it out?” It started to make some recommendations, but then it stopped.

LCDR GRACIE: But in terms of what you described as a narrow report, with what it dealt with in that narrow confine, it was pretty clear, wasn't it?

COL LYNCH: It was clear, yes.

LCDR GRACIE: And just in terms of your evidence yesterday that you said there were other things out there more important than version 5.10. In the context of what we're dealing with here, and this upgrade being put into Service release, what was more important at that time?

COL LYNCH: Okay. So at the time this was delivered, there were two safety investigation activities underway. One of them – so at about the same time as this test activity actually occurred, we had a Tiger that had a wire strike at Oakey and that required us, in the same week that this was delivered, to generate and get signed an Investigation Instrument of Appointment for Defence Flight Safety Bureau to investigate that activity. So that was a priority of effort.

We already had one internal investigation on a Black Hawk engine high-side failure that had occurred about a month before in mid-May, I understand. So that was running.

And then very shortly after this report, I'm going to say – I can't think of the date – it was probably about a month later we had a near tail rotor failure

on an MRH [REDACTED]
[REDACTED]. So it nearly related to a pretty significant event. So that also became a DFSB investigation.

5 So at about the time this was happening, there were two and then moving onto three.

MS MUSGROVE: [REDACTED]
[REDACTED]

10

MS McMURDO: [REDACTED]

MS MUSGROVE: [REDACTED]
[REDACTED]
[REDACTED]

15

MS McMURDO: [REDACTED]

MS MUSGROVE: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

20

MS McMURDO: [REDACTED]

25

MS MUSGROVE: [REDACTED]

MS McMURDO: [REDACTED]
[REDACTED]

30

COL LYNCH: Sure, ma'am. Apologies.

MS McMURDO: - - - positions, rather than - - -

35 MS MUSGROVE: Thank you.

MS McMURDO: Thank you.

MS MUSGROVE: And I apologise for interrupting.

40

MS McMURDO: So we can resume the hearing now [REDACTED]
[REDACTED]

45

LCDR GRACIE: I appreciate that there were other things on your mind, but when - - -

COL LYNCH: There's more to the answer. So those activities were on the safety investigation side. So from the perspective of – because they were incidents, there's enormous amounts of good information to be drawn from incidents through their investigation that we can use to enhance the system. So that became a point of focus.

In the background, we also had our Standard Airworthiness Review routines through the Airworthiness Board process that happens throughout the year. So we were working and preparing for that. But certainly the load in the safety investigation space was pretty consuming. Standards were doing their audit activity as well as managing the OPEVAL that has been discussed.

So a fairly significant body of work, and Plan Palisade existed on top of that. There was a context here where there were things that were probably more pressing from a safety perspective in terms of investigating incidents to make sure that there weren't things that we were already doing that were endangering our people.

So that was a point of focus suffice to say, and that was one of the reasons why the testing – the OPEVAL process was delayed.

LCDR GRACIE: Still though, in terms of safety, and in preventative terms – I appreciate that a lot of what you were dealing with is in dealing with matters that have already occurred. This was a preventative matter that was being raised to prevent the risk identified by AATES of multiple deaths occurring by a controlled flight into terrain. And can I suggest to you that there might have been other things that occupied your time, but for other things to be more important than that finding, can I suggest, means that you were perhaps distracted by those other things when assessing the AATES report?

COL LYNCH: I didn't say it was more important.

LCDR GRACIE: Yes, you did.

COL LYNCH: It's of equivalent importance.

LCDR GRACIE: You said, "Other things out there more important than version 5.10".

COL LYNCH: More important at that time.

LCDR GRACIE: So that's the point of my question. Do you think that, in hindsight, because of those other more important things, you gave less attention to the findings by AATES and their significance than you might have otherwise done?

5

COL LYNCH: No, as I just said, it was because it was of greater importance to, you know, get – after those immediate investigations, the OPEVAL activity was delayed. So it didn't occur until November, as a result, because we ended up being consumed with other things. So we couldn't get to that at the speed that I would've liked to have got to it, which was straight after the test report was dropped. So it meant that we had to switch effort, focus on the investigative activities and the normal routine.

10

And then, by November, we were able to spool up and actually execute the OPEVAL activity. So it led to delay and reallocation of resources as opposed to a reduction in importance.

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LCDR GRACIE: And that delay though, then caused some pressure to get the upgrade into Service release so that it could be available for the Special Ops Qual Course in May 2020?

20

COL LYNCH: I don't recall that being a pressure point that I was aware of. I just wanted to get the activity done because it was part of the – you know, it was about closing out issues. You know, there was an issue identified. We needed to, you know, pull it together, push it to decision – I didn't really care what the decision was – and then put it behind us and move on to the next thing, because there was a long list of things to get after with Plan Palisade.

25

LCDR GRACIE: When this was presented, this brief of 20 April 2020, was presented to BRIG Fenwick, I see that he signed it on 21 April, the day after it goes.

30

COL LYNCH: Mm-hm.

35

LCDR GRACIE: Did you have discussions with him about it? Was it just a paper exchange?

COL LYNCH: No. Routine conversation. So we had a weekly sync where I would update him on all of the issues. I had an expectation that DACM, who was – I was positioned in Sydney, next to the Accountable Manager and provided him direct advice. Everybody else was in Canberra. So DACM had regular and routine access to the DG to discuss these issues.

40

5 I can't speak to it specifically, but I'm almost certain that he was well
briefed by DACM on how things were going and there were routine
activities to keep him informed on how Plan Palisade was progressing.
There was a two-star senior leadership group – steering group, sorry, that
was tracking Plan Palisade, so that basically across the board all of these
issues were elevated and briefed up to the two-star level, and DGAVN was
involved in that process as well.

10 So he was informed enough to know what was going on but also informed
enough to brief up during those steering group activities.

15 LCDR GRACIE: So I take it you were aware that DGAVN, in your
weekly meetings, had already initiated in a minute to COL Andrew Thomas
the release or introduction into Service of the upgraded symbology?

20 COL LYNCH: Absolutely. From 20 March, absolutely, yes. I mean, I
was consulted during that brief. I obviously didn't generate the brief, but I
was aware that it was going up. Part of the reason why the brief was written
from me, the previous – sorry, a month later is there were some pieces in
that that I thought were missing in terms of giving that full risk picture to
the DG to inform his decision, and I wanted that on record.

25 But also there had been ongoing conversations with AATES as a result of
their response to the OPEVAL report and we were looking at one of the
controls around use of the go around mode. And there was certainly a lively
conversation about engagement envelopes and whether or not, under all
circumstances, go around mode would be an appropriate risk control. And
that's, essentially, use of an upper mode, an AFCS upper mode, to initiate
a recovery.

30 And, basically, after some initial testing, there was an acceptance that there
was a flight envelope restriction, so we agreed to remove that as a control.
And because of the change in circumstances, that brief was intended to
update the DG to make sure he was clear that the circumstances had
changed.

40 LCDR GRACIE: Could I perhaps rephrase it a little bit differently and
suggest this. You were aware that, on 20 March, DGAVN had sent a
minute to COL Thomas authorising the introduction to Service of the
upgraded symbology; is that right? You said 20 March?

COL LYNCH: Yes, so the 20 March brief, I didn't include it as a
reference, but I was certainly aware of it because I was consulted, yes.

45 LCDR GRACIE: So you knew about that?

COL LYNCH: Yes.

LCDR GRACIE: A month later, you cleared the brief to DGAVN.

5

COL LYNCH: Yes.

LCDR GRACIE: Can I suggest that that was, in part, because there was still some agitation by people at AATES about the way the OPEVAL had circumvented the AATES assessment?

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COL LYNCH: No, it was specifically – in fact, if I can go to the – I think it's in the AATES response.

LCDR GRACIE: Just tell me if it was or wasn't.

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COL LYNCH: No, I'll actually point to specifically what it says, the AATES response. Here it is, it's tab 4, and I'll tell you exactly what my initiating – there we go, so it's in para 6:

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[REDACTED]

So that was the lively conversation that came out of that report - - -

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UNIDENTIFIED SPEAKER: Stop - - -

LCDR GRACIE: Yes, but that's what Counsel Assisting can do. It's not for me to stop the evidence.

30

UNIDENTIFIED SPEAKER: So you've got the document – but you need to show responsibility - - -

LCDR GRACIE: I don't have the document. He's got the document.

35

MS McMURDO: So, sorry, there's a security - - -

COL LYNCH: So tab 4, ma'am.

LCDR GRACIE: I'll clarify. I didn't go to the document; the witness has. I'm not even looking at the document.

40

MS McMURDO: All right. Well, you can't read it - - -

LCDR GRACIE: So if there is a security issue - - -

45

MS McMURDO: It's obviously at a classification that it can't be read out in public. So let's start this again. What's your question?

5 LCDR GRACIE: The question was whether or not the brief that postdated the minute from DGAVN was intended to deal with concerns that were extant by AATES, because AATES felt that the OPEVAL had circumvented their process?

10 COL LYNCH: So the report that I won't specifically read out is - - -

MS McMURDO: No, well, you can refer to paragraphs of it and lines if you wish.

15 COL LYNCH: Yes, okay. So at tab 4 – my tab 4, para 6, he talked about that control. It was delivered on 16 March, then there was the brief of 20 March. The conversation was still ongoing post 20 March about whether or not that limitation was appropriate. Then there was some cooperative test activity where there was a, “Let's go and fly together. Let's work out whether we agree?” And out of that, it was a case of, “All right, we concur that that's probably not a good control”.

20
Then there was a step that removed it from the STANMAN, so it wasn't a control anymore. And because that situation had changed, I saw fit to put a brief up to say it's changed, because that meant that the DG was kept up-to-date with a change that had just been made which postdated his decision of 20 March.

25
LCDR GRACIE: But he'd already made the decision.

30
COL LYNCH: Yes, but he was now informed that there had been a change and he got a chance to revalidate whether or not he was still comfortable with that decision, given the changed circumstances.

35
LCDR GRACIE: Just tell me what the changed circumstances were?

COL LYNCH: The removal of the go around mode as a control because of the engagement envelope.

40
LCDR GRACIE: And, really, that's just paragraph 12?

COL LYNCH: Yes, that was the main change.

45
LCDR GRACIE: That's it.

COL LYNCH: And there was also – in that context, I added some content to that brief that probably laid out in a little bit more succinct terms exactly what had occurred in my view compared to the brief on 20 March, just so that I could be comfortable that the DG was fully informed of the circumstances and what had transpired over the previous sort of 12 months.

LCDR GRACIE: But the purpose of the brief, para 1, makes no reference to what you've just said about its purpose about the change to the go around mode. Do you agree it makes no reference to it, if you have a look at it.

COL LYNCH: Well, it makes absolute reference to it on page 2 in the brief. I'm just looking at para 12.

LCDR GRACIE: Page 3, para 12.

COL LYNCH: Let me have a look.

LCDR GRACIE: That's what I just took you to earlier. I said it's in para 12, but the brief does not purport to be a brief to update the DG about the go around mode.

COL LYNCH: I can't read it. Yes, can I read this one?

MS McMURDO: Well - - -

LCDR GRACIE: To yourself, yes.

MS McMURDO: Yes, to yourself. You can't read it out, apparently.

COL LYNCH: I think that's pretty clear, what the purpose is.

MS McMURDO: Well, that's your answer. Well, the documents can speak for themselves. That's your answer, that's all right, thank you.

LCDR GRACIE: Can I suggest that the whole point of this brief was, in effect, a postdated justification for the introduction into Service that had already occurred?

COL LYNCH: No. I just told you what the brief was for. The situation had changed and I felt a need to update the DG, so he was clear on the risk environment as pertained to a decision that he'd made on 20 March. So rather than let the circumstances change, but he was briefed in on circumstances that pre-dated 20 March.

I felt it was my responsibility to make sure he was reasonably informed as

a decision-maker and give him the opportunity to review that decision or seek more information if he wanted to.

5 LCDR GRACIE: Can I suggest you've just made that up? That is completely false. You were not updating the DG in relation to what's in paragraph 12; you were doing what you stated to be the purpose in paragraph 1, to be the brief and the recommendations. That's the purpose of this brief. You made no reference in the recommendations to the go around issue.

10

COL LYNCH: But it's in the brief.

15 LCDR GRACIE: This is a postdated justification for the decision already made to release into Service of the upgraded symbology. That was solely dependent on the OPEVAL.

COL LYNCH: That's not my testimony; that's yours.

20 LCDR GRACIE: I'm saying that your testimony is false; that the decision to introduce this upgraded symbology into Service was solely based on the OPEVAL, nothing else. Do you agree with that?

COL LYNCH: No.

25 LCDR GRACIE: And that it was only later that this further justification in relation to the AMAFTU report and other matters such as the go around mode change were briefed to the DG.

COL LYNCH: Don't agree.

30

LCDR GRACIE: There's only one final matter, ma'am.

35 MS McMURDO: Yes, could I just clarify? So this document is "Official: Sensitive" level, is it? This isn't marked.

40

LCDR GRACIE: No. My learned friend is talking about the AATES response, which I'm not, and the witness is. I'm talking about the brief, 20 April, which is - - -

40 COL LYNCH: It's tab 1, ma'am.

MS McMURDO: Yes. That's what I was looking at. So it's just a bit confusing as to - - -

45 COL STREIT: The AATES document is at the "Official: Sensitive" level.

The brief to the DG of April is at the “Official” level.

MS McMURDO: So can be - - -

5 COL STREIT: And it’s important – I’m not critical of my friend – but it’s
important for all Counsel to properly identify the document they’re
referring to. And if the witness goes into evidence where they’re talking
about “Official: Sensitive” information because they’re confused or they’re
10 wanting to say something is to stop the witness and make sure the record
accurately reflects what the evidence is.

MS McMURDO: Yes, that’s all right. Well, I had misunderstood that – I
15 thought there was some suggestion now that this document was “Official:
Sensitive”, and it wasn’t marked as such in my papers so that was causing
me some confusion.

LCDR GRACIE: Same, ma’am.

MS McMURDO: Yes, all right then.

20 LCDR GRACIE: Can I just take you, while we’re on that brief – it’s the
last matter I want to ask you about, sir. If we look at para 8 of the brief, I’d
just like your help in understanding some of the technical aspects of
this. As I read this, the version 4 pitch and roll information is a conformal
25 symbology or conformal display.

COL LYNCH: Yes.

LCDR GRACIE: And that means that the information is, what, fixed
30 forward along the axis - - -

COL LYNCH: Fixed in space, longitudinal axis to the aircraft.

LCDR GRACIE: And that’s the forward-looking concept that we’ve got
35 in determining the attitude that you’ve talked about?

COL LYNCH: Correct.

LCDR GRACIE: Does it mean that in the off-axis situation, it’s a
40 non-conformal pitch roll scale?

COL LYNCH: Well, it doesn’t represent. So in a conformal case, it’s
captured to the front. So it’s very similar to a fixed HUD, Head-Up
Display, symbology where you have to look forward to see. So it’s a virtual
45 version of that. With a non-conformal, it means there’s still some

5 symbology that remains fixed out the front, like your velocity vector because that relates to aircraft movement and trend and so it's still presented out the front, but there's an element of pitch information that changes from a longitudinal – or, sorry, a pitch axis representation to a horizon representation if you're like at 90 degrees. So basically the – and I can't talk to the document, but there's – because I think of the classification – is yes, horizon information is always accurate. Pitch information is not accurate if you're looking that way, but the aircraft is still doing essentially - - -

10 LCDR GRACIE: Just for the record, when you said “that way”, you were looking left 90 degrees?

15 COL LYNCH: Yes, not left 90 or right 90.

LCDR GRACIE: And when you said “the aircraft that way”, that's - - -

COL LYNCH: Yes, that's – sorry, straight ahead. Yes.

20 LCDR GRACIE: It's just a bit hard on the transcript to - - -

COL LYNCH: Yes, got it.

LCDR GRACIE: - - - to work out how that fits.

25 COL LYNCH: Yes, apologies.

LCDR GRACIE: So I just want to try and tease this out. So we've got the conformal display, which is the version 4?

30 COL LYNCH: Correct, 4.07, yes.

LCDR GRACIE: We've got – it's a conformal display on the upgraded symbology if you're only looking along axis?

35 COL LYNCH: It's not conforming, but the pitch information and the velocity vector information is correct if you're looking straight ahead.

LCDR GRACIE: So it's a non-conformal one, but it's - - -

40 COL LYNCH: It's a non-conformal display, but it's accurate looking straight ahead.

LCDR GRACIE: Okay.

45

COL LYNCH: So a key sort of element of information is what you get looking out the front is you'll get horizon, you'll get pitch ladder, but you'll also get velocity vector referenced to horizon. So you'll be able to measure – like, for example, if you had a five degree rate of climb, you would be able to measure the velocity vector against a five degree indicator on a pitch scale and understand that you are, you know, in a five degree climb or descent.

The only place you can measure that is out the front because as soon as you turn your head off-axis, the pitch scale separates from velocity vector, so now they're not related any more. So the only place you can get a pitch understanding in terms of your trend is looking straight out the front. All of it doesn't come around, only some of it does. And certainly all the peripheral information, power, you know, RADALT, IVSI, any of the other information, including line of sight, because you get a line of sight indicator from where the other pilot is looking. That all is captured with your helmet as your head turns.

LCDR GRACIE: Is that also known as the body axis concept that changes?

COL LYNCH: Yes, I guess your – yes, is that referenced somewhere that I can read?

LCDR GRACIE: No, don't worry about it.

COL LYNCH: Yes.

LCDR GRACIE: I'm just trying to get an understanding of where – there is some material dealing with conformal and non-conformal displays, and I'm trying to work out where the upgraded symbology fits into that. Is it a non-conformal or conformal display?

COL LYNCH: Sorry, non-conformal.

LCDR GRACIE: Non-conformal.

COL LYNCH: And there's head-stabilised and head-tracked and that's referred to in, I think, one of the references I provided, which is the DSDG report, or DSTO it was at the time, a report that talked about the various different types of display and the advantages and disadvantages of them from a research perspective. So head stabilised is what we're talking about as conformal here. Head tracked is non-conformal.

LCDR GRACIE: All right, thank you. It's just something I wanted your

assistance with to understanding something.

COL LYNCH: Okay.

5 LCDR GRACIE: Not anything else.

COL LYNCH: Sure.

10 LCDR GRACIE: Thank you, ma'am. Thank you, sir.

MS McMURDO: Are there more applications to cross-examine? You've been going for a long time.

15 COL LYNCH: I just need a bathroom break, if that's okay, ma'am.

MS McMURDO: Absolutely.

COL LYNCH: Yes, and I'm happy to push on.

20 MS McMURDO: I think a few of us might. All right, we'll have a 10-minute break. Is that sufficient?

COL LYNCH: That's good, thank you, ma'am.

25 MS McMURDO: Thank you.

HEARING ADJOURNED

30

HEARING RESUMED

35 LCDR GRACIE: There was one matter I forgot to take the Colonel to. I've asked if Exhibit 100 could be made available to the witness. It's the statement of BRIG Thompson. It's not his actual statement that I want to use, it's the Standing Instructions that are part of Annexure E to that.

40 MS McMURDO: All right then.

LCDR GRACIE: I can find the page if - - -

UNIDENTIFIED SPEAKER: You don't have that either?

45 MS McMURDO: Okay, so someone's taking responsibility to - okay

thanks for telling me that. I haven't got that far yet. What number is he? Sorry, no, but which number statement is it?

5 LCDR GRACIE: We will find it. COL Thompson, is it?

MS McMURDO: Yes.

LCDR GRACIE: Annexure E.

10 MS McMURDO: Which statement number is he?

LCDR GRACIE: Page 7.

15 AVM HARLAND: Thompson.

MS McMURDO: Yes. Szczudlo, Jordan? I must be getting close. Thompson, right. And it's - - -

20 MS MUSGROVE: I'm sorry, I'll just remind by my friend about the security classification on that document.

MS McMURDO: Yes. Yes, thank you. I think that's been – and we don't have all those. That's here. Great, okay.

25 LCDR GRACIE: Sir, it will be page 7-103 of that Standing Instruction. Thank you, yes.

MS McMURDO: Hopefully, SQNLDR Schmitt, you've got - - -

30 UNIDENTIFIED SPEAKER: I gave the witness it, sorry.

MS McMURDO: Does SQNLDR Schmitt have a copy?

35 SQNLDR SCHMITT: I'm sourcing one, thank you. Cheers. Thank you.

MS McMURDO: He's got one now. Okay, thank you.

40 LCDR GRACIE: Sir, you'll see that that's an extract from the – well, accept from me, if you don't mind, that it's an extract of the Standing Instructions that were current as at July 2023.

COL LYNCH: Two thousand and?

45 LCDR GRACIE: Twenty-three.

COL LYNCH: Okay, so current.

LCDR GRACIE: And just refresh your - - -

5

COL LYNCH: Sorry, do you have a copy that was current at the time?
Because there's a - - -

LCDR GRACIE: Current at the time of?

10

COL LYNCH: At the time that we're discussing here because there's a –
this is likely to be DASR compliant. I'm not sure whether we had gone
through an updated this for DASR at 2019 because we were still in
transition. So, actually having something probably earlier than eight or
15 nine.

LCDR GRACIE: Yes.

20

COL LYNCH: They would be the version that would've been referenced
at the time, not the version that existed four years later.

LCDR GRACIE: Okay. Just have a look at this and we can – won't hold
you to the dates – we can find out whether there's any differences in the
timing of things. I just want you to have a look at this page.

25

COL LYNCH: Sure.

30

LCDR GRACIE: I appreciate it's only an extract. Again, mindful of the
classification of this, could I just ask you to focus on para 1 in terms of what
it says in relation to operational testing evaluation. And I think, based on
your earlier evidence about the OPEVAL not having a test component,
you'd agree that this is not dealing with an OPEVAL, it's dealing with
testing either by AATES or OT&E practitioners? Would you agree with
that?

35

COL LYNCH: Yes, absolutely.

40

LCDR GRACIE: We're not in the territory of OPEVAL, are we? We're
talking about testing here.

COL LYNCH: So this is testing and evaluation.

LCDR GRACIE: Yes.

45

COL LYNCH: Yes.

LCDR GRACIE: It's not referable to an OPEVAL, is it?

5 COL LYNCH: Well, Operational Test and Evaluation has Operation Evaluation as part of it; it's just the test component.

LCDR GRACIE: But it doesn't come under the OT&E of the Standing Instructions, does it?

10 COL LYNCH: Well, technically it did because it was classified Category 4 flight test with flight conditions imposed by the DoSA-FT. So, again, this was an area where there was – I recall at the time there was – there's some provisions. And I think I put it in my statement in terms of defining CAT 4 flight test.

15 LCDR GRACIE: But it doesn't matter - - -

COL LYNCH: In the - - -

20 LCDR GRACIE: - - - anyway, does it, because you've relied upon the German MAA for the test component?

COL LYNCH: So if you just let me go to the definition and I'll explain exactly that point. So the DASR definition of Category 4 flight test is:

25 *Flights not classified as CAT 1 or CAT 2 on an already certified type in case of embodiment of a not yet improved design change.*

MS McMURDO: So are you reading from your statement at the moment?

30 COL LYNCH: This is from my statement, ma'am, yes.

MS McMURDO: Yes. Well, what paragraph is it, please?

35 COL LYNCH: Sorry, it's at the bottom of page 24.

MS McMURDO: Thank you.

COL LYNCH: It's a footnote.

40 LCDR GRACIE: The footnote.

MS McMURDO: All right, thank you.

45 COL LYNCH: And the note:

For this purpose, a not yet approved design change is a design for which it is necessary to fly an aircraft in order to fully verify compliance with design requirements.

5

LCDR GRACIE: Yes.

COL LYNCH: So that's the DASR definition.

10

LCDR GRACIE: Yes.

COL LYNCH: Now, I don't know what we had written specifically at the time, and I don't have a copy of that. But that, for me, in this particular instance, when we're referring to 5.10, it is an approved design change.

15

LCDR GRACIE: Because the German group - - -

20

COL LYNCH: Because the MAA, the German MAA, had already approved it. So we were in a point of confusion, if you like, where this is necessary only if this condition existed. But it didn't exist because we already had an approved design from the OEM, so which way do you go? Do you not do a Category 4 flight test and do something else, or do you stay within a test environment and do it under a level of supervision?

25

We elected to go to a CAT 4 activity even though technically it didn't require it by the DASR definition. That seemed to be a more appropriate way because in terms of any activity that had an evaluation or test component there was one organisation that oversaw that and that was AATES.

30

And I chose to use that part of the system to provide that oversight as opposed to try and recreate it somewhere else because we didn't have that additional capacity.

35

LCDR GRACIE: And I don't mean this in any disparaging way, but you kind of moulded the circumstances to fit within this Standing Instruction.

40

COL LYNCH: Well, I mean, the Standing Instruction essentially is an encapsulation of – if it was updated at the time, a DASR requirement. So DASR says you need to control these things.

LCDR GRACIE: Yes.

45

COL LYNCH: Here's your AMC and guidance material. This is our attempt to comply with that and I don't know whether that was DASR

compliant at the time. But when you go into the definitions – which were DASR definitions of CAT 1 to 4 flight test – it provided, if you like, some indicative circumstances and that didn't perfectly match the situation we had at the time.

5

Basically, what I'm saying is, we had a decision: we could go outside of the test and evaluation system or we could generally stay within it and at least have oversight. We chose the latter.

10 LCDR GRACIE: And by going outside the system, does it mean that you overcame the mandatory requirements of – just read it to yourself again – para 3(a) and the first note there.

15 MS MUSGROVE: I object to the question because it's not correct. Firstly, what the witness has been given to read wasn't operational at the time, so it's not relevant.

MS McMURDO: Is that clear, that it was not relevant?

20 MS MUSGROVE: That's my understanding.

COL LYNCH: (Indistinct), ma'am, it's dated 2023. So it's - - -

25 MS MUSGROVE: And, secondly, the witness's evidence was he had two choices: one to go outside, or one to stay within the parameters. And his answer was he stayed within the parameters.

MS McMURDO: Right.

30 MS MUSGROVE: The premise of the question is "that by going outside", so it's not factually correct and not fair.

35 MS McMURDO: That is confusing, I have to say. So there doesn't seem to be much point taking him to this if it wasn't what was operational at the time.

LCDR GRACIE: I don't know if it was any different at the time, that's the thing. I'm only going off the evidence that's been given.

40 MS MUSGROVE: Well, sorry, the witness just said he wasn't sure whether or not at the time it was DASR compliant because they were moving into a phase where they were incorporating the DASRs into the Standing Instructions. And so, in those circumstances, again, it's not appropriate to be asking the questions on the basis that they've been put to
45 this witness.

LCDR GRACIE: Well, I'll ask it differently, ma'am.

MS McMURDO: All right then.

5

LCDR GRACIE: If you look, sir, at para 3(a), and the first note?

COL LYNCH: Yes.

10

LCDR GRACIE: Do you know if that mandatory requirement was applicable at the time that the OPEVAL was done?

COL LYNCH: Again, I don't recall whether – there were substantive changes to this over the four years since, so I don't know.

15

MS McMURDO: Well, just to get this. If you'd assume that it was, is that what you're wanting him to do?

LCDR GRACIE: Yes.

20

MS McMURDO: We can find out later if that was the position.

COL LYNCH: Yes.

25

MS McMURDO: But if we – for the time being, for the purpose of this questioning, so LCDR Gracie can finish, let's assume that it was at the time.

LCDR GRACIE: If that was the case, did the OPEVAL circumvent that mandatory requirement?

30

COL LYNCH: So to my, I guess, definition of "CAT 4 flight test", from DASR there was latitude. So it didn't perfectly fit within that requirement because a "not yet approved design change" is a design for which it's necessary to fly an aircraft in order to verify compliance. That was not required in this case. But the better thing to do was to stay within the DoSA-FT's supervision, if you like, through flight restrictions and Flight Test Plan, and execute that way as opposed to go outside altogether.

35

So what I'm saying is the CAT 4 definition it was pretty broad, and we had to choose what was the best way and we chose the direction that I specified.

40

LCDR GRACIE: And so, really, it hinges on the validity of your position that you've relied upon the German MAA for the testing purposes of compliance and airworthiness?

45

COL LYNCH: So it was - - -

LCDR GRACIE: Just keep it simple. Is that right or not?

5 COL LYNCH: So to be quite specific, when you read the definitions - - -

LCDR GRACIE: Forget – just is - - -

10 COL LYNCH: Not yet approved.

LCDR GRACIE: Is the proposition right or not?

COL LYNCH: Please restate it?

15 LCDR GRACIE: Your position is reliant upon the validity of the German MAA as being the authorised – or an authorised Flight Test Organisation for the approval or airworthiness certification of the upgrade, the symbology upgrade?

20 COL LYNCH: So when you say “my position”, are you talking specifically with reference to how this activity started and under what - - -

LCDR GRACIE: How you approached the matter?

25 COL LYNCH: So that was part of the evidence pack. So, yes, it was part of the substantive information that was provided as part of the modification data pack.

30 LCDR GRACIE: Thank you. Thank you, ma’am, sir.

MS McMURDO: Who’s next? LCDR Tyson. And if I could ask those cross-examining to try and not go over old ground that has already been covered in examination and cross-examination.

35 LCDR TYSON: Yes, thank you, ma’am.

MS McMURDO: Thank you.

40 **<CROSS-EXAMINATION BY LCDR TYSON**

45 LCDR TYSON: COL Lynch, my name is LCDR Matthew Tyson. I represent CPL Alexander Naggs’ interests. Do you understand, sir?

COL LYNCH: Yes, sir.

LCDR TYSON: If you'll just excuse me for a moment, ma'am.

5 COL Lynch, could you go, please, to the brief that you cleared on 20 April 2020?

COL LYNCH: Yes.

10 LCDR TYSON: Can you go, please, to paragraph 10 in the brief?

COL LYNCH: Yes.

LCDR TYSON: Now, you see there it says that:
15

A full risk analysis will be contained in future OTCRM.

Do you see that?

20 COL LYNCH: Yes.

LCDR TYSON: And do you remember you were asked a question by MAJ Chapman about that yesterday, weren't you?

25 COL LYNCH: Yes, I was.

LCDR TYSON: Now, "OTCRM" stands for Operational and Technical Combined Risk Management, doesn't it?

30 COL LYNCH: Combined Risk Matrix, yes.

LCDR TYSON: No, it stands for Operational and Technical Combined Risk Management, doesn't it?

35 COL LYNCH: No, it stands for Operational Technical Combined Risk Matrix.

LCDR TYSON: And there is a separate concept which is the Operational and Technical Combined Risk Management Matrix; correct?
40

COL LYNCH: Yes. So the acronym OTCRM stands for Operational and Technical Combined Risk Matrix, and it was where we recorded all the risks and controls that affected Army Aviation, all fleets. That was a tool, essentially. It was an Excel spreadsheet that had all that information within
45 it.

LCDR TYSON: Sir, are you familiar with the Army Military Air Operator Operational Airworthiness Management Plan, or OAMP?

5 COL LYNCH: Yes, I am.

LCDR TYSON: Are you familiar that there is an annex in that document that contains a glossary of terms?

10 COL LYNCH: That sounds fair and reasonable, yes.

LCDR TYSON: And do you accept from me that in the glossary of terms there is a definition of “Operational and Technical Combined Risk Management”?

15 MS MUSGROVE: I object.

COL LYNCH: I don't have access - - -

20 LCDR TYSON: Well, I don't press – we can make submissions about it later. In any event - - -

COL LYNCH: Irrespective, the matrix actually records the risk management process and the controls, and it's a method by which we audit implementation of controls against risks in accordance with, you know, our publications, et cetera, and risk - - -

LCDR TYSON: Yes, the - - -

30 COL LYNCH: So the function, absolutely.

LCDR TYSON: Yes, the manual talks about a concept of OTCRM and as part of explaining that concept it talks about the use of an OTCRM matrix within that. Would you accept that?

35 COL LYNCH: Yes, absolutely.

LCDR TYSON: Now, you said that you did the full risk analysis; is that right?

40 COL LYNCH: So my Directorate absolutely did it. My Operational Airworthiness staff went through and did the risk analysis and incorporated it within the OTCRM. And the risk controls that were identified – well, implementation of version of 5.10 would've been recorded in there and audited against implementation.

45

LCDR TYSON: And it would've been put into something called "the matrix"; correct?

5 COL LYNCH: Yes, correct.

LCDR TYSON: And did you do that yourself?

10 COL LYNCH: No, it would've been done by my Op Airworthiness staff, and we routinely reviewed the OTCRM twice annually at the Army Aviation Safety Program Conference.

15 LCDR TYSON: And what was the content of the matrix in relation to the issue that you've been cross-examined about and examined about yesterday, about the 5.10 symbology?

20 COL LYNCH: My expectation is that it would have reflected exactly the risk controls outlined in probably the OPEVAL report and the brief. So the implementation, there were two key ones. One was the ADELE training to make sure that people understood the symbology set. There was another risk control which was regarding the go around mode, use of the go around upper modes.

25 That was subsequently removed, just the control, due to concerns raised by AATES. And so there would've been a component there on training, specifically as it related to 5.10 symbology. And that would've been then tracked as a risk control and – yes.

30 LCDR TYSON: But what I'm asking is not so much about the two controls that were put but in terms of the actual risk, was, for example, there a comprehensive and balanced presentation of AATES' findings and the OPEVAL in the matrix?

35 COL LYNCH: It wouldn't have been in the matrix, itself. It would have been in the attendance seven-step risk management process that is conducted in order to create – the matrix was just a recording mechanism, so we had all the risks in one place. But the seven-step risk management process happened outside of that. That was unwieldy to manage, which is why we transitioned to a database where all of that was internal.

40 LCDR TYSON: So do I understand that right, that the matrix that you did as part of the full risk analysis did not actually set out, for example, the risks that AATES identified?

45 COL LYNCH: It set out all of the existing risks that were accepted and

the controls that were in place to address them.

LCDR TYSON: So, what, focussing really on the OPEVAL and the two controls that were picked up in the OPEVAL?

5

COL LYNCH: So I'd have to review. Do we have a copy of the OTCRM that was current at the time that I could review?

LCDR TYSON: Well, it might be something the Inquiry will investigate and find.

10

COL LYNCH: Okay.

LCDR TYSON: But as part of your duties as DOPAW, you actually had to brief MAJGEN Pearce upon that risk, didn't you?

15

COL LYNCH: My brief was to DGAVN who had the delegation from the MAO-AM, who was MAJGEN Pearce. If that information – which I don't believe it was necessarily covered specifically at the two-star steering group, which is the Plan Palisade Steering Group. I expected there was a briefing to MAJGEN Pearce on that specific issue given that he had the delegation.

20

I know that DGAVN back briefed, routinely, on decisions that he'd made in accordance with his delegation. So I expected he was aware.

25

LCDR TYSON: But didn't you brief MAJGEN Pearce on this risk?

COL LYNCH: I don't recall whether I did or not, specifically. My focus was on developing a risk situation and briefing to DGAVN, who was the principal interface and decision-maker for MAJGEN Pearce.

30

LCDR TYSON: Well, I'll just read you something from the manual:

DOPAW maintains the OTCRM matrix to record risks retained by COMD FORCOMD. The OTCRM matrix is to be briefed to COMD FORCOMD annually, or prior to relevant AWBS. The OTCRM matrix is to be included as part of COMD FORCOMD command handovers.

35

40

COL LYNCH: Yes.

LCDR TYSON: Now, just pausing there, COMD FORCOMD was - - -

MS McMURDO: Just a minute, there's an objection, I think.

45

5 SQNLDR SCHMITT: No, before my client answers that question, reference has been taken to a manual. I'm not sure my client is aware as to which manual we're speaking to. I'm certainly not.

LCDR TYSON: All right. Well, I'll refer to the name of the manual, which I referred to earlier. It's the Air Military Air Operator Operational Airworthiness Management Plan.

10 COL LYNCH: OMP.

LCDR TYSON: OMP, right.

COL LYNCH: Yes.

15 LCDR TYSON: And do you agree with me that that manual has provisions in it relating to DOPAW briefing COMD FORCOMD?

COL LYNCH: Yes, so the way that routine played out – so I absolutely agree that it's in there – we had an annual Airworthiness Board review process which essentially picked up this requirement because it ended up focussing on an individual platform. So Airworthiness Board MRH-90, in this particular case, was normally conducted in an October/November period of the year.

20

25 We conducted two risk review activities, the Army Aviation Safety Program Conference twice a year, where we reviewed all of these risks and they were pulled together, and the MRH one was routinely about 2500 pages – the submission, that is. We pulled that together and that was briefed to the MAO-AM, who routinely attended those review activities with DASA annually.

30

LCDR TYSON: So - - -

35 COL LYNCH: So that met that requirement, if that's what you're asking.

LCDR TYSON: I'm just trying to understand. So the specific risk that has been identified by AATES and then you say addressed in the OPEVAL, that risk – to what extent do you have knowledge about MAJGEN Pearce, who was COMD FORCOMD at the time, what was his knowledge of that risk?

40

COL LYNCH: So in terms of the review of the – so what time are you speaking about?

45

LCDR TYSON: Well, you were DOPAW for two years; correct?

COL LYNCH: Three.

5 LCDR TYSON: Three. Well, you were still DOPAW after April 2020, weren't you?

COL LYNCH: Correct.

10 LCDR TYSON: Well, in the time that you were DOPAW, do you recall having any conversations or being at a conference with MAJGEN Pearce, who, under the matrix, is a person who has to run this risk, about the particular risk that the AATES report had identified and then, you say, had been addressed at the OPEVAL.

15 COL LYNCH: So I didn't speak to him personally, but that was not routinely how we did business. If there was a delegation provided for MAJGEN Pearce down to DGAVN, DGAVN would make the decision in accordance with his delegation and then back brief. So that's probably a
20 question for DGAVN in terms of – I know he routinely back briefed because he would back brief me that he had back briefed.

So in terms of meeting that requirement, whenever he exercised the delegation, he back briefed the two-star to make sure he was informed about
25 decisions that had been made in his name in accordance with the delegation. Did I do it personally? No.

LCDR TYSON: So you didn't do it personally and you weren't present at any conference or meeting where you saw him being briefed on this risk?

30 COL LYNCH: Not specifically in isolation; however, I guess, October that year there is a pretty significant pack that the MAO Accountable Manager, needs to view and sign and release as part of the Airworthiness Board preparation activity, and that's typically done six to seven weeks
35 out. So that would have been in about August/September, he would've reviewed that and the checklist, and basically cleared that submission.

And that was done – I think, from memory, it was done at the end of '19, '20 and '21. So the only review process was essentially that. And my staff
40 and me personally, I went through the checklists to make sure they were all correct, and my staff compiled all that information and then we sent it through for review and approval, so we can release it to the Airworthiness Board.

LCDR TYSON: And then in relation to the ADELE training that you've referred to as one of the measures, what's in the matrix, to your recollection, about testing whether that was effective or not?

5 COL LYNCH: I don't recall, I'm sorry.

LCDR TYSON: Well as part of the Army Aviation Risk Management principles, that's one of the key principles, isn't it, is to review and monitor?

10 COL LYNCH: It is. But I finished that job in 2021 and I don't recall what specifically is in the matrix. If you've got a reference that I can review, I'm more than happy to have a look at it and potentially help you answer the question but right now I can't remember that line item.

15 LCDR TYSON: Well, COL Lynch, I'll ask you about this. In your statement, I think it's after the bowtie risk analysis, the next decision brief for DGAVN. Have you got that document, please, sir?

20 COL LYNCH: Have you got a page for me, sorry? Sorry, have you got a document or is it a – the DGAVN decision brief on 20 March, is that the one? Tab 2?

LCDR TYSON: It's the one – sorry, I doesn't have tabs in it. It's after the bowtie risk analysis document, which is immediately after - - -

25 COL LYNCH: Yes, okay. Yes, yes. Which is dated 20/03 at the top? Decision brief for DGAVN?

LCDR TYSON: Yes.

30 COL LYNCH: Yes.

LCDR TYSON: So can I ask you – please, sir, go to the conclusion in that document.

35 COL LYNCH: Yes.

LCDR TYSON: Just read to yourself – sorry, paragraph 9 in that document?

40 COL LYNCH: Yes, paragraph 9, I've got it.

LCDR TYSON: Can you look at the second sentence there?

45 COL LYNCH: Yes.

5 LCDR TYSON: So can you just tell the Inquiry what did you do in response to the promise that was made in that sentence? Just what steps were you doing along the lines of what was said there that would be done?

COL LYNCH: So there's a couple of things. First of all, there's immediate feedback following the execution of the ADELE training. Because we have a currency proficiency routine, there's an opportunity for anyone who is having difficulty, that would be picked up by, I guess, the QFI, Qualified Flying Instructor, workforce as part of that annual proficiency or routine proficiency testing.

15 And I think there is a Special Operations Qualification Course, that's generally a pretty good way because you're bringing people essentially up to a standard of assessing whether there are any particular ongoing issues. So we'd look at information from that. If there were any Aviation safety reports in Sentinel that related to this, we'd obviously look at that information and try and understand whether there was something there that was of relevance.

20 We had the Army Aviation Safety Program Conference – which was twice annual – review of risk, where we would go through and look at all the controls and we went through and did that by platform and by unit. And the units could then bring forward any issues they had at that time and we considered that. And that essentially allowed the Accountable Manager or DGAVN to set a forward work program that actually focused on addressing anything that was brought up in that forum.

30 And then we had the airworthiness review process which was an annual process by platform and by capability that basically encapsulated everything, including all of the risks and presented that for oversight by Defence Aviation Safety Authority.

35 LCDR TYSON: But in terms of this specific issue, this issue, the one that's dealt with in this minute, what did you, as DOPAW, do?

COL LYNCH: So it went into the OTCRM and became part of that routine that I just articulated it with all of the other risks.

40 LCDR TYSON: And what were you doing to continue to track this specific issue?

45 COL LYNCH: So, essentially, in that process we assessed, through those mechanisms just described, the effectiveness of controls because that was a control. And was there anything that needed to change, improve, shift?

Was it adequate? If there were no issue being identified, and that control was deemed adequate, it didn't change.

5 LCDR TYSON: There were two controls, weren't there? There was the one about the removal of go around mode, and that didn't last long, did it? That pretty much disappeared in about March 2020?

10 COL LYNCH: It was April. It came out of the AATES response which I don't think I can speak to specifically. That was delivered on 16 March, from memory. And it led to some conversations and cooperative flight activity in April and after that, there was acceptance that there was an element of the flight envelope that that particular control probably wouldn't work adequately in.

15 And so, because it wasn't a full-scope risk control, it was removed based on agreement with AATES.

20 LCDR TYSON: So that one you wouldn't have needed to continue to track. But the other one is the ADELE training. Is this the warning that turns up that says:

The HMSD LOS must be aligned with the longitudinal aircraft axis when conducting a UA recovery using the HMSD symbology as an attitude reference.

25 COL LYNCH: So that specific warning would have gone into the Standardisation Manual, which is kind of the operator's manual if you like, which is just how to operate the aircraft. And it goes to specifics of operating various systems in the aircraft. So that specific warning. The level of detail within the ADELE package was in excess of that because it explained all of the symbology elements and the various performance of the particular displays. In this case, the pitch ladder and how it varied with different headed axis points.

35 LCDR TYSON: So there's an ADELE package that expands on that note in the Standards Manual?

40 COL LYNCH: That was the intent of the ADELE package. It was intended to inform before the flight which was after the ADELE package. So, basically, you did the ADELE package which explained to you exactly how the symbology set worked, all elements of it, and where the improvements were, and then you jumped in the aircraft live and were taken through with someone who was already proficient and exposed to all of that so you could get used to it in a controlled environment.

45

LCDR TYSON: And what feedback were you getting about that ADELE package in terms of in the field. Were people applying that warning?

5 COL LYNCH: Well, again, the warning was in the Standardisation Manual, so the Standardisation Manual is how we operate the aircraft. So it wasn't a choice to apply, sorry, to comply with it. It was how you operate the aircraft. And whenever somebody flew with an instructor to do a proficiency check, that was the standard they were measured against.

10 I certainly don't recall any feedback on people using the symbology or not following the directions in the Standardisation Manual, that would've been normally specific feedback we would have probably had been through the Standards Officer network. So instructors to the Standards Officer at a Regimental level, and then that Standards Officer talking back to Aviation
15 Standards.

In terms of the detail that was contained within the ADELE package, I don't recall any adverse description of content and whether it was adequate or not.

20 LCDR TYSON: Would it surprise you that a number of witnesses have given evidence to this Inquiry about flying Taipans and doing the unusual attitude drill and not a single one of them has ever made reference that they've taken that from the Standards Manual into account or applied it in
25 any way when doing the UA drill? Would that surprise you?

COL LYNCH: Yes, I guess it would surprise me because that's not what's directed in the STANMAN.

30 LCDR TYSON: If you're a pilot in a low visibility flying environment, low cues, no horizon, of high workload, would you accept that it's actually fanciful nonsense to suggest that a pilot would apply that piece from the Standards Manual that I read out to you?

35 COL LYNCH: No, I don't accept that. There are complexities that create – in a situation where you aren't in formation, it's pretty straight forward. It's a recovery. The basic drills that we teach people from day one through their initial qualification training is when you do an unusual attitude recovery, you typically look at the clock. So you're looking inside
40 the cockpit.

Ignore the symbology because the symbology is not the thing that's going to help you. It's designed as a visual flight aid and if you're on the clocks you're inside. That is further complicated when you are in
45 formation. Because then there are other aircraft are in proximity. So at

least you would understand where you are in proximity to those aircraft but one of the things that are – is always briefed during a formation activity is what's the formation break procedure You know, how do you break from the formation if you get into a position where either you're – you know, you fly into poor weather, you lose visual on one or another aircraft, that formation break procedure is typically part of the process.

And once you've executed the formation break procedure then you can go onto the clocks, if that's the relevant step for an unusual attitude and execute the recovery.

LCDR TYSON: The reality is, if I'm a pilot, I'm flying a Taipan, I've become spatially disoriented, I'm in a low visibility, low cue, no horizon environment, I'm not going to be concerned about aligning the HMSD LOS and the aircraft longitudinal axis conformal presentation, am I?

COL LYNCH: Well, by looking inside at the MFDs and the Primary Flight Display in particular, you're doing that. If you aren't doing that then you are setting yourself up for a difficult situation by looking off-axis. Which is, again, not what we teach people. There's a specific drill, it starts with attitude and the attitude you set out the front.

Attitude heading, power and then everything else after that. So, that drill is built in through initial employment training. So absolutely it is – it's a drill.

LCDR TYSON: The reality is, I'm going to be looking at the Primary Flight Displays, I'm not going to worry about aligning the symbology, am I?

COL LYNCH: That could be your initial step. But actually, the drill that we teach people is to look at the PFD and execute based on the PFD. And acknowledge that you've lost visual reference.

LCDR TYSON: And PFD is the Primary Flight Displays inside the helicopter cockpit; correct, sir?

COL LYNCH: Yes, it is.

LCDR TYSON: Yes, thank you.

AVM HARLAND: Could we just go back to the formation break Procedure? So you're in a degraded visual environment, in formation. You have a responsibility to avoid the other aircraft in formation, so you're not number 1 in the formation.

45

COL LYNCH: Correct, sir.

5 AVM HARLAND: In that case, and you're looking off-axis, can you just describe how that would play out? Because I'm assuming that you've described this as sequential. First, you would manage your position in the formation, break formation, and then solve the UA, the unusual attitude disorientation, by reference to the instruments, looking forward.

10 COL LYNCH: Yes. So - - -

AVM HARLAND: Could you just walk us through that please?

15 COL LYNCH: So if we were at 200 feet and, you know, presumably the whole formation is at 200 feet, with heavy left formation or heavy right formation, you're essentially turning on the belly on the plane, so we're not manoeuvring like a welded wing.

AVM HARLAND: So they're belly turns?

20 COL LYNCH: Belly turns, correct.

AVM HARLAND: So you stay at the same altitude.

25 COL LYNCH: And so the contract from dash 2, dash 3, dash 4: dash 3 has a contract to avoid dash 2; and lead, lead just leads; dash 2 avoids lead – one of the other peculiarities – and obviously dash 4 has to avoid everyone in front. So that's the contract.

30 What also exists for dash 2, 3 and 4 and lead obviously, is terrain clearance because you're on belly turns and you're in tactical formation now, you also are looking ahead to make sure you're not hitting the ground.

35 Now, the heavy left formation allows you to manoeuvre on an arc. So you always maintain – and that's why the dash 3 position is a little bit more difficult, because you could be in a reasonable, you know, separation 1, 2, 3 – or normally more than two. So two plus rotors as dash 2, which means you've got a pretty good picture of lead.

40 Dash 3 has to keep dash 2's arc clear. Because if there's a terrain feature coming up or, indeed, even in a turn, because we're managing energy, sometimes the easiest way to manage energy rather than slowing down on the inside of the turn is to slide on the arc. So you're just increasing the size of the circle; you're scribing through the sky.

45 You don't have to make a power change. You slide on the arc, you go

around the corner and then you come back into position again. So the responsibility and one of the contracted points for dash 3 is they need to maintain the arc of two clear, which can be difficult because you want to be close because you get good information from lead, but you have to maintain a clear arc. Which means you're typically – your separation from dash 3 to lead is about five to six rotors to keep that arc clear because what you don't want to do is for 2 to need their arc to manoeuvre and it's not there because you're in it. So that's the contract.

5

10 The other part of it is, if you've got a clear arc and you've maintained your clear arc up to that point, then you can manoeuvre on that arc as well. So particularly as dash 3 if you kind of know where 2 is and you're on your arc, particularly if you've got compressed in a turn, for example, and you know – or you got high, so you've got too much energy, one of the options is to slide on the arc and increase your circle through the sky and basically, you've managed your energy along your arc, and then you can come back into position once you've got it back under control.

15

20 So, theoretically, in a properly flown formation, there is a clear arc that you can slide on to clear yourself of other aircraft and that is largely slide the arc and you can depart straight and you're out of the formation.

AVM HARLAND: Yes, so you've got lateral separation in trail on the other aircraft.

25

COL LYNCH: So that's laterally.

AVM HARLAND: Yes.

30

COL LYNCH: You've always got the vertical as well. Again, weather is a factor. But in terms of trying to reacquire aircraft against situational awareness there might be some complexities there. But, theoretically, that's how the formation is designed to work.

35

AVM HARLAND: So you're in heavy left, you're in a holding pattern, you're turning left.

COL LYNCH: Yes.

40

AVM HARLAND: So you're on the inside of the turn.

COL LYNCH: Dash 3 is on the inside of the turn, yes.

AVM HARLAND: And you're belling up.

45

COL LYNCH: Yes.

AVM HARLAND: So would you have visibility in that scenario, typically, a typical angle of bank of both Bushman 82 and Bushman 81?

5

COL LYNCH: Yes, I would expect that – I mean, the turns typically for a holding pattern, you know, break one or, you know, 20 degrees, they're not typically steep turns and you might come slightly low on the line to maintain visibility cross-cockpit.

10

AVM HARLAND: Yes.

COL LYNCH: If you were cross-cockpit. If you were flying from the right seat, I'd expect you to have reasonably good visibility in that turn.

15

AVM HARLAND: Okay, thank you.

LCDR TYSON: And, sir, just in relation to that scenario of formation flying that sir's put to you, in the ,say, five or six years prior to 2020, how often had you flown in a formation at night, overwater, where the formation was meant to be two rotor diameters apart each helicopter?

20

COL LYNCH: Overwater, not – certainly not in an MRH. I was current on Tiger from late 2016, 2017, 2018 when I was CO School of Army Aviation, and I routinely flew at night on TopOwl with symbology during that period, but not overwater.

25

LCDR TYSON: You don't have many hours of flying in a Taipan airframe, do you, sir?

30

COL LYNCH: No, I don't.

LCDR TYSON: And the Tiger. And, indeed, in your statement you refer frequently to your experience with Tiger, don't you?

35

COL LYNCH: Tiger and TopOwl, yes.

LCDR TYSON: And you'd accept, wouldn't you, that the Tiger is a completely different aircraft to the Taipan.

40

COL LYNCH: This is a clearly a very different aircraft, yes. And it has common systems and some common design philosophies because it's built by essentially the same manufacturers. But, yes, it's a different aircraft for a different role.

45

LCDR TYSON: It's a light, nimble, agile aircraft, isn't it?

COL LYNCH: It is. It's about 6.1 tonne, 6.4 tonnes versus about a 10.5 tonne aircraft. So it's nearly half the weight of an MRH-90.

5 Lcdr TYSON: So a considerable weight difference between that helicopter and a Taipan?

COL LYNCH: Yes, about four tonnes.

10 Lcdr TYSON: And a Tiger has a two-person crew; correct?

COL LYNCH: Correct.

15 Lcdr TYSON: And a Taipan, for example, has a four-person crew and can have, for example, 20 Troops in the back of it?

COL LYNCH: Correct.

20 Lcdr TYSON: So, it's a much heavier, must less agile aircraft?

COL LYNCH: There is a lot more energy to manage, particularly if it's fully loaded, yes. Yes.

25 Lcdr TYSON: And were you ever Special Operations qualified?

COL LYNCH: Back in – going right back now, my time at 5th Aviation Regiment in 94/95 on S70-A9 Black Hawk, I was involved in a Special Operations Qualification activity, was online with my Squadron for – back in those days it was for a 12-month period – and conducted the online activity in mid-95. So, yes, but it was a long time ago.

30 Lcdr TYSON: Did you get the qualification as a Special Operations certified pilot?

35 COL LYNCH: So in those days we didn't have an SOQC. That was subsequently developed after the '96 accident. It was one of the findings of the Board of Inquiry. In those days we did a work-up period with Special Operators and then did a demonstration activity at the end of that that, yes,

40 effectively declared that we had the capability that we had to support for the next 12 months.

LCDR TYSON: And in the course of your entire career, was it ever the case that you've done an unusual attitude drill in a situation where you're

45 flying as part of a formation at night overwater?

COL LYNCH: At night overwater, no.

5 LCDR TYSON: And just going back to the Special Operations point, you also rely upon the fact that the Germans were using an MRH-90 family –

COL LYNCH: Correct.

10 LCDR TYSON: And did you confirm that the flying profiles and missions they were doing were the sort of things that 6 Avn helicopter pilots were doing? Is that the same sort of missions?

15 COL LYNCH: So they're all variations of the same mission, right. ■

But the manoeuvres are key and important.

20 MS MUSGROVE: ■

MS McMURDO: ■

25 MS MUSGROVE: ■

MS McMURDO: ■

30 MS MUSGROVE: ■

MS McMURDO: ■

35 COL LYNCH: ■

MS McMURDO: ■

40 COL LYNCH: Sure. Sure, ma'am. So in terms of the manoeuvres and the reason why they implemented that different symbology set, it was to support more precise operations in degraded visual environments like they were finding in Afghanistan. That typically involved landings in DVE, and probably not as much hovering in DVE because that wasn't necessarily the best idea.

45

5 But in terms of departing from a degraded visual environment, vertical departure in that environment, having that additional symbology to assist to understand your drift rates, et cetera, improved the precision of that activity. So there's general applicability of an improved symbology set for DVE in any instance because ultimately the role that a helicopter is supporting you can call it SO, or Special Operations role, it's comprised of a number of manoeuvres that are fairly common and standardised.

10 And now we're just talking about how those particular manoeuvres are stitched together into a profile that supports that activity. Does that make sense?

15 LCDR TYSON: Yes. And just very briefly, and Afghanistan, of course, that's a land locked country; correct?

COL LYNCH: Last I checked, yes.

LCDR TYSON: And it's a country that is mountainous, isn't it?

20 COL LYNCH: That is correct, Hindu Kush.

LCDR TYSON: Right, thank you, nothing further, ma'am, sir.

25 MS McMURDO: Thank you. Are there applications to cross-examine? Yes.

SQNLDR GILES: I'll be short.

30 MS McMURDO: Thank you.

<CROSS-EXAMINATION BY SQNLDR GILES

35 SQNLDR GILES: Sir, my name is SQNLDR Jonathon Giles. I represent the interests of LT Max Nugent. My questions will be very short.

COL LYNCH: You'd be the first.

40 SQNLDR GILES: Are you - - -

COL LYNCH: I said, you'd be the first.

45 SQNLDR GILES: Always for a first. Are you aware if version 5.10 is the latest software for TopOwl as of today?

5 COL LYNCH: As of today, I could not tell you. My involvement in that process kind of finished end of 2021. I was a flying supervisor in the context of Army Aviation Training Centre 22/23. In that context I wasn't aware of any advancements to 5.10 or another version.

10 SQNLDR GILES: Are you aware, if we go – backtrack and not as of today, are you aware if there's been any changes since version 5.10 that you're aware of?

COL LYNCH: I'm not aware. No, I don't think – no, I'm not aware of any.

15 SQNLDR GILES: Okay. No further questions. Thank you.

COL LYNCH: Thank you.

MS McMURDO: Thank you. Any other applications to cross-examine?

20 MS MUSGROVE: Just briefly.

MS McMURDO: Yes. Thank you, Ms Musgrove.

25 **<CROSS-EXAMINATION BY MS MUSGROVE**

30 MS MUSGROVE: Sir, my name is Musgrove and I appear for the Commonwealth. You've given some evidence about Plan Palisade and we've heard that term before. Can you just briefly outline, at a higher level, what Plan Palisade was?

35 COL LYNCH: So Plan Palisade was, in very simple terms, the introduction of the MRH-90 Taipan into 6th Aviation Regiment.

MS MUSGROVE: And so at the time, back in 2019 and 2020, that's in issue, was that a plan moving forward, as in the Taipan's were not in 6 Aviation at that time? Is that correct?

40 COL LYNCH: No. No, the decision was made, I believe, at the end of 2018. And then Plan Palisade was created. And then the transition was to commence, but it took some time.

MS MUSGROVE: At the time of your decision brief, and the decision around the TopOwl version 5.10, 6 Aviation were not flying the Taipan, is that correct, in operations?

5 COL LYNCH: In operations, no. My understanding is they were still building up. I'd have to check the program. But certainly through 2019 it was initial training, so converting people. I know there was a pressure at the time that was actually managed within Plan Palisade and that was because the S70-A9 Black Hawk was maintaining the capability.

10 People couldn't come off Black Hawk. You still had to maintain that capability on Black Hawk and that limited the number of people that could shift across to Taipan. So there was a lot of early iterative activity that was happening in Taipan, but the role was being carried – that's the serious operation output role was being carried by the Black Hawk fleet.

15 I can't recall exactly when the changeover occurred, but it was fairly late in Plan Palisade when Black Hawk was withdrawn from Service.

20 MS MUSGROVE: We've heard some evidence, and you've seen some of the restrictions that were in place for the OPEVAL. And one of them was about the visual horizon.

COL LYNCH: Mm-hm.

25 MS MUSGROVE: Can you just confirm, is that a visual horizon only with the naked eye or is that a visual horizon that is also obtained by the pilot through night-vision devices?

30 COL LYNCH: At night, it's absolutely through NVD. That's the only way you achieve visual flight at night that truly uses the same sort of procedures and you'd utilise during the day.

35 MS MUSGROVE: And at the time of the OPEVAL, was that through the FLIR components?

COL LYNCH: No, it was through the Image Intensifier Tubes on the TopOwl.

40 MS MUSGROVE: And so is it those Image Intensifier Tubes that were then upgraded, to your understanding?

COL LYNCH: Correct.

MS MUSGROVE: And do you know whether or not they were upgraded prior to 6 Aviation commencing operational flying of the Taipan?

5 COL LYNCH: Look, I can't speak specifically to how that was scheduled. It certainly was the intent to get them as quickly as possible. From my recollection, the first ones arrived into Australia around about August 2020. Because I already knew that 6 Regiment was the priority, the first batch were ordered and transferred to the 6th Aviation Regiment. So that was available.

10 I think, from recollection, it was around the end of 2020 that they got their first versions and there was, I think, four helmets modified. So there the helmet is in two parts. There's the shell and then there's the display module. And the display module is what gets modified. So essentially
15 what had to happen is Thales – this is where one of the complications was American technology, European manufacturer – they had to take the old – essentially, your microchannel plate, the guts, for simple terms, of the image intensifier, the thing that actually did the light amplification, the old one had to be taken out and the new one had to be put in. And then it all
20 got reconstructed with all the lenses and everything and then fitted to the helmet and tested and aligned and all of that.

So that was a modification process. That was a limitation. The first
25 elements definitely went to the 6 Aviation Regiment and it's my recollection by about the end of 2021 we had re-equipped the entire Army Aviation fleet, including Tiger and Chinook, and all the aircrewman got white phosphorous current general night-vision goggles.

30 MS MUSGROVE: And so that was an enhancement of what had been in place when the OPEVAL had taken place; is that correct?

35 COL LYNCH: Absolutely. So the limitations that applied for the OPEVAL were on the previous generation IITs, and then the IITs got enhanced.

40 MS MUSGROVE: You've used the term "non-conformal". So on my understanding – and I'm a lawyer, so I don't have a great understanding in terms of flying – but when you're saying "non-conformal to the axis", is that a term of – well, what does that term actually mean?

45 COL LYNCH: The terms that I use that are, you know, consistent with what is in the DSTO report is head track, head stabilised. So, in simple terms, if you are looking forward like a traditional HUD, if you're using the term "conformal", the pitch ladder information, not necessarily everything else, but certainly the pitch ladder is fixed on the aircraft longitudinal

axis. So if you turn your head away and it stays there, you can't see it anymore.

5 And then you come back and it's there. In the case of 5.10, it comes with you but not all of it. Your horizon information comes with you but it's now conformal, so it's accurately representing the horizon. The pitch ladder is no longer representing the pitch. It's there but representing – eventually it goes from representing the aircraft attitude out the front to representing a horizon there. That's as explained in the publication.

10 But all the other information is consistent. So, basically, pitch ladder fixed, conformal. Pitch ladder comes with you, non-conformal.

15 MS MUSGROVE: Is that conformal to the axis of the aircraft moving forward?

COL LYNCH: Correct.

20 MS MUSGROVE: Thank you. I have no further questions.

MS McMURDO: Thank you.

25 SQNLDR SCHMITT: Thank you. Sorry, ma'am, I think I'll probably be about 20 minutes.

MS McMURDO: Well, I was rather hoping to finish before lunch, but I'm afraid - - -

30 COL LYNCH: I saw that coming, ma'am.

MS McMURDO: Yes, all right, we'll adjourn, and resume at 2 o'clock.

SQNLDR SCHMITT: Thank you.

35

HEARING ADJOURNED

HEARING RESUMED

5 MS McMURDO: SQNLDR Schmitt.

SQNLDR SCHMITT: Thank you, ma'am. If the witness could be a returned to the witness box.

10 MS McMURDO: Of course, yes.

<RE-EXAMINATION BY SQNLDR SCHMITT

15 SQNLDR SCHMITT: Thank you, Colonel. You were asked some questions about whether you – these are questions by Counsel Assisting – but whether you had any imperatives to see version 5.10 introduced into Service and whether that was by reference to project deadlines or contractual obligations. Do you remember those questions?

20 COL LYNCH: I do, yes.

SQNLDR SCHMITT: Did you receive any pressure from anyone within Defence to see that version 5.10 was pushed into Service release?

25 COL LYNCH: No.

30 SQNLDR SCHMITT: Did you feel any compulsion to recommend any particular outcome concerning the risk classification of version 5.10 during the OPEVAL process?

COL LYNCH: No.

35 SQNLDR SCHMITT: When embarking on the OPEVAL, did you have any preconceived view as to the risk classification that should be attributed to version 5.10 at the conclusion of that OPEVAL?

COL LYNCH: No.

40 SQNLDR SCHMITT: Did you attempt to influence those who actually conducted the OPEVAL within your team as to the risk classification to be attributed to version 5.10?

45 COL LYNCH: No.

SQNLDR SCHMITT: You were asked some questions about the different modes a pilot can use within the HMSD.

COL LYNCH: Yes.

5

SQNLDR SCHMITT: And you were unsure about the number of modes.

COL LYNCH: So my understanding is that there's four – there's three in the Tiger, but there's four in the MRH. There's declutter 1, declutter 2 and full and off.

10

SQNLDR SCHMITT: Yes. Can I just take you to tab 10 of your statement? And this is a restricted document, so we'll - - -

15 COL LYNCH: Yes.

SQNLDR SCHMITT: So first of all, can I just take you to page 13?

COL LYNCH: Thirteen. Yes.

20

SQNLDR SCHMITT: First of all, this document, was that part of the data pack that you were discussing with CMDR Gracie?

COL LYNCH: It's my understanding that it was. This would have been a fundamental part of the data pack deliverables associated with the modification.

25

SQNLDR SCHMITT: And just - - -

30 MS McMURDO: So to clarify, that went to the AATES Team; is that right?

COL LYNCH: I can't say definitively. But it would have made sense to me this would have been part of the data pack that would have been provided to them.

35

MS McMURDO: But it was certainly the data pack that you had during the OPEVAL. Is that what you're saying?

40 COL LYNCH: Absolutely, ma'am. Yes, we had this copy.

SQNLDR SCHMITT: So at page 13, at the top there, you'll see "Formats"?

45 COL LYNCH: Yes.

SQNLDR SCHMITT: Does that refresh your memory as to the types of modes that were available?

5 COL LYNCH: Yes. So it's got three, but you could also take symbology off. So that would be the fourth, if you had – like, that had nothing. But they're the three on modes, if that makes sense.

10 SQNLDR SCHMITT: Understood. If you could then go to page 22 of that document.

COL LYNCH: Yes.

15 SQNLDR SCHMITT: What's presented there in the diagram, is that how it would be displayed in normal mode?

COL LYNCH: Yes.

20 SQNLDR SCHMITT: We've been discussing the pitch attitude?

COL LYNCH: Yes.

25 SQNLDR SCHMITT: Are you able to, by reference to the symbols that are shown on that diagram, just indicate what the pitch attitude symbol is that we've been talking about?

COL LYNCH: It'd be the pitch ladder indications, the horizontal lines.

30 SQNLDR SCHMITT: Obviously we can't present the document – so in terms of just describing where on that diagram, for laypeople, is the pitch ladder or the pitch - - -

COL LYNCH: It's in the centre, either side of the centre vertical cross.

35 SQNLDR SCHMITT: So then if we go across to page 24?

COL LYNCH: Yes.

40 SQNLDR SCHMITT: Is that your understanding of decluttered mode 1?

COL LYNCH: Yes, and you'll note from – there's two formats there. One is forward flight format and one is a hover format.

45 SQNLDR SCHMITT: Yes. So sticking with the forward flight format.

COL LYNCH: Yes.

SQNLDR SCHMITT: Does that present the pitch scale?

5 COL LYNCH: No.

SQNLDR SCHMITT: And similarly then, if we go over to page 26?

COL LYNCH: Yes.

10 SQNLDR SCHMITT: Is that your understanding of decluttered mode 2?

COL LYNCH: Yes.

15 SQNLDR SCHMITT: Again, is the pitch scale represented there?

COL LYNCH: No.

SQNLDR SCHMITT: So you can put that – we'll move away from that document now. You were asked some questions about the AATES response to the OPEVAL.

20 COL LYNCH: Yes.

SQNLDR SCHMITT: And about, in particular, whether that response was referenced in your briefs to the DG.

25 COL LYNCH: Yes.

SQNLDR SCHMITT: Can I just take you to, first of all, your decision brief of 20 March?

30 COL LYNCH: Yes. Tab 2?

SQNLDR SCHMITT: Yes. Just familiarise yourself with the references there.

35 COL LYNCH: Yes.

SQNLDR SCHMITT: Is the AATES response shown in the reference?

40 COL LYNCH: Yes, Reference D.

SQNLDR SCHMITT: And similarly, if you can go to your decision brief of 20 April, tab 1.

45

COL LYNCH: Yes.

5 SQLNDR SCHMITT: Similar question, is the AATES response contained in the references there?

COL LYNCH: Yes, Reference D.

10 SQLNDR SCHMITT: Just while we're on that decision brief, Reference E.

COL LYNCH: Yes.

15 SQLNDR SCHMITT: Can you remember what that document was?

COL LYNCH: It was the document we just reviewed with the symbology representation.

20 SQLNDR SCHMITT: Well, perhaps if we just, for clarity, take you back to that document, so back to tab 10.

COL LYNCH: Hang on. No, no, it wasn't. Sorry, that was a different reference. I've just checked the – there's a document ID number there. I think it might be different.

25 SQLNDR SCHMITT: So that's different to tab 10?

COL LYNCH: I think so. Just let me have a look. Yes, it's different.

30 SQLNDR SCHMITT: Are you able to say what the significance of Ref E was?

COL LYNCH: Of Reference E, the title would indicate that it was Significant, and it probably included some of the outcomes of the German testing, but I can't recall reading it.

35 SQLNDR SCHMITT: So just sticking with that decision brief – that is, 20 April.

40 COL LYNCH: Yes.

SQLNDR SCHMITT: You were asked some questions about paragraph 13 and the training.

45 COL LYNCH: Yes.

SQNLDR SCHMITT: As I understood your evidence, the training involved an ADELE package; is that right?

5 COL LYNCH: Yes.

SQNLDR SCHMITT: And then subsequent to completing the ADELE package, some in-flight training for pilots.

10 COL LYNCH: Yes. It was an in-flight, essentially, familiarisation to confirm that the ADELE training had taken it live and that it confirmed understanding, based on a live performance. Because the ADELE package could only animate so much information, and actually having a live symbology representation, because the first time you saw it was going to be
15 under a level of supervision with proficient other crew member.

SQNLDR SCHMITT: So the ADELE training first, was that mandatory before you did the in-flight training?

20 COL LYNCH: Absolutely.

SQNLDR SCHMITT: Was the ADELE training mandatory for all MRH-90 pilots who were to operate version 5.10?

25 COL LYNCH: Yes. So they would have either done training moving from 4.07 to 5.10 or they would have done that as part of their initial qualification course if the configuration existed during their initial employment training.

30 SQNLDR SCHMITT: Similarly, the in-flight training, was that mandatory?

COL LYNCH: So if you were doing Initial Employment Training, it wasn't a specific activity because it was the only configuration you knew.
35 So it would have been explained to you at the start and then you would have gone flying. You would have been with an instructor, so it was – you were being taught on it as a native configuration. As opposed to being converted from one representation to a new representation in a transition sense.

40 SQNLDR SCHMITT: Understood. So then insofar as that training is concerned, would it have alerted pilots to how the attitude indication and pitch scale was presented in 5.10?

45 COL LYNCH: Absolutely.

SQNLDR SCHMITT: And how to use that information?

COL LYNCH: Yes.

5 SQNLDR SCHMITT: Can I then take you back to the AATES report. Again, understanding its sensitivity.

COL LYNCH: Sorry, the response or the original report?

10 SQNLDR SCHMITT: No, the AATES report.

COL LYNCH: Yes.

15 SQNLDR SCHMITT: So if you can go to the Executive Summary which is on (iv)?

COL LYNCH: Yes.

20 SQNLDR SCHMITT: So if you can just again familiarise yourself with the middle paragraph, and in particular from about halfway down that paragraph, beginning, "The lack of information"?

COL LYNCH: Yes.

25 SQNLDR SCHMITT: So at the time of receiving that report, was it your understanding that AATES had a lack of information as to the version 5.10 symbology set when it prepared that report?

30 COL LYNCH: That was my understanding, and it played out in the text of the report.

35 SQNLDR SCHMITT: Was it your understanding that it was not clear to AATES if the issue it identified with respect to the attitude indication was peculiar to the Australian version of the aircraft or not?

COL LYNCH: That's correct.

40 SQNLDR SCHMITT: Was it your understanding that AATES was unsure as to whether that issue was a purposeful characteristic of the design?

COL LYNCH: That's correct.

45 SQNLDR SCHMITT: And insofar as you understood, if it was a purposeful characteristic of the design, is it your understanding that AATES did not fully understand that design?

COL LYNCH: It was apparent in their report that they did not understand that design, so that's the understanding I came to as a result of reading it.

5 SQNLDR SCHMITT: Based upon that understanding, did you understand that in order to make a fully informed decision on the risks involved with respect to version 5.10, that more information was required?

COL LYNCH: That's correct.

10

SQNLDR SCHMITT: Can I just fast-forward in that report to page 11?

COL LYNCH: Yes.

15 SQNLDR SCHMITT: You'll see the references?

COL LYNCH: Yes.

20 SQNLDR SCHMITT: Just review those for me and as to whether the document at tab 10 of your brief appears there?

COL LYNCH: Let me just review the ID number. No.

25 SQNLDR SCHMITT: Would you expect that AATES, in conducting this flight test, would have referenced that document?

COL LYNCH: Yes.

30 SQNLDR SCHMITT: So just back to the Executive Summary, (iv).

COL LYNCH: Yes.

SQNLDR SCHMITT: Can you just read the last paragraph?

35 COL LYNCH: Am I allowed to?

SQNLDR SCHMITT: No, just to yourself.

COL LYNCH: Okay. Got it, yes.

40

SQNLDR SCHMITT: So first question, after this report was delivered, did version 4 continue to be used?

COL LYNCH: Yes.

45

SQNLDR SCHMITT: Is it correct that then you and your team set about obtaining further clarification and documentation, including from the OEM?

5 COL LYNCH: Yes, that's correct.

SQNLDR SCHMITT: Did that further information you obtained, including from the OEM, give you a full understanding of the intended system function?

10

COL LYNCH: Yes, it did.

SQNLDR SCHMITT: Can we then go forward to paragraph 26 of that document?

15

COL LYNCH: Yes.

SQNLDR SCHMITT: Again, just familiarise yourself with that for a moment.

20

COL LYNCH: I'm familiar.

SQNLDR SCHMITT: Familiar? As part of the OPEVAL, did you or your team identify any integration issue with version 5.10 with the Australian version of the aircraft?

25

COL LYNCH: No. From recollection, the first port of call was to seek the source information delivered as part of the data pack and review that for some of the functions that had been articulated. And if it matched with the functions that were observed, then that would be a correlation between the two and, therefore, indicate that they were intended system functions. So at this stage, that first, is there an integration issue? None was identified. It was a software change.

30

SQNLDR SCHMITT: We've established that you went and got some more information, including from the OEM, concerning the intended function of version 5.10. You agree with that?

35

COL LYNCH: Affirm.

40

SQNLDR SCHMITT: Did that information that you had obtained through the OPEVAL process allow you and your team to complete a more informed analysis of version 5.10 than that had been conducted by AATES?

45

COL LYNCH: Yes.

5 SQNLDR SCHMITT: Is that in particular to the aircraft attitude display?

COL LYNCH: Yes.

10 SQNLDR SCHMITT: Did that information inform the evaluation that you and your team performed in the OPEVAL?

COL LYNCH: Yes.

15 SQNLDR SCHMITT: Did that information and the evaluation you performed in the OPEVAL allow you to make a fully informed recommendation about the risk classification concerning the attitude indication in version 5.10?

COL LYNCH: Yes.

20 SQNLDR SCHMITT: Is it that information, and the informed evaluations, that you and your team performed that informed your recommendation that the risk was undesirable?

COL LYNCH: Yes. It was “Undesirable” characteristic, with a residual risk level of “Low”.

25 SQNLDR SCHMITT: Understood. Sorry to jump around a little bit. But if we just go back to the AATES report again? With me?

COL LYNCH: Yes. Whereabouts in the report, sorry?

30 SQNLDR SCHMITT: Yes, so paragraph 25.

COL LYNCH: Yes.

35 SQNLDR SCHMITT: You were asked some questions by CMDR Gracie about 25(b) in particular.

COL LYNCH: Yes.

40 SQNLDR SCHMITT: It was suggested to you that the version should be returned to OEM for rectification. That was what was suggested by CMDR Gracie, do you accept that?

COL LYNCH: Yes.

SQNLDR SCHMITT: But there's a second part to that sentence isn't there? There's an alternative put forward.

COL LYNCH: Correct.

5

SQNLDR SCHMITT: And is it that alternative that was part of your OPEVAL?

COL LYNCH: Absolutely.

10

SQNLDR SCHMITT: Again, sorry to jump around, but if we can go back to the OPEVAL. And if you can go to Annexure B.

COL LYNCH: Yes.

15

SQNLDR SCHMITT: There's a table there, and you'll see serials 1 through 8 on the left-hand side of the first table?

COL LYNCH: Yes.

20

SQNLDR SCHMITT: Are you able to say which of those tasks would be relevant to the pitch indication?

COL LYNCH: Let's have a look. I'd say serial 1, because that talks about short field myopia and being captured by symbology presented in front of your face.

25

SQNLDR SCHMITT: Sorry, we might be – serial 1, did you say?

30

COL LYNCH: So table (b)(2) are we talking about?

SQNLDR SCHMITT: No, sorry, (b)(1).

COL LYNCH: I'm sorry, (b)(1). Apologies. So 1, 2, regain pitch; 3 is not relevant; 4 is not relevant; 5 not relevant.

35

SQNLDR SCHMITT: 5 would be relevant or irrelevant?

COL LYNCH: No, not relevant. 6, to the extent that there's generally a pitch input associated with speed change. But they're looking at the air speed indication. So I'd say, specifically, not relevant. And distance to run not relevant.

40

SQNLDR SCHMITT: So correct me if I'm wrong, but the way this table has been presented is that these have – the "Task" column are questions that

45

have been posed to each of the pilots who were involved in the OPEVAL.
Would you agree with that?

5 COL LYNCH: Yes.

SQNLDR SCHMITT: And then they're provided a score, a rating of 1
through 10. Do you agree with that?

10 COL LYNCH: Yes.

SQNLDR SCHMITT: Then if we look at the second line to the table,
there's a rating scale. Do you see that?

15 COL LYNCH: Yes. Seen.

SQNLDR SCHMITT: "Easy" being 1, and 10 being "Difficult". Do you
agree with that?

20 COL LYNCH: I do.

SQNLDR SCHMITT: So if we can go back to the AATES report.

COL LYNCH: Which page?

25 SQNLDR SCHMITT: It'll be – my apologies, referencing the AATES
report, but if we can go back to your decision brief of 20 April.

COL LYNCH: Yes.

30 SQNLDR SCHMITT: You were asked some questions regarding
recommendation 3(a).

COL LYNCH: Yes.

35 SQNLDR SCHMITT: It was suggested that the way that was framed was
misleading. Do you remember that?

COL LYNCH: It was, yes.

40 SQNLDR SCHMITT: It was suggested – sorry, I'll reframe. The AATES
report and the AATES response, were they references to your decision
brief?

45 COL LYNCH: Yes, they were. The report was at Ref B and the response
was at Ref D.

5 SQNLDR SCHMITT: And then it was suggested to you that someone who was not familiar with all the nuances of what had happened during the OPEVAL and the AATES processes might consider your assessment that the risk had been reassessed, that might be misleading to that reader. Do you remember that?

COL LYNCH: I remember that being suggested.

10 SQNLDR SCHMITT: Was DACM familiar with the nuances of what had happened?

COL LYNCH: Absolutely.

15 SQNLDR SCHMITT: Was the DG familiar with the nuances?

COL LYNCH: Absolutely.

20 SQNLDR SCHMITT: You were also asked some questions about the other priorities that were going on in your section at the relevant time and you described the investigations and the like?

COL LYNCH: Yes.

25 SQNLDR SCHMITT: As part of that, you were also asked some questions about the minute from the DG on 20 March '20.

COL LYNCH: Yes. So that was from DACM to the DG, the recommendation for Service - - -

30 SQNLDR SCHMITT: No, no. So this is the minute from BRIG Fenwick to COL Thomas.

COL LYNCH: Yes, I have that one.

35 SQNLDR SCHMITT: And there, there was some dates put forward that the DG would like these things put into Service by to accommodate a qualification course?

40 COL LYNCH: Yes.

SQNLDR SCHMITT: Were you tracking that as something the DG wanted before you provided your recommendations in the decision brief?

45 COL LYNCH: Sorry, the brief on the – in April?

SQNLDR SCHMITT: March.

5 COL LYNCH: Sorry, March. So I was a reviewer of that brief. I was consulted as part of it.

SQNLDR SCHMITT: Yes.

10 COL LYNCH: Look, I can't recall whether I knew about that or not. It certainly wasn't material in my advice. That was – again, DACM was kind of running Plan Palisade. So they were more, if you like, in the detail of the schedule.

15 SQNLDR SCHMITT: So the question is, in terms of your decision or your – the recommendation that came through you that version 5.10 could be put into service, you weren't tracking that there was a qualification course that was coming up for which this thing could be used?

20 COL LYNCH: I don't recall tracking that specifically as an issue.

SQNLDR SCHMITT: In terms of that qualification course, it would remain an option to operate on version 4, wouldn't it?

25 COL LYNCH: Absolutely.

SQNLDR SCHMITT: Again, apologies for jumping around. This is the order it came to me. In terms of your decision brief on 20 April.

30 COL LYNCH: Yes.

SQNLDR SCHMITT: Paragraph 12.

COL LYNCH: Yes.

35 SQNLDR SCHMITT: So the second sentence there, in terms of the subsequent testing. Do you see that?

COL LYNCH: Yes.

40 SQNLDR SCHMITT: Is that testing and the evaluation that you describe there – or that the decision brief describes there, was that the collaborative testing that you were discussing earlier between yourself – or your unit and AATES?

COL LYNCH: Yes, that was SO1 Standards and the original test pilot from AATES that authored the report, the initial report.

5 SQNLDR SCHMITT: That was concerning the go around mode?

COL LYNCH: Beg your pardon?

SQNLDR SCHMITT: That was concerning go around mode.

10 COL LYNCH: Correct.

SQNLDR SCHMITT: Sticking with that, you were asked some questions about the AMAFTU report?

15 COL LYNCH: Yes.

SQNLDR SCHMITT: And you were taken to task about your description of it at paragraph 5. Do you remember that?

20 COL LYNCH: Yes, I do recall.

SQNLDR SCHMITT: Is it correct that the AMAFTU brief – the report, rather, was a reference to the decision brief of the 20th of the 4th?

25 COL LYNCH: Yes, it was.

SQNLDR SCHMITT: Was it a reference to the decision brief dated 20 March?

30 COL LYNCH: Yes, it was.

SQNLDR SCHMITT: Finally, you were asked some questions by LCDR Tyson concerning the warning that was contained in the OPEVAL report?

35 COL LYNCH: Yes.

SQNLDR SCHMITT: So that's at page 8.

40 COL LYNCH: Yes.

SQNLDR SCHMITT: You gave some evidence about the use of your Primary Flight Display in unusual attitude recovery.

45 COL LYNCH: Yes.

SQNLDR SCHMITT: So to the extent that the warning provided that:

5 *When conducting a UA recovery using the HMSD symbology as an attitude reference –*

was that how pilots are taught to recover from unusual attitude?

10 COL LYNCH: Typically not.

SQNLDR SCHMITT: The instruction is to refer to your Primary Flight Display?

15 COL LYNCH: Absolutely. But a lot of the recovery activities tend to focus on, you know, the recovery post-separation from a formation situation. So there were, you know, circumstances in which you had to separate to conduct a recovery. So there's a dynamic variable, depending on where you were in a formation activity, height above ground, there's a lot of variations to that. But, in essence, a standard unusual attitude
20 recovery drill was eyes inside.

SQNLDR SCHMITT: Thank you.

25 MS McMURDO: Thank you, SQNLDR Schmitt. Just before we hear from MAJ Chapman, could I just ask you one question about your decision brief of 20 April, Reference 1 to your statement. The conclusion at paragraph 14.

30 COL LYNCH: Yes, ma'am.

MS McMURDO: Sorry, that's not what I wanted to find. Just a minute. Sorry, it's reference the earlier decision brief on 20 March.

35 COL LYNCH: That's tab 2, ma'am, is it?

MS McMURDO: Yes, tab 2.

COL LYNCH: Yes.

40 MS McMURDO: The conclusion there. The second sentence:

[REDACTED]



Do you know if that happened?

5

COL LYNCH: I don't know what action was initiated. I would have expected that would have taken some time to execute. So probably in a course of years, but that's probably a question for DACM CASG. Tech CASG would've received the direction. Normally, in response to an "Undesirable", that would initiate action for a change, for an evolution to do something that eliminated risk. So as a routine, the controls – so the Work Health and Safety Act is pretty clear. You know, elimination controls are - - -

10

15

MAJ CHAPMAN: Ms McMurdo – sorry, Witness. Ms McMurdo, there was a passage read from the "Official: Sensitive" document, as I understand it. This is - - -

20

MS McMURDO: This is an "Official: Sensitive" document that I just read from, is it?

MAJ CHAPMAN: This is - - -

25

MS McMURDO: Because my document is not marked.

MAJ CHAPMAN: If I have it correct, you're reading from the 20 March - - -

30

MS McMURDO: Yes, I am.

MAJ CHAPMAN: It says on this copy, at least, this is "Official: Sensitive" at the top, "FOUO" the decision brief.

35

MS McMURDO: "FOUO", does that mean "Official: Sensitive"?

MAJ CHAPMAN: Yes. Under the new classification.

MS McMURDO: Sorry. Okay, sorry.

40

MAJ CHAPMAN: So I request to cut the feed.

MS McMURDO: Yes, we better cut the feed, okay. We'll ask that differently then.

45

MAJ CHAPMAN: Thank you.

MS McMURDO: We'll cut the feed. We'll remove what I read from the document.

5 MAJ CHAPMAN: Ms McMurdo, a request will be made to the Commonwealth to declassify that document.

MS McMURDO: Even so. Yes, I didn't – I was used to markings of "Official: Sensitive". I didn't know the jargon. I'm still not across all these
10 acronyms yet. I don't know whether I ever will be. Yes, it's cut. So can we – it's re-streaming again now? Thank you.

Okay, could I take you to Reference 2 to your statement, the 20 March decision brief.

15 COL LYNCH: Yes, ma'am.

MS McMURDO: The conclusion.

20 COL LYNCH: Yes.

MS McMURDO: The second sentence in paragraph 9 in the conclusion relates to some recommendations for future - - -

25 COL LYNCH: Future action?

MS McMURDO: Future action to ensure risk control measures in response to the "Unacceptable" finding in the AATES report.

30 COL LYNCH: Yes, ma'am.

MS McMURDO: Do you know if that was carried out?

COL LYNCH: So I guess the first part of it is the bi-annual assessment of
35 the risk controls, were they effective? They were the interim risk controls insofar as the final sentence that talks about more permanent rectification. The way software changes typically worked is you would collect a range of things that had to be rectified in software and at some point that would add up to a software version change.

40 And then that would be contracted very specifically and costed and then delivered to NHI from CASG and that would develop a software change. My understanding, and I wasn't in the MRH, in the CASG loop at that time, is that wasn't necessarily contracted for. What we contracted for
45 was configuration alignment with the NH90 fleet internationally, again,

with core systems, and that would've required a special contract. So I don't know - - -

5 MS McMURDO: So the answer is you don't know?

COL LYNCH: I don't actually know.

MS McMURDO: Yes.

10 COL LYNCH: But it would've been a very deliberate activity and there would certainly be a record of it.

MS McMURDO: Yes, all right, thank you. Yes, MAJ Chapman.

15

<FURTHER CROSS-EXAMINATION BY MAJ CHAPMAN

20 MAJ CHAPMAN: I can be brief. Just in relation to what you were just taken to, sir, and your evidence is you do not know whether that was done. Do you recall some evidence you gave yesterday as to whether there was a request made by you or your staff to the OEM for a software fix, and I think your answer was no?

25 COL LYNCH: From my staff, no, because that certainly wasn't - - -

MAJ CHAPMAN: You were asked quite a few questions concerning the April brief to the DG?

30 COL LYNCH: Yes.

MAJ CHAPMAN: And you agree that the purpose of the brief was to assess risk for the DG to make a decision as to Service release? Yes?

35 COL LYNCH: Correct. Or indeed, confirm the decision that had been made given that there had been some changes to circumstances.

MAJ CHAPMAN: Understood. And it was your role within DOPAW, and your team's role, to assess the risk?

40

COL LYNCH: Correct.

MAJ CHAPMAN: And as part of your April brief, it attached for the DG's consideration the AATES "Unacceptable" report?

45

COL LYNCH: Yes.

5 MAJ CHAPMAN: So your evidence is that the DG was aware, was he, of the AATES “Unacceptable” finding both by reference to the attachment and what’s contained in your brief?

COL LYNCH: Yes.

10 MAJ CHAPMAN: And then you have a case where your team has reassessed and downgraded that risk to “Undesirable” and “Low”?

COL LYNCH: That’s correct.

15 MAJ CHAPMAN: And by reassessing the risk in that way, do you agree, sir, that you’re conveying to the DG, and he would understand three things. First, that the risk identified by AATES had been treated or dealt with in a way with controls?

COL LYNCH: Absolutely.

20 MAJ CHAPMAN: Yes. And that he could take it, the DG could take it that the risk identified by AATES was now not as significant as it was presented in their report?

25 COL LYNCH: So there was definitely a conversation about the elements of that AATES report.

30 MAJ CHAPMAN: So I’d just ask you to confine yourself to that proposition. Whether the DG would understand by having received the reassessment of risk as “Low” that the earlier AATES assessment of “Unacceptable” was now not as significant as presented in the first report?

35 COL LYNCH: So you’re presupposing that this is the only document he read? He was along for this journey where that was very clearly communicated. So this was simply summarising a long journey and seeking to create a decision record.

40 MAJ CHAPMAN: And is your evidence that he would understand, or you would convey, you were conveying by this document that the risk was not as significant as “Unacceptable” because the risk had been reassessed to “Low”?

COL LYNCH: That’s correct.

45 MAJ CHAPMAN: Right.

COL LYNCH: That's correct.

5 MAJ CHAPMAN: And that the DG, finally, could have confidence in the recommendation to proceed to Service release?

COL LYNCH: Correct.

10 MAJ CHAPMAN: Thank you. Can I just take you – my learned friend, SQNLDR Travis Schmitt, took you to the OPEVAL. Do you still have that there, sir?

COL LYNCH: I do.

15 MAJ CHAPMAN: Thank you. And if you'd just go briefly to Annex B.

COL LYNCH: Yes.

20 MAJ CHAPMAN: And we're at the table you were taken to with the numerical ratings.

COL LYNCH: Yes.

25 MAJ CHAPMAN: And do you see there, sir, that relevant to the issue of attitude changes with - - -

COL LYNCH: Just hang on.

30 MAJ CHAPMAN: Sorry.

COL LYNCH: I'm not there yet. Yes, I'm there now.

35 MAJ CHAPMAN: Thank you. And I think you were taken by my learned friend to 1 and 2, and you accepted that these two - - -

COL LYNCH: Table B-1 we're looking at?

MAJ CHAPMAN: Yes.

40 COL LYNCH: Yes.

MAJ CHAPMAN: "The Numerical Rating of Task – Ease or Difficulty Symbology Assessment?"

45 COL LYNCH: Yes.

MAJ CHAPMAN: Yes. And you were taken to 1 and 2, and I think you acknowledged that these were relevant to the attitude issue?

COL LYNCH: Yes.

5

MAJ CHAPMAN: And do you see there on 1 that you rate the assessing attitude changes in pitch using only HMSD?

COL LYNCH: Yes.

10

MAJ CHAPMAN: And there is across there an average of 1.8 and 1.5, indicating relative ease?

COL LYNCH: Yes, they are the average and median calculations at the end.

15

MAJ CHAPMAN: Yes. And do you see though, in the second one, "How do you rate the assessing attitude changes and the role?", and you have now pilot identified in the third column, a rating of 5 and then pilot – another one along as a rating of 6, indicating increased difficulty.

20

COL LYNCH: Yes, I can see that.

MAJ CHAPMAN: And do you see that it takes the average to 2.9.

25

COL LYNCH: I can see that.

MAJ CHAPMAN: And do you see that that average is the highest of the averages set out there?

30

COL LYNCH: I can see that.

MAJ CHAPMAN: And you relied, or your team relied, on this as part of the overall risk assessment. That's correct?

35

COL LYNCH: That is correct.

MAJ CHAPMAN: And you still maintained, did you, that based on an average of the 2.9 that it still would fit within the "Low" category?

40

COL LYNCH: Yes.

MAJ CHAPMAN: Thank you. Can I just then turn over to B-4. It's actually the last page on the document. And I've just got a couple of questions here.

45

COL LYNCH: Is it Annex C?

5 MAJ CHAPMAN: No, we're still on Annexe B. So, you're on B-1 with the numerical table and I'm asking you to go to the very last page which is B-4.

COL LYNCH: Yes, go it.

10

MAJ CHAPMAN: And serial 8 and 9. And do you see at serial 8, the task question for the pilot has been survey but is to the effect of, "What do you think of the good and bad features of the 5.10?"

15 COL LYNCH: Yes.

MAJ CHAPMAN: And they give some commentary.

COL LYNCH: Yes.

20

MAJ CHAPMAN: And do you see there on the last column, "COL Norton", who, I think you've accepted in evidence, was possibly one of the most experienced air and test pilot?

25 COL LYNCH: Yes.

MAJ CHAPMAN: And do you see there, under "Bad Features", the last line, and it says:

30 *Non-conformal nature of pitch ladder ARH and HUD 4.0 is better for helo ops.*

COL LYNCH: Yes.

35 MAJ CHAPMAN: And what did you understand by that?

COL LYNCH: "Non-conformal nature of the pitch ladder ARH and HUD 4.0", so HUD 4.0 is clearly referring to HMSD version 4.07.

40 MAJ CHAPMAN: The point is, did you understand that one of your most experienced test pilots on this survey was indicating that HUD 4.0 is preferable for helo ops?

COL LYNCH: Yes. In his opinion, yes.

45

MAJ CHAPMAN: Over version 5.10?

COL LYNCH: Yes.

5 MAJ CHAPMAN: Thank you. And in the next serial, which is serial 9, do you see there the question is:

What would you change in the symbology set for specific role?

10 And COL Norton, again the most experienced, or one of the most experienced pilots there, says this at the middle paragraph:

I think we need to create a bespoke HUD symbology configuration for SO, use and it may include reduction of pitch ladder –

15 et cetera. Do you see that?

COL LYNCH: I do. And then “et cetera” talks about speed range and deceleration.

20 MAJ CHAPMAN: Thank you. And did you take that commentary, at the time of reading that, to be COL Norton was suggesting an alternative to proceeding with 5.10 would be to explore the option of commissioning a bespoke symbology option?

25 COL LYNCH: Yes. It clearly says that and it makes some suggestions regarding speed range and also flight mode adjustment.

30 MAJ CHAPMAN: Thank you, Ms McMurdo. Thank you, sir.

35 MS McMURDO: Thank you. Well, thank you very much, Colonel, for your assistance to the Inquiry. It’s been important evidence. Your cross-examination has sometimes been quite robust so, could I remind you – I’m sure you’re aware of the support services available and you’re free to go. Thank you.

COL LYNCH: Thank you, ma’am. Shall I leave this here?

40 MS McMURDO: Yes, please. Leave everything there, please.

COL LYNCH: Sorry, about that.

45 <WITNESS WITHDREW

MS McMURDO: So I know we've got a commitment to a witness by video-link at 3.

5 COL STREIT: That's right, Ms McMurdo. And with your permission, the intent would be to adjourn briefly now to establish the link and ensure communications are working, and then call the witness on, who will be led by MAJ Chapman.

10 MS McMURDO: All right then.

COL STREIT: I understand he is legally represented by Airbus, so Mr Meehan of Senior Counsel will appear.

15 MS McMURDO: Excellent. So if you're able to resume a little earlier, just let us know. Thank you.

HEARING ADJOURNED

20

HEARING RESUMED

25 MS McMURDO: Yes, MAJ Chapman.

MAJ CHAPMAN: Ms McMurdo, Air Vice-Marshal, I call Philip Ross Swadling and Mr Swadling will be appearing by AV connection.

30 MS McMURDO: Thank you.

MAJ CHAPMAN: And Mr Meehan will be introducing his evidence.

MS McMURDO: Yes. Mr Meehan.

35

MR MEEHAN: May it please, I appear for Thales Australia.

MS McMURDO: Thank you, Mr Meehan.

40

<MR PHILIP ROSS SWADLING, Sworn

<EXAMINATION-IN-CHIEF BY MR MEEHAN

45

MS McMURDO: Yes, Mr Meehan.

MR MEEHAN: Yes, thank you.

5

Mr Swadling, can you hear me sufficiently clearly?

MR SWADLING: Yes, I can.

10

MR MEEHAN: Thank you. You're the - - -

MR SWADLING: And can you hear me clearly?

MR MEEHAN: You're the Technical Director at Thales Australia?

15

MR SWADLING: That's correct.

MR MEEHAN: And have you prepared an affidavit for the purpose of this Inquiry?

20

MR SWADLING: Yes, I have.

MR MEEHAN: Is that an affidavit that you swore on 1 October 2024?

25

MR SWADLING: That's correct.

MR MEEHAN: Thank you. I've read that affidavit and I have no further questions to lead from this witness.

30

MS McMURDO: Well, I think I might tender it, if that's all right?

MR MEEHAN: May it please.

MS McMURDO: We'll make that affidavit Exhibit 105, thank you.

35

MR MEEHAN: Thank you.

#EXHIBIT 105 - SWORN AFFIDAVIT OF MR SWADLING

40

MS McMURDO: Yes, thank you.

MR MEEHAN: Mr Swadling, MAJ Chapman will now ask you some questions.

45

MR SWADLING: Thank you. Could I just note that I could not hear the Inquiry head as she was speaking then.

5 MS McMURDO: Thank you. Is that any better? No, you still can't hear? No? All right. Could we see if that can be fixed quickly, please?

AVM HARLAND: Can you hear me?

10 MS McMURDO: I think not from the response, from the lack of response. Perhaps it's not essential. So we'll ask if that can be fixed. Could you just explain to the witness that we don't think it's going to be essential for him to hear me or the Air Vice-Marshal and that we'll proceed rather than delay proceedings.

15 MR MEEHAN: Yes.

MS McMURDO: And if it becomes necessary for me to communicate, I'll do it in some way through another person.

20 MR MEEHAN: Of course.

MS McMURDO: Actually, can you hear me now?

25 MR SWADLING: Yes, I can.

MS McMURDO: Well, it's fixed. There we are. Thank you.

MR SWADLING: Thank you.

30 MS McMURDO: Thank you, Mr Meehan. Yes, MAJ Chapman.

<CROSS-EXAMINATION BY MAJ CHAPMAN

35 MAJ CHAPMAN: Thank you, Ms McMurdo, Air Vice-Marshal.

40 Mr Swadling, just to confirm you can hear me and there's not been another drop-out?

MR SWADLING: Yes, I can hear you.

MAJ CHAPMAN: Thank you. Mr Swadling, can I just confirm a few

preliminary matters. The first is that you received a section 23 Notice requiring your appearance today to give evidence?

5 MR SWADLING: Yes, I did.

MAJ CHAPMAN: Just to be clear, via AVL?

MR SWADLING: Yes.

10 MAJ CHAPMAN: And you received an extract of the Inquiry Directions?

MR SWADLING: I did.

15 MAJ CHAPMAN: And you received a copy of my appointment as an Assistant IGADF?

MR SWADLING: Yes, I did.

20 MAJ CHAPMAN: And you received a Frequently Asked Questions Guide for Witnesses?

MR SWADLING: Yes, I did.

25 MAJ CHAPMAN: And you received a Privacy Notice for Witnesses Giving Evidence?

MR SWADLING: I did.

30 MAJ CHAPMAN: Thank you. I'll be relatively brief, Mr Swadling. So your evidence has now been tendered as Exhibit 105. I'll just start by confirming you are employed in a more full expression of your role as Technical Director of the Australian Domain of the Avionics Global Business Unit?

35 MR SWADLING: For Australia, yes, that's correct.

40 MAJ CHAPMAN: For Australia, thank you. And at 4 you describe your role as Technical Director to generally have responsibility for technical strategy, technical integrity and safety for solutions and services that are developed and delivered by the business in Australia?

MR SWADLING: That's correct.

MAJ CHAPMAN: And you there set out in your affidavit you have

tertiary qualifications in electrical engineering, computer science from UNSW?

MR SWADLING: Yes, that's correct.

5

MAJ CHAPMAN: And you set out, at paragraph 6, Thales Group and how that is the corporate organisation of Thales Group as being a listed company in Euronext Paris. And over the page you refer – and I'm at paragraph 9 – that the software upgrade, 5.10, involved solely a software upgrade which was deployed in the TopOwl system. Do you see that?

10

MR SWADLING: Yes, I do.

MAJ CHAPMAN: And as you explained later, below – and we'll briefly touch on the TopOwl system comprises software and hardware elements?

15

MR SWADLING: Yes.

MAJ CHAPMAN: And you say then at 10 that:

20

Thales was not involved at all in development of the upgrade of the software that is deployed on the TopOwl system.

Do you see that?

25

MR SWADLING: Yes, Thales Australia.

MAJ CHAPMAN: Sorry, Thales Australia, quite right. And where you referred to “not involved at all in the development of the upgrade of the software”, are you referring there to include version 5.10?

30

MR SWADLING: That's correct, yes.

MAJ CHAPMAN: And you refer in that same paragraph to a contractual arrangement between Thales France – that, sorry, Thales Australia had with Thales France to be provided with the means necessary to enable Thales Australia to upgrade the software version 5.10?

35

MR SWADLING: To install the upgraded software, yes.

40

MAJ CHAPMAN: Yes. And this is installation in what are described as electronic units on the MRH-90?

MR SWADLING: That's correct.

45

MAJ CHAPMAN: And it's the case, isn't it, that there was another commercial arrangement between Thales Australia and Airbus Asia-Pacific to, in effect, facilitate the installation of the software units on the MRH?

5 MR SWADLING: So the contractual arrangement we had to do the upgrade – to do the installation was from Airbus. We then subcontracted our organisation as the OEM of the equipment to provide us what we needed for the carrying out of that work.

10 MAJ CHAPMAN: And when you say you “subcontracted that out”, was that subcontracted out to Airbus Australia?

MR SWADLING: No, that was back into Thales in France.

15 MAJ CHAPMAN: Back into Thales in France, right. And you describe – and we've had some evidence in this Inquiry about what comprise the TopOwl system, and you've set that out, and I won't repeat it, at 13 though you go into some more detail – aspects include, obviously the basic helmet. Yes?

20 MR SWADLING: Yes.

MAJ CHAPMAN: And then we've referred to the electronic unit. And there's various other aspects of the system. You then discuss the TopOwl software itself as comprising two elements at 14. The helmet position module software which operates the electronic unit; correct?

25 MR SWADLING: Operates in the electronics unit, yes.

30 MAJ CHAPMAN: Operates in it. And the interface computation and graphics module running in the electronics unit?

MR SWADLING: That's correct.

35 MAJ CHAPMAN: Could you just describe, very briefly, what the helmet position module software – how that worked, in a practical sense?

40 MR SWADLING: Basically, from a hardware perspective the position of the helmet within the cockpit is tracked using a magnetic tracking unit. And that software is provided with information that represents the orientation of the helmet within the cockpit space as fitted to the pilot's head, and works out where the head position is in terms of orientation with respect to the aircraft.

MAJ CHAPMAN: And the ICGM, the Interface Computation Graphics Module, then had the three elements that you set out there. One, being the computation software; the second, graphical software; and the third, the boot software. And I just draw attention to the computation software. You
5 say it defines what symbols are presented and where they are presented on the helmet display module, and that is then provided to the electronic unit and the position of the pilot's head. Correct?

MR SWADLING: Yes, that's correct.

MAJ CHAPMAN: And just moving on very briefly, Mr Swadling, you go into some detail at paragraph 16 now and describe that the German Forces, the BUNDESWEHR, armed forces, you describe, received the first Troop transport variant of the NH90 in 2006.

MR SWADLING: Yes, that's correct.

MAJ CHAPMAN: And this TopOwl system – and it was supplied to the BUNDESWEHR in around 2006?

MR SWADLING: Yes, that's my understanding.

MAJ CHAPMAN: And that was not version 5.10, was it? That was an earlier version?

MR SWADLING: Correct, that was an earlier version.

MAJ CHAPMAN: Was that version 4.0 or possibly even an earlier one than that, to your understanding.

MR SWADLING: I don't know for certain which exact version it was at that time.

MAJ CHAPMAN: And you go on at paragraph 16 to describe how – and there's been some evidence in the Inquiry that the German Army Aviation – or the German Forces developed a list of requirements and specifications to improvements to the software installed on the electronic unit? Do you see that at (b)?

MR SWADLING: Yes.

MAJ CHAPMAN: And just jumping ahead a little. Is it the case that the list of specifications for improvements ultimately led to the development of version 5.10?

45

MR SWADLING: That's correct, yes.

5 MAJ CHAPMAN: And at paragraph (e) you refer to the format specification, including how the symbology would be displayed on the helmet display module when the helicopter pilot's head was turned off-axis?

MR SWADLING: Yes, that's correct.

10 MAJ CHAPMAN: And you then go on to refer to Thales France contracting with Airbus Helicopters to assist SUZ in the development of software version 5.10. And could you just describe what relationship SUZ had with Thales France, if you can?

15 MR SWADLING: My understanding is that the relationship was via the contract with Airbus. So there wasn't a direct contractual relationship with SUZ per se. We had a contract via Airbus to assist SUZ in the development of that software.

20 MAJ CHAPMAN: And at (i) you refer to the software version 5.10 was ultimately certified and accepted into Service by the BUNDESWEHR; is that right?

MR SWADLING: Correct, yes.

25 MAJ CHAPMAN: And it's still, to your understanding, in Service with the German Forces?

MR SWADLING: Yes, that's my understanding.

30 MAJ CHAPMAN: Is your understanding – when you say “it's still in Service” or “currently in Service”, that's obviously to suggest that there's not a further development beyond 5.10? That's effectively the latest version of this software?

35 MR SWADLING: That's my understanding. Yes, that's my understanding.

40 MAJ CHAPMAN: Just finally, Mr Swadling, 17, you refer to Thales Australia and Thales France not being involved defining, designing or preparing the format specification. You then refer to Thales Australia not being involved in the software development.

45 Then I draw your attention to the last paragraph. And in paragraph 18 you refer to:

In 2018, Thales Australia installed the software for 5.10 in the MRH electronic units.

5 Now, just in relation to that date, can I confirm it's your evidence that in 2018 Thales Australia, on your understanding, installed software into the fleet being operated by Army Aviation?

10 MR SWADLING: So to be clear on the dates and the timeline, that's when we commenced the program of installing the new software into the electronics units. So the program was commenced in 2018.

15 MAJ CHAPMAN: Thank you. Do you have any understanding of when, effectively, the purchase order was made for version 5.10 from the ADF?

MR SWADLING: I only have visibility of the purchase order between us and Airbus. I'm not clear on any dates associated with the arrangements between the ADF and Airbus themselves.

20 MAJ CHAPMAN: Would it be your assumption or understanding, rather, that a purchase order that you have from Airbus would relate to a request from the ADF or a purchase from the ADF for those units for that software upgrade?

25 MR SWADLING: Yes. Yes, I would assume that.

MAJ CHAPMAN: And what's your understanding of when the ADF – based on your understanding of when Airbus purchased it, what's your understanding of when the ADF purchased it, roughly?

30 MR SWADLING: Normally, commercial arrangements would be that a purchase order wouldn't be placed on us until Airbus had an equivalent purchase order from the Commonwealth.

35 MAJ CHAPMAN: Yes.

MR SWADLING: That's the way the process normally works. Occasionally, there are other arrangements made. So, again, I don't know the details of exactly when the order was placed between the Commonwealth and Airbus. I can only assume that Airbus already had a purchase order when they placed the purchase order on us.

40 MAJ CHAPMAN: So in your statement at paragraph 17, your evidence is that you're assuming that where Thales Australia installed the software on

the 5.10, that was obviously the result of a purchase order at some stage in or prior to 2018. Is that right?

MR SWADLING: Yes, that would be my assumption.

5

MAJ CHAPMAN: Those are my questions. Thank you, Ms McMurdo.

MS McMURDO: Any cross-examination? No. We can let Mr Swadling go now?

10

MR MEEHAN: Thank you.

MS McMURDO: Thank you, very much, Mr Swadling. You can hang up now. We appreciate your assistance, thank you.

15

MR SWADLING: Thank you. Happy to assist.

MS McMURDO: Thank you.

20

<WITNESS WITHDREW

MS McMURDO: Yes, COL Streit.

25

COL STREIT: Thank you, Ms McMurdo. Before BRIG Fern Thompson is called, I understand that her legal representative just wishes to make a brief oral application. We went from moving too slow to moving too quick, it would seem. He should be with us shortly. Perhaps while that's occurring, I will formally call BRIG Fern Thompson so that can occur at the same time.

30

MS McMURDO: Thank you. If you can get the witness in, please?

35

COL STREIT: Yes, CMDR Vesper. Thank you.

MS McMURDO: Yes, CMDR Vesper?

CMDR VESPER: Commissioners, yes. My name is CMDR Matt Vesper, and I seek leave to appear for BRIG Fern Thompson. I appreciate I didn't make that application in writing and hence I seek your indulgence in that regard. BRIG Thompson's outside and ready to be called.

40

MS McMURDO: Yes, all right. I take it there are no submissions to the contrary?

45

UNIDENTIFIED SPEAKER: No.

MS McMURDO: No. Leave is granted, thank you.

5

CMDR VESPER: Thank you, Commissioner.

<BRIG FERN THOMPSON, Sworn

10

<EXAMINATION-IN-CHIEF BY CMDR VESPER

15 CMDR VESPER: Ma'am, Commissioner, I'm happy to invite the witness to take the oath or do I - - -

MS McMURDO: It's been done. She's been sworn.

20 CMDR VESPER: Thank you.

MS McMURDO: And feel free to have some water, if you like, and any time you want a break, let me know.

25 BRIG THOMPSON: Thank you, ma'am. Thank you.

MS McMURDO: Thank you.

CMDR VESPER: Ma'am, can you tell this Commission, your full name?

30

BRIG THOMPSON: Fern Thompson.

CMDR VESPER: And are you a Brigadier in the Australian Army?

35 BRIG THOMPSON: Yes.

CMDR VESPER: And, ma'am, can you tell us what position do you currently hold?

40 BRIG THOMPSON: Commander of the 16th Aviation Brigade.

CMDR VESPER: Ma'am, I show you a document or a document may be shown to you, being a statement. Ma'am, if you could just take a moment and familiarise yourself with that document? Is that a statement you signed on 4 November 2024?

45

BRIG THOMPSON: Yes, it is.

5 CMDR VESPER: And, ma'am, is there any part of it you wish to amend or otherwise change?

BRIG THOMPSON: No.

10 CMDR VESPER: And are the contents of it true and correct?

BRIG THOMPSON: Yes.

CMDR VESPER: Commissioner, I tender that statement.

15 MS McMURDO: Exhibit 106.

#EXHIBIT 106 - STATEMENT OF BRIG F THOMPSON

20 CMDR VESPER: Commissioner, I don't have any further questions. That's the examination-in-chief.

25 BRIG THOMPSON: Thank you.

MS McMURDO: Thank you. Yes, COL Streit.

<CROSS-EXAMINATION BY COL STREIT

30 COL STREIT: Thank you, Ms McMurdo.

35 Ma'am, some brief preliminary questions. But before I do that, can I just orientate you to the room. First, immediately to your left is an A3 page which contains a list of names and pseudonyms, corresponding pseudonyms. One side of the page contains the pseudonyms in order of 1, 2, 3, 4 and onwards. The other, the back page, contains a list of individual names alphabetically – their surname alphabetically and the corresponding
40 pseudonym. So if at any point in time you're not certain as to whether a person has a pseudonym, please pause, consult the A3 page and then indicate if the member has a pseudonym, then use that pseudonym.

45 BRIG THOMPSON: I understand.

COL STREIT: Thank you. Ma'am, can I begin by asking you did you receive a section 23 Notice requiring you to answer questions in the form of a statement, and to appear here today before the Inquiry?

5 BRIG THOMPSON: Yes.

COL STREIT: With that notice, did you receive a Frequently Asked Questions Guide for Witnesses in IGADF Inquiries?

10 BRIG THOMPSON: Yes.

COL STREIT: Did you receive an extract of the Inquiry's Directions?

15 BRIG THOMPSON: Yes.

COL STREIT: And did you receive a copy of my Instrument of Appointment?

20 BRIG THOMPSON: Yes.

COL STREIT: And a copy of a Privacy Notice?

BRIG THOMPSON: Yes.

25 COL STREIT: Thank you. Ma'am, and no doubt you will, but can I just ask you to be mindful of matters of security. If there is a matter which you consider requires a response by you at a level above "Official", can you indicate that to me or any other person who is asking you a question at that time and a decision will be made as to whether it is necessary to enter a
30 private hearing.

BRIG THOMPSON: I understand.

35 COL STREIT: Ma'am, the process I'll adopt today is to take you through your statement chronologically. I won't ask questions about every aspect of your statement. I'll draw your attention to certain parts and then ask some questions in relation to those matters.

40 Can I begin by first asking you some questions about your background and qualifications and posting history? You commenced your career in the Army in 1993 as an Army Reservist undertaking training at the Queensland University Regiment; is that right?

45 BRIG THOMPSON: Yes.

COL STREIT: In 1998, you transferred to full-time service in the Australian Regular Army in Army Aviation; is that right?

BRIG THOMPSON: Yes.

5

COL STREIT: You undertook pilot training and were awarded your Army flying badge in 1999?

BRIG THOMPSON: Yes.

10

COL STREIT: You served in the 5th Aviation Regiment. Now, that's in Townsville?

BRIG THOMPSON: Yes.

15

COL STREIT: And at that time, in that posting, you qualified as an Air Assault and Special Operations pilot flying what was then the Black Hawk helicopter?

20

BRIG THOMPSON: Yes.

COL STREIT: And that is the older version of the Black Hawk helicopter as opposed to the new version now operated by 6 Aviation Regiment.

25

BRIG THOMPSON: Yes.

COL STREIT: In 2003, you posted to the Army Aviation Training Centre in a flying role where you also had additional roles as Aviation Safety Officer and Staff Officer in Operations for the then Armed Reconnaissance Tiger Helicopter School?

30

BRIG THOMPSON: That's correct.

COL STREIT: You've completed sub-unit command as a Regimental Operations Officer of the 1st Aviation Regiment. Now, that's in Darwin?

35

BRIG THOMPSON: Yes, Darwin.

COL STREIT: And flew Kiowa and EC-135 helicopters at that time.

40

BRIG THOMPSON: Yes.

COL STREIT: You've completed various staff appointments in Army Headquarters in both Capability Management and Career Management.

45

BRIG THOMPSON: Correct.

5 COL STREIT: And you've served on Brigade Headquarters in the roles of Chief of Staff and Brigade Development Officer which was at the 1st Brigade in Darwin.

BRIG THOMPSON: Yes, that was capability development role.

10 COL STREIT: Thank you. In terms of your command roles, you were the Commanding Officer of the 6th Aviation Regiment in 2016/2017; is that right?

BRIG THOMPSON: Yes.

15 COL STREIT: And that, again, was in relation to – or, at that time was the 6th Aviation Regiment operating MRH-90?

BRIG THOMPSON: No.

20 COL STREIT: So they, at that time, were operating the older version of the Black Hawk that you were qualified on?

BRIG THOMPSON: Yes.

25 COL STREIT: Now, the role of 6 Aviation Regiment at the time was the provision of Special Operations – Rotary Wing Support to Special Operations Command; correct?

BRIG THOMPSON: Yes.

30 COL STREIT: You've served as Directing Staff at the Australian Defence Force Command and Staff College delivering military and defence study programs. Is that correct?

35 BRIG THOMPSON: That's correct.

COL STREIT: And directing staff is a military way of describing that, in essence, you were an instructor on that training course. Is that right?

40 BRIG THOMPSON: Yes.

COL STREIT: You held, in 2020/2021 staff appointments including the Director of Office of Career Management Army in 2022/2023; correct?

45 BRIG THOMPSON: Yes.

COL STREIT: And that is the senior officer responsible for Career Management for Army across all corps for officers and soldiers?

5 BRIG THOMPSON: For officers only.

COL STREIT: Sorry, for officers only.

BRIG THOMPSON: Correct.

10

COL STREIT: There's an equivalent directorate, isn't there, for soldiers?

BRIG THOMPSON: Yes, that's correct.

15

COL STREIT: In terms of operational deployments, you've had a number. You've deployed on Op Warden in 2000 and Tanager in 2000 and 2002. Now, Op Warden was to East Timor?

BRIG THOMPSON: That's correct.

20

COL STREIT: And Tanager was to?

BRIG THOMPSON: East Timor.

25

COL STREIT: That was the next iteration?

BRIG THOMPSON: Yes.

30

COL STREIT: You've been on Op ASTUTE in 2008/2009. And Op ASTUTE was where?

BRIG THOMPSON: East Timor.

35

COL STREIT: And you've been on Op SLIPPER 2013/14. So that's Afghanistan?

BRIG THOMPSON: Yes.

40

COL STREIT: And Op HIGH-ROAD 2018/2019. Where was that?

BRIG THOMPSON: That was in Afghanistan, in the Middle East region.

45

COL STREIT: And also other deployments to the Middle East area of operations as set out in the first page of your statements; correct?

BRIG THOMPSON: Yes.

5 COL STREIT: And you've also, in terms of the deployments to East Timor and Op WARDEN, TANAGER and ASTUTE, they were flying and command-related duties.

BRIG THOMPSON: That's correct.

10 COL STREIT: In terms of your qualifications on helicopters, you have qualified on three military helicopters, namely the S70A-9 Black Hawk, the Kiowa and the CH-47 Chinook. Correct?

BRIG THOMPSON: That's correct.

15 COL STREIT: And your current operational type is the CH-47F Chinook, which is based in Townsville.

BRIG THOMPSON: Yes, that's correct.

20 COL STREIT: You've set out in your statement your total flying hours as at 22 October 2024 on all aircraft types is 2054 hours; correct?

BRIG THOMPSON: That's correct.

25 COL STREIT: And your statement goes on to break down those hours in terms of night hours as well as being Aircraft Captain?

BRIG THOMPSON: That's correct.

30 COL STREIT: In terms of tertiary qualifications, you have a Master of Defence Studies from the Royal Military College of Canberra, a Master of Aviation Management from Swinbourne University, and a Bachelor of Applied Science from the Queensland University of Technology. That's right?

35

BRIG THOMPSON: Yes.

40 COL STREIT: Now, ma'am, turning to other matters. You're presently the Commanding Officer of the 16th Aviation Brigade; correct?

BRIG THOMPSON: I am the Commander of the 16th Aviation Brigade.

COL STREIT: Sorry, I apologise.

45 BRIG THOMPSON: Yes.

COL STREIT: I reduced you in rank. You're the Commander of the 16 Aviation Brigade, and you took up that appointment in December of last year. Is that correct?

5

BRIG THOMPSON: 8 December 2023.

COL STREIT: And as at the time or the date of the accident that this Inquiry is examining, as at 28 July, you were in fact the Director of Office of Career Management Army which is in Canberra.

10

BRIG THOMPSON: That's correct.

COL STREIT: Now, ma'am, in your statement you have set out on pages 2, 3 and 4 various matters particular to your current role as the commander of 16 Aviation Brigade. Is that right?

15

BRIG THOMPSON: That's correct, yes.

COL STREIT: Now, one matter in relation to the areas that you address there concerns your appointment as the Hazard Tracking Authority. If you could just explain or assist the Inquiry to understand what is that appointment about and what's your role in it?

20

BRIG THOMPSON: So the Hazard Tracking Authority is an appointment under the Aviation Safety Management System. The role of that Hazard Tracking Authority is to be informed of, be alert to all the hazards that are tracked through our safety reporting system and our framework. In Defence that's called Sentinel.

25

30

My role is to track those hazards, review the recommendations and findings, track the closure of action items, and also in that role is I provide input to the Military Air Operator for Army, the Accountable Manager, analysis on trends or any hazards to the MAO-AM, and that's an abbreviation for the Military Air Operator, and I do that under his direction and guidance stipulated as required.

35

COL STREIT: And I take it your Headquarters staff assist you in providing you information to discharge that role?

40

BRIG THOMPSON: Yes.

COL STREIT: Ma'am, one matter, can I just confirm with you. Your span of command in 16 Aviation Brigade in terms of looking up, you report

directly, do you, to the Commander of Aviation Command, MAJGEN Jobson?

BRIG THOMPSON: Yes.

5

COL STREIT: And in terms of now, your span of command includes the following units: the 1st Aviation Regiment, the 5th Aviation Regiment, the 6th Aviation Regiment, 20th Regiment Royal Australian Artillery, and the Army Aviation Training Centre. Is that correct?

10

BRIG THOMPSON: That's correct.

COL STREIT: And you have Headquarters staff with you to assist you in – well, providing you information, and ultimately to assist you in discharging your command function in relation to all of those units?

15

BRIG THOMPSON: Yes.

COL STREIT: Ma'am, if I can take you to page 4? Now, you have not flown, ma'am, as I understand it, with CAPT Lyon, LT Nugent or CPL Naggs. Is that right?

20

BRIG THOMPSON: That's correct.

COL STREIT: You have flown with WO2 Laycock, and that was on 2 November 2015, where you were the co-pilot in a Black Hawk for a Special Operations training flight conducted by day and by night. Is that right?

25

BRIG THOMPSON: Yes.

30

COL STREIT: Now, you have set out at paragraph 6 of your statement commencing on page 4 and move through page 5, the list of Orders, instructions and policies that Aviation Command has issued since 28 July 2023 pertaining to flying operations in 6 Aviation Regiment. That's correct?

35

BRIG THOMPSON: Yes.

COL STREIT: One question I have in relation to those matters, at 6(b) you identify that the Army Military Air Operator, AM – what does "AM" stand for, sorry?

40

BRIG THOMPSON: "AM" is Accountable Manager.

45

COL STREIT: Directive 5/2023: implementation of actions following the crash into water near Lindeman Island of an MRH-90 Taipan on 28 July. That's a directive dated 8 September 2023, authorised by MAJGEN Jobson; Correct?

5

BRIG THOMPSON: Yes.

COL STREIT: Now, you then say in the middle of that paragraph, second sentence:

10

The directive implements actions to improve management of risk and safety within Army MAO –

MAO is?

15

BRIG THOMPSON: The Military Air Operator.

COL STREIT: Thank you –

20

arising from internal analysis and reports from the AST.

So the Aviation Safety Investigation Team?

BRIG THOMPSON: Yes.

25

COL STREIT:

The directive has been amended and updated as the investigation continues.

30

So is the Inquiry to understand from your evidence that MAJGEN Jobson issued a directive dated 8 September 2023 implementing actions to improve the management of risk and safety within Army Aviation arising from matters, internal analysis and reports from the Aviation Safety Investigation into the crash of Bushman 83?

35

BRIG THOMPSON: Yes.

COL STREIT: And that process is evolving as updates to the investigation continue; is that right?

40

BRIG THOMPSON: That's correct.

COL STREIT: Are you aware whether the directive is also updated as a consequence of evidence received by this Inquiry from various aircrew, to

45

your knowledge?

BRIG THOMPSON: Not to my knowledge. I'm not quite sure.

5 COL STREIT: Can you turn the page to page 6, where you deal with matters concerning fatigue. And you're asked to describe your responsibilities as Commander of the 16th Aviation Brigade, and issuing directions, instructions and other policies in respect of aircrew fatigue. And you set that out on pages 6 and 7. That's right?

10 BRIG THOMPSON: That's correct.

COL STREIT: Can I just take you to the bottom of page 6 where you say:

15 *Issues raised to me regarding aircrew fatigue are considered by the Commanding Officers and Brigade Level Command and Safety Staff prior to consideration being made regarding continued operations in the reported context.*

20 So when you say "issues raised to me regarding aircrew fatigue" – have issues, since you took up command, been raised to you regarding aircrew fatigue which required a level of management by you?

BRIG THOMPSON: Yes, so the question asks me in in my role how do I
25 respond to any issues that are raised to me.

COL STREIT: Sure.

BRIG THOMPSON: And my response is then contextualised that there is
30 a mechanism from the Chain of Command for which it will be raised. So if there are any issues on aircrew fatigue, they go through the Commanding Officer and to me. So that's the context of the question, it was how do I respond to those.

35 COL STREIT: I understand. I think a little later in your statement you talk about fatigue matters being brought to your attention - - -

BRIG THOMPSON: Yes.

40 COL STREIT: - - - concerning at least one aircrew, and you took particular actions in relation to that member. Is that right?

BRIG THOMPSON: That's correct.

45 COL STREIT: We might come to that a little later, but can I ask you now

to look at page 7, third paragraph which begins with:

Shared responsibility exists between command/management and individuals.

5

Can you just assist the Inquiry, what do you mean by that sentence, “Shared responsibility”?

10 BRIG THOMPSON: So we have a shared responsibility to manage our own fatigue as individuals. We have a command and management and supervision responsibility in the discharge of our duties, that’s what I meant with the shared responsibility.

15 COL STREIT: I think a little later in your statement where you talk about your own experiences in managing fatigue, you recognise that, insofar as your evidence is concerned, that the individual is not really the best judge of their own fatigue level. Is that correct?

20 BRIG THOMPSON: I would say sometimes people are not the best judge of their own fatigue level.

COL STREIT: Sure.

25 BRIG THOMPSON: It is how people respond or level of self-awareness as an individual type of disposition, I would say.

30 COL STREIT: Now, you were asked on page 7 in response to question 9 to outline any current Defence Aviation Safety Regulations and guidance regarding the management of aircrew fatigue, and you list a number of publications from 9(a)-(h), inclusive. That’s right?

BRIG THOMPSON: That’s correct.

35 COL STREIT: Just focusing in on 9(c), the Defence Flight Safety Bureau Aviation Fatigue Management Guidebook, just asking you some questions about that guidebook, ma’am, can you recall – and again, this is not a memory test – but can you recall when you first became aware of the existence of that Fatigue Management Guidebook that you referred to?

40 BRIG THOMPSON: I can’t recall exactly when in my career. There’s always been some kind of guidebook provided by Defence Safety Bureau outlining fatigue.

45 COL STREIT: Sure.

BRIG THOMPSON: So I can't recall exactly what date I was aware of that specific document.

5 COL STREIT: If I could assist you in this way: could the witness please be shown Exhibit 39?

MS McMURDO: Yes.

10 COL STREIT: Ma'am, what you should shortly receive is a copy of the Aviation Fatigue Management Guidebook, version 1.

BRIG THOMPSON: Thank you.

15 COL STREIT: And if you were to turn to the Contents page? On the page opposite the Contents page, bottom left-hand corner, you should observe that this particular guidebook is version 1, April 2021. So in terms of that date, can I ask you this: is it your recollection that you first became aware of the guidebook in a period of time between April 2021 and before you assumed command of the 16th Brigade?

20

BRIG THOMPSON: Yes, that's a reasonable assumption.

25 COL STREIT: Now, ma'am, if you just go to page 32 of the guidebook? Can I take you to the top of the page, right-hand side, there's a subparagraph identification which says, "Self-identification of Fatigue Risks". Do you see that there?

BRIG THOMPSON: Yes.

30 COL STREIT: It says this:

35 *Individuals are not good judges of their own level of fatigue-affected performance. Research has demonstrated that without training, humans are quite poor at determining their actual level of fatigue. However, validated tools such as the Samn-Perelli Scale increase the reliability of self-assessment.*

Do you see that there?

40 BRIG THOMPSON: I do.

45 COL STREIT: So when I asked you earlier in relation to an individual is not necessarily a good judge of their own level of fatigue, was that something you had learnt from different publications or is that something you had learnt when you had gone through this publication?

5 BRIG THOMPSON: I have seen this in my experience. So I would say this is something that I have learnt through experience and has been raised prior to this publication of this guidebook in many of our Aviation medicine training and awareness training serials, I will call them. So I agree with the statement that it's sitting in the guidebook, but I would have come to that conclusion before I read it in a guidebook.

10 COL STREIT: So is - - -

BRIG THOMPSON: Was I aware, sorry?

COL STREIT: Sorry, ma'am, I interrupted you.

15 BRIG THOMPSON: I think the question you asked is, was I aware of it from the guidebook?

COL STREIT: Yes.

20 BRIG THOMPSON: I would say I was aware of it before being published in this guidebook.

25 COL STREIT: So the understanding that an individual is not necessarily a good judge of their own fatigue, in the context of Aviation operations, is something you have learnt based on your earlier experience as an aviator, before becoming aware of it in this publication?

30 BRIG THOMPSON: I would suggest that that's not just an aviation industry issue.

COL STREIT: Sure.

35 BRIG THOMPSON: Whether I could see that with someone driving a car and they don't have that self-awareness for their fatigue, so I would not say it's particular just for the aviation industry.

40 COL STREIT: So broadly, your experience prior to becoming aware of this particular publication was that individuals are not necessarily the best judges of their own level of fatigue?

BRIG THOMPSON: I would say there are many sensors that we could employ to make sure that we can check our levels of fatigue.

45 COL STREIT: Sure.

BRIG THOMPSON: And one of them is to aid should the member – or should we not be self-aware of our fatigue.

COL STREIT: Sure.

5

BRIG THOMPSON: So I would say the statement is not incorrect that you presented it.

COL STREIT: Sure. So what I've just taken you to at the top of paragraph 32 on the right-hand side, simply reinforces the opinions you held earlier, would you accept that?

10

BRIG THOMPSON: Yes.

COL STREIT: Now, ma'am, can I return to the concept of shared responsibility that you've given some evidence about at paragraph 7? So:

15

That shared responsibility –

you say, third paragraph –

20

exists between command, management and individuals.

So the shared responsibility, your evidence is that a reflection of individuals have a level of responsibility in managing their own fatigue? Is that correct?

25

BRIG THOMPSON: That's correct.

COL STREIT: But individuals are not, as the DFSB guide identifies, good judges of their own level of fatigue and as a consequence command and management processes need to be in place to assist in the identification and management of fatigue issues.

30

BRIG THOMPSON: So command and management procedures and frameworks can be in place. But, for example, if I am not well rested, I may not feel fatigued but the framework might require me to identify that I've not had enough rest, or a limited rest period. So it's not just that the command and management framework exists to be the catchall of all fatigue matters to treat that risk of lack of self-awareness as you've described, it's just a different – a bit of nuance the answer, I suppose.

35

40

COL STREIT: So, ma'am, just in relation to something you mention a little later in your evidence concerning your use of an item called a Fatigue Risk Awareness Tool?

45

BRIG THOMPSON: Yes.

5 COL STREIT: If you were to turn to page 35 of the document you have
in front of you, which is Exhibit 39. And 35 and 36, can I suggest to you,
is a copy of the Fatigue Risk Awareness Tool that's presently being used
within Army Aviation Command. Is that correct?

10 BRIG THOMPSON: I think there's a different version to this guidebook
that's been since published, COL Streit.

COL STREIT: Sure.

15 BRIG THOMPSON: So I would say that it may have been updated, but it
looks similar.

COL STREIT: But insofar as, as at April 2021 in this version of the
guidebook, there existed, do you accept, a Fatigue Risk Awareness Tool
which is set out on pages 35 and 36 of the document?

20 BRIG THOMPSON: Yes.

COL STREIT: Now, in relation to your evidence in your statement a little
later from where we are at the moment, but it's of assistance to address it
25 now perhaps. You, later in your statement, indicate that you have used the
Fatigue Risk Awareness Tool; correct?

BRIG THOMPSON: Yes.

30 COL STREIT: Can I ask you this, ma'am? Was the use of that tool by
you something you did before you assumed command at 16 Aviation
Brigade?

35 BRIG THOMPSON: So, yes, it was during – I would say, specifically no,
not specifically that tool. Because I wasn't flying before I – there was a
period in my career where I wasn't flying.

COL STREIT: Sure. So when you later in your statement refer to the use
of the Fatigue Risk Awareness Tool – and I'll take you to that tool shortly
40 – but your recollection is the use of that tool has occurred since you've
returned to flying?

BRIG THOMPSON: That's correct.

45 COL STREIT: Since you've taken up command at 16 Aviation Brigade.

Is that right?

BRIG THOMPSON: Yes.

5 COL STREIT: And to be complete in this, the Fatigue Risk Awareness Tool is now a mandatory requirement for aircrew to utilise prior to going on a flight, which was mandated through an instruction issued by Aviation Command in December last year. Is that right?

10 BRIG THOMPSON: Yes.

COL STREIT: Can I take you to page 9 of your statement, please? Page 9 is a response to question 11 where you were asked to describe –

15 *if, and if so, how 16 Aviation Brigade currently monitors, identifies and/or manages fatigue in 6 Aviation Regiment?*

The last paragraph of your evidence in response to that question is this:

20 *The current Officer Commanding 171 Special Operations Aviation Squadron has implemented a direction for the application of enhanced non-technical skills for Special Operations flying operations. This directs enhanced non-technical skills to individually and collectively manage the physical, cognitive and*
25 *emotional demands of the aircrew.*

Correct?

BRIG THOMPSON: Yes.

30

COL STREIT: What I've said, is that accurate as to what's on the page?

BRIG THOMPSON: That's correct, accurate, yes.

35 COL STREIT: To the extent you're able to in this classification hearing, are you able to assist the Inquiry understand what the application of "enhanced non-technical skills" actually incorporates?

40 BRIG THOMPSON: So non-technical skills are the way we communicate in an aircraft. And it may not be actually any communication at all. It's about the disposition, how we manage a crew and aircrew are trained on it. So what this is an example of is a bottom-up approach for what is working for this Officer Commanding right now.

45 He's instigated it as a trial for a different methodology, and to see if it

enhances communication within the crew or within the Squadron is an example of a bottom-up approach. An idea that's come out of the Squadron which will be assessed whether it's working or effective as an op from the Officer Commanding.

5

COL STREIT: One question, just a brief segue in relation to your operation of a CH-47 Chinook as a pilot as your current qualified aircraft. So the CH-47 is an aircraft where you have two pilots; correct?

10 BRIG THOMPSON: (No audible reply).

COL STREIT: Sorry is that right, ma'am?

BRIG THOMPSON: Yes.

15

COL STREIT: Yes. Can it be flown by a single pilot, in accordance with - - -

20 BRIG THOMPSON: I can't recall if the actual rule is that you can fly it by a single pilot.

COL STREIT: Sure. But insofar as your understanding is concerned, and your training, it's two pilots?

25 BRIG THOMPSON: Yes.

COL STREIT: And two aircrewman or three aircrewman?

30 BRIG THOMPSON: Three. Three aircrewman is the - - -

COL STREIT: And the CH-47, sorry, the Chinook aircraft is an aircraft that can carry a number of passengers; is that right?

BRIG THOMPSON: That's correct.

35

COL STREIT: How many approximately, in terms of being seated?

BRIG THOMPSON: It can be up to around 30 or so. It depends on the configuration.

40

COL STREIT: So it's an aircraft that can carry more personnel than an MRH-90?

BRIG THOMPSON: That's correct.

45

COL STREIT: Thank you. Now, the last paragraph on page 9 you say there:

5 *As aircrew, I actively manage my personal workload and commitments at work. I do this by tracking my hours of sleep and hours committed to work-related duties. I'm aware that all aspects of my life contribute to fatigue. I anticipate tasking and adjust my lifestyle for the demands of both family and work.*

10 *This has meant I pursue choices of personal sacrifice in order to serve. I openly discuss fatigue-related aspects of my life with the Authorising Officer and crew. I utilise the Fatigue Risk Awareness Tool –*

15 as detailed in the Standing Instruction you set out. You also complete Fatigue Attitude Complacency and External Pressures Assessments, FACE checks prior to flying. So your reference there to the utilisation of a Fatigue Risk Awareness Tool, is that a reference to when you have returned to flying duties upon assuming command of 16 Aviation Brigade?

20 BRIG THOMPSON: Yes.

25 COL STREIT: And that use of that tool is as a consequence of it being a mandatory requirement in the instruction issued by Commander Aviation Command in December of last year?

BRIG THOMPSON: Yes. The top part of the statement is I would track that personally anyway and the tool actually provides the same – a similar effect.

30 COL STREIT: Sure. Can I show you Exhibit 32, please? Ma'am, whilst that's being brought to you, can I ask you to turn the page to page 10, to the top paragraph. About the middle of the paragraph you say this – I apologise, 37. At the middle of the paragraph you say this:

35 *As outlined in the guidebook, I acknowledge and am self-aware that I may not be the best judge of my own fatigue levels and performance. I utilise the team around me to provide their assessment on my performance. Together, we create a pre-flight bubble for me to concentrate on the essential task for flight, both before and after flying, to mitigate distractions that may contribute to my alertness.*

45 That's correct, what I've read out?

BRIG THOMPSON: That's correct.

COL STREIT: And, ma'am, a reference to "pre-flight bubble", what does that mean?

5

BRIG THOMPSON: It's a deliberate planned period of time for which I will discontinue other work and focus on preparation for flight. Whether that be administration or just personal preparation for it. It's colloquially termed as a bubble because it creates a barrier to distractions during those periods of preparation.

10

COL STREIT: The Inquiry has received some evidence, ma'am, that workloads for Troop Commanders and other Aircraft Captains performing different duties sometimes impact their ability to maintain a pre-flight bubble. And as a consequence, they're dealing with administrative matters whilst, in effect, heading out to the aircraft on occasion. Now, that evidence would concern you, I take it?

15

BRIG THOMPSON: Yes, it's not in line with what I would know or also expect.

20

COL STREIT: And so this pre-flight bubble concept, is it as a concept enshrined, to your knowledge, in any policy where it's directed that before a sortie there is a pre-flight bubble of a certain duration which, if it existed, would provide those junior members in Aviation performing junior command functions to say, "Stop, I've got to enter the pre-flight bubble and I can't be interrupted", which means everyone else goes away and has to leave them alone? Do you know if there's anything like that that exists?

25

BRIG THOMPSON: In the 6th Aviation Regiment there's a period of time – I'm not quite sure what they call it now – for which once you've entered that period of time there is no distractions from that mission. I've observed a very similar process and culture within the other Regiments that I've observed. I can't recall if there is any document that stipulates that outside of 6th Aviation Regiment.

30

35

COL STREIT: Ma'am, could I request this, please – and we do this sometimes with witnesses – if something arises where a further search by the witness of some publications or documentation might assist, then we ask the witness to do that.

40

Ma'am, can I ask you after you've given your evidence today and over the next coming days, if you could just interrogate your records and policies and maybe ask your staff as to whether such a policy requirement exists. And then the Inquiry will be in touch with you about the outcome

45

of that. Thanks.

BRIG THOMPSON: I might just grab a pen to write that down, so I can take that task on notice.

5

COL STREIT: We'll make a note, ma'am, and we'll communicate that through your lawyer.

BRIG THOMPSON: Thank you.

10

COL STREIT: Can I take you to the bottom of page 10, please ma'am. You there deal with this – the question is:

15

Outline what awareness you have, if any, as Commander of 16 Aviation Brigade, of the results of the Defence Flight Safety Bureau annual snapshot surveys, and whether the Brigade is taking any steps to address concerns raised in those results about ongoing aircrew fatigue.

20

And you set out your responses in the balance of page 10 and just over on page 11 – sorry, in the balance of page 10. And you make reference to and give evidence that you're aware of the Brigade results for the 2024 Defence Flight Safety Bureau snapshot survey as they've been briefed to you by unit Commanding Officers. Is that right?

25

BRIG THOMPSON: That's correct.

COL STREIT: Have you also been briefed about what the results were for the 2023, 2022, 2021 snapshot surveys?

30

BRIG THOMPSON: I get access to those because there is comparative data in the 2024 survey.

COL STREIT: Sure.

35

BRIG THOMPSON: I have not access to, you know, the commentary that assists with those reports. But the data appears on the 2024 – I have not been briefed on it, but it appears on that 2024 snapshot.

40

COL STREIT: I'm not certain as to the classification of the 2024 snapshot survey, but can I just ask you this in broad terms? The briefing on 2024 survey as compared to the data you've seen for earlier surveys, does it show or demonstrate an improvement in fatigue management or fatigue in the workplace?

45

BRIG THOMPSON: It does. And it also presents – I’m just being very careful with my words here - - -

COL STREIT: Sure.

5

BRIG THOMPSON: - - - for the sensitivity of that information. It also presents that the Brigade is reporting lower or comparable to the Defence Aviation community at large results. So to answer your question, yes, it is trending towards less reporting of fatigue and more effective management of it, and now in line with Defence Aviation at large.

10

COL STREIT: And is it accurate to say that since the accident on 28 July 2023, Aviation Command has reviewed its policies and management procedures concerning the management of workload and fatigue across its workforce?

15

BRIG THOMPSON: So a Special Flying Instruction has been issued. And I answered that in a previous answer.

20

COL STREIT: Sure.

BRIG THOMPSON: Pertaining to aviation fatigue management that was part of the Defence Aviation Safety Regulation requirement for documenting that fatigue risk management or management framework.

25

COL STREIT: Yes.

BRIG THOMPSON: So that was in train, what, I believe prior to 28 July 2023. So I cannot say whether that was in response to the accident, but the document and the rules around how we manage fatigue was absolutely stipulated by the Defence Aviation Safety Regulations.

30

COL STREIT: What the Inquiry understands is that the Defence Aviation Safety Authority brought in a new Regulation in October 2022 concerning fatigue. Is that your understanding?

35

BRIG THOMPSON: I’ll have to – I knew that they brought it in, I’m just actually not quite sure of the date.

40

COL STREIT: Sure. Just accept from me that that’s accurate.

BRIG THOMPSON: Yes, okay.

COL STREIT: But what then occurred was the Defence Aviation Safety Authority, in accordance with its policies, allowed a period of time for

45

Military Air Operators to amend their own internal processes before the Regulation became effective.

BRIG THOMPSON: Okay.

5

COL STREIT: Did you understand that there was a lead-in time for that to occur?

BRIG THOMPSON: It is normal for a period of change management to occur within our safety Regulations - - -

10

COL STREIT: Sure.

BRIG THOMPSON: - - - so that it is effective change, and it's brought in commensurate with the workforce adjusting to that change. So I would contextualise that's probably a period of change management.

15

COL STREIT: And I'm not suggesting you had any involvement in this, ma'am, because the change came into effect before you returned to command of a flying organisation.

20

BRIG THOMPSON: Okay.

COL STREIT: So I just was ascertaining your awareness of that change.

25

BRIG THOMPSON: Yes.

COL STREIT: So given your earlier response that the changes brought into the improvement of the management of fatigue within Aviation Command were largely as a result of bringing policies into effect because of a change to the DASR Regulation – is that correct?

30

BRIG THOMPSON: Yes. And I would say as part of our continual improvement on a process for our publications.

35

COL STREIT: Can I take you to page 11 now beginning paragraph 15, you were asked this question:

40

Prior to being advised by the Inquiry you would be called as a witness, and as a result of you observing any of the evidence of witnesses during hearing phase 1 to 3 inclusive, outline the following –

the first question is:

45

Has the evidence you observed in the Inquiry caused you to take any action within your span of command concerning aircrew workload and fatigue management? And if yes, then describe what actions you have taken.

5

Your response to that question is, “Yes”, and then you go on to say some things. So I take it from that response is that, as a result of having observed evidence in this Inquiry during hearing phases 1 to 3 inclusive, you have taken action within your span of command concerning aircrew workload and fatigue management. Correct?

10

BRIG THOMPSON: Yes.

15

COL STREIT: Hearing phases 1 to 3, to be clear, is the initial hearing in February of this year, the hearing in May of this year, and the hearing in June of this year. Is that right?

BRIG THOMPSON: Yes.

20

COL STREIT: Do you recall observing the evidence of, for example, D20 – if you just look at the pseudonym list?

BRIG THOMPSON: No, I didn’t see the evidence of D20.

25

COL STREIT: Were you ever informed in relation to that person’s evidence, about what it contained?

BRIG THOMPSON: Perhaps not specifically about that person’s evidence, but the theme of hours worked was reported to me.

30

COL STREIT: Sure. And were you later informed or did you become aware that that member was a Troop Commander deployed on Exercise TALISMAN SABRE, but then left TALISMAN SABRE before 28 July 2023?

35

BRIG THOMPSON: I’m aware of those circumstances.

COL STREIT: Are you aware of the underlying reasons as to why that member returned to 6 Aviation Regiment from the exercise?

40

BRIG THOMPSON: I would say I have that from hearsay, not from any evidence or I wouldn’t be able to recall to you exact those reasons.

45

COL STREIT: Did you observe the evidence of D15 in the June hearing? Just have a look who D15 is.

BRIG THOMPSON: Yes. Yes, the only reason I pause is I didn't know that member.

5 COL STREIT: Certainly.

BRIG THOMPSON: But, yes, I did actually – was present during that - - -

10 COL STREIT: Did you observe the evidence of other MRH-90 pilots who gave evidence, CAPT Rogan, for one?

BRIG THOMPSON: I believe he was a Chinook pilot. I believe he is a Chinook pilot.

15 COL STREIT: Sorry, you're quite right, a Chinook pilot. But he gave evidence in June. Did you observe his evidence?

BRIG THOMPSON: Yes.

20 COL STREIT: Were you present, can you recall, for the duration of the June hearing? It's, again, not a memory test, ma'am.

BRIG THOMPSON: Yes. I wasn't present for the complete hearing.

25 COL STREIT: But in any event, the evidence that you've observed, insofar as those hearings' phases, has caused you, within your span of command, to take action concerning aircrew workload and fatigue management. Correct?

30 BRIG THOMPSON: Yes.

COL STREIT: What you have done is, you say:

35 *I have actively engaged and reinforced awareness with unit Commanding Officers, which has increased surveillance across the Brigade of aircrew workload and fatigue as a hazard. Formal half-yearly review of Brigade fatigue policy was conducted on 30 May 2024. As per our continual improvement framework, we conducted the established half-yearly review of current policies on*
40 *fatigue.*

You say:

45 *I have personally engaged with individual members within the Brigade who have Command duties who continue to fly. I have*

5 *increased surveillance at the 6th Aviation Regiment this year through Brigade Headquarters' staff visits. I prioritised Brigade staff presence in collaboration with Commanding Officers. As an additional, I have supervision to assure compliance during any dedicated periods of flying.*

That's all correct?

10 BRIG THOMPSON: That's correct.

COL STREIT: In terms of the next question, you were asked that, "If yes" – in other words, you had taken action concerning aircrew workload and fatigue management, you were asked:

15 *Have you taken any additional actions concerning pilots and aircrewman that hold command or other unit responsibilities including Troop Commanders, QFI, Standards Officers? And if yes, what steps you have taken?*

20 You say this:

25 *I have personally engaged pilots and aircrew to assess their levels of workload. In collaboration with Commanding Officers, I have directed the removal of some individuals from specific periods of work and directed they take leave. In collaboration with Commanding Officers, I have directed removal of additional responsibilities from some individual staff directly involved in high intensity periods of flying.*

30 Is that correct?

BRIG THOMPSON: That's correct.

35 COL STREIT: Can I just ask you this? In relation to those matters, and I'm not asking you to go into the detail identifying the particular individual or individuals concerned, what I am asking you though is how did those matters come to your attention, which then caused you to take certain actions?

40 BRIG THOMPSON: So, firstly, hearing the evidence from some of the witnesses who are currently in our workforce, I became aware of it.

COL STREIT: Sure.

45 BRIG THOMPSON: I've also become aware of it, weekly I receive

- information on people's leave balances. I'm aware of the personnel who might be involved in a specific activity, so sometimes the same names come up while they're flying and conducting Command-type of duties. I've been engaged personally by officers and, during my many visits to the Regiment,
- 5 I personally engage with officers and soldiers in the Regiment and we talk these things through; whether it be seeking advice, "Hey, ma'am, how can I manage my workload?", and they look for guidance and leadership on those aspects.
- 10 COL STREIT: So is your experience, by attending the units that you command, is it your observation that on occasion aircrew are sufficiently comfortable and confident to come and speak to you one-on-one to raise their issues for consideration?
- 15 BRIG THOMPSON: Yes, that is my experience.
- COL STREIT: As a consequence of those matters, you've taken actions individually as the Commander; correct?
- 20 BRIG THOMPSON: Correct.
- COL STREIT: Does that include also engaging with the member's Chain of Command, including the CO?
- 25 BRIG THOMPSON: The member's Chain of Command absolutely, it's a collaboration.
- COL STREIT: Sure.
- 30 BRIG THOMPSON: It's the right thing to do.
- COL STREIT: Ma'am, can I ask you to turn the page to page 12? Can I just deal with the post-incident matters following the crash of Bushman 83? Before I ask those questions, I'd just confirm, you did not
- 35 deploy on Exercise TALISMAN SABRE, did you?
- BRIG THOMPSON: That's correct.
- COL STREIT: You were in your previous role as Director of Officer
- 40 Career Management.
- BRIG THOMPSON: That's correct.
- COL STREIT: In terms of involvement in the post-incident matters, you
- 45 attended the funeral of WO2 Laycock; is that correct?

BRIG THOMPSON: That's correct.

5 COL STREIT: You attended memorials at the 6th Aviation Regiment on 27 September 2023; the Army Aviation one-year commemoration at Swartz Barracks, Oakey, on 27 July 2024; again, the one-year commemoration on water ceremony in the vicinity of the Whitsundays on 28 July '24; and the one-year commemoration at 6 Aviation Regiment at Holsworthy Barracks on 29 July 2024. Is that correct?

10

BRIG THOMPSON: That's correct.

COL STREIT: You did not attend the Anzac Day service at Holsworthy on 25 April 2024; is that right?

15

BRIG THOMPSON: That's correct.

COL STREIT: You have, in your function as the Commander of 16 Aviation Brigade, been briefed by the Director of Defence Flight Safety Bureau in relation to the Aviation Safety Investigation. Is that correct?

20

BRIG THOMPSON: Yes, interim finding.

COL STREIT: I'm looking at page 13, on the top of the page of your statement. You received a briefing from the Director DFSB on 19 July 2024?

25

BRIG THOMPSON: That's correct.

COL STREIT: And in that briefing the Director – that brief included technical and operational information. The technical information brief that you received indicated that the aircraft was functioning as expected at the time of the accident, which remains consistent with initial analysis. Is that right?

30

35

BRIG THOMPSON: That's correct.

COL STREIT: You have not been provided any information about Bushman 81, 82 or 84; is that right?

40

BRIG THOMPSON: That's correct.

COL STREIT: You received a similar briefing from MAJGEN Jobson on 6 August 2024; correct?

45

BRIG THOMPSON: Yes.

5 COL STREIT: That brief included technical and operational information as provided by the DFSB. You were told at that briefing the technical update indicated the aircraft was functioning as expected at the time of the accident. Is that correct?

BRIG THOMPSON: That's correct.

10 COL STREIT: At paragraph 24 you were asked this:

15 *Provide details of any briefings you have given to ADF members about information obtained from the DFSB investigation into the cause of the crash of Bushman 83. This includes any information about Bushman 81, 82 and 84.*

You say this:

20 *I'm aware of the psychological impacts of the crash. I'm responsible for taking all reasonable steps to ensure the wellbeing and welfare of members under my command. This includes keeping members of the capability informed on the status and information within my authority of the DFSB investigation. Accordingly, I provided verbal briefings to members of 16 Aviation*
25 *Brigade, Army Aviation Systems Branch, Capability Acquisition and Sustainment Group and some Aviation aircrew posted to the wider Defence Force.*

30 Is that correct?

BRIG THOMPSON: That's correct.

35 COL STREIT: In the following paragraphs over to page 14 you set out the methodology by which you delivered that information, having regard to the concept of vicarious trauma. Is that right?

BRIG THOMPSON: That's correct.

40 COL STREIT: And being cognisant that some individuals might find the information upsetting and challenging.

BRIG THOMPSON: Yes.

COL STREIT: In giving briefings to personnel within your span of

command, you have explained to them that the technical information indicated the aircraft was functioning as expected at the time of the accident and that this remains consistent with initial analysis, and that the – that’s correct?

5

BRIG THOMPSON: That’s correct.

COL STREIT: Have you told them that the Aviation Safety investigation is ongoing?

10

BRIG THOMPSON: That’s correct.

COL STREIT: At paragraph 25 you set out information as to who you have provided verbal briefings to; is that right?

15

BRIG THOMPSON: Yes.

COL STREIT: Paragraphs 26 and 27 deals with your actions in relation to becoming aware of an Aviation Safety incident involving an aircraft on 4 September 2024 during flight trials between – maintenance and flight trials involving Navy Aviation Command and Army’s Test and Evaluation Section. Is that right?

20

BRIG THOMPSON: That’s correct.

25

COL STREIT: As a consequence of that matter and its ongoing investigation, if you look at paragraph 27, your response, second sentence, you say:

30

*The Army Mobility Air Operator Accountable Manager,
MAJGEN Jobson, directed an immediate review of Army Aviation
Flight Overwater policy.*

Is that right?

35

BRIG THOMPSON: Yes. Sorry, I’ll just correct you. That’s the Army Military Air Operator, not “Mobility”.

COL STREIT: Thank you.

40

*Army Military Air Operator Accountable Manager,
MAJGEN Jobson, directed an immediate review of Army Aviation
Flight Overwater.*

45

That’s right?

BRIG THOMPSON: That's correct.

COL STREIT: You, in the last paragraph of your statement, say:

5

I informed the Commanding Officers within 16 Aviation Brigade of the incident, raised it to their attention because it's part of our generative safety culture to share information from which we can identify hazards proactively or respond in a reactive manner. This allowed the Commanding Officers to exercise their accountability and suitably apply mitigation or awareness training to their flight operations, and to inform their aircrew accordingly.

10

Is that correct?

15

BRIG THOMPSON: That's correct.

20

COL STREIT: Ma'am, they're my questions for you. I understand, through your Counsel, that you would like – before Counsel representing might apply to ask any questions, you'd like a brief opportunity to say something?

25

BRIG THOMPSON: Thank you. I would just like to say publicly that I express my deep condolences to the families on behalf of the Brigade; that we are available to you always; that we miss them and they will never be forgotten. We'll always remember them. Thank you.

30

COL STREIT: Thank you, ma'am. They're my questions.

MS McMURDO: Thank you, COL Streit. Yes, thank you for that.

35

Could I just ask you one thing about your statement at paragraph 14 on page 11. The question you were responding to was to outline any other processes by which your Brigade collects data from personnel in Army Aviation about their levels of fatigue or psychological distress, what those processes indicate, and what steps the Brigade is taking to address these concerns.

40

At the end of your response you talk about the Electronic Flight Bag as a means of recording individuals' FRAT results. You said that trial has concluded, but there's a pending decision about the future use of the Electronic Flight Bag. Could you just explain to the Inquiry how the Electronic Flight Bag works and how it would collect data, and how that might be useful?

45

BRIG THOMPSON: So the context, ma'am, is that the Electronic Flight Bag is ostensibly a tablet with all our flight data on it. It has an ability, just like your mobile phone, for a notes page. So this is an example of a bottom-up initiative which, to be technically correct, we're not collecting data on this. But it allows a member, on their Electronic Flight Bag, to just record in the notes a diary – and I'll use that word – or journalise their number of FRAT results, so their Fatigue Risk Awareness Tool results. There is a requirement, should it hit three ambers or a red, that it's actually recorded in our Flight Authorisation System and that is collected and tracked by the Brigade. This, ma'am, is a mechanism, a bit like in my other anecdotal of my experience of diarising how I feel. I don't collect this data, but the members are trialling that to see if that is effective for their personnel management of their own fatigue.

MS McMURDO: So the trial was limited to whether members found it useful? Is that what - - -

BRIG THOMPSON: Yes. So the trial was not – is actually a bottom-up initiative that they are trialling to see if that helps them journalise or diarise their fatigue and provide them their awareness of it.

MS McMURDO: Okay. You say, "A decision on the future use of the EFB to record results is pending". Do you have any vision as to how that could be used to record data in an ethical way – ethical and useful way?

BRIG THOMPSON: Yes, so we don't record that data – yes, so I think I described earlier how self-awareness may not be the most effective way to understand our fatigue levels. So diarising – and I'll use that word – whether you do it electronically or in a journal, to track your fatigue, that is the concept there. So it is not collecting data. I don't collect data. The flight bag doesn't store that data on a cloud. It's actually just like your notes in your - - -

MS McMURDO: So it's personal and confidential to the individual.

BRIG THOMPSON: Yes. It's not available to anyone else outside of the person who uses it.

MS McMURDO: Do you think there would be some use if it could be anonymised to just collecting that raw data and to see what can be found out of it?

BRIG THOMPSON: If it's conducted within the *Privacy Act* in collection of data, I think it would be a valuable tool. As I said, in my experience, I use a diary or a notebook to track that. If members think this is useful for

them - - -

5 MS McMURDO: But at the moment you're not really exploring that possibility of wider use of it beyond the individual member's personal use? Is that - - -

10 BRIG THOMPSON: Yes, I will await what the CO decides, ma'am, and see if it works, if it's effective. If it's – sometimes tracking data for some of our members is another administrative burden and that's – they will tell me that. So that is to be avoided here. I'll await to see what the Commanding Officer or the OC offer.

MS McMURDO: Thank you. Applications to cross-examine?

15 AVM HARLAND: I just had a couple of questions.

MS McMURDO: Yes, sorry. Just a moment.

20 AVM HARLAND: Just a couple of questions. Prior to your tenure as Commander 16 Aviation Brigade, there was a sleep study that was commissioned and out of that came some recommendations to go forward with some sleep tracking. That didn't go ahead and there was an observation that DFSB, Defence Flight Safety Bureau, was already doing some work so there was the idea that perhaps Army Aviation would leverage off that. Has that gone any further during your tenure at
25 16 Aviation Brigade?

30 BRIG THOMPSON: I'm not aware of a sleep study within 16 Aviation Brigade. No, sir.

AVM HARLAND: Okay.

MS McMURDO: Or what about one with the DFSB?

35 BRIG THOMPSON: So DFSB, ma'am, provide devices that you can track sleep. That is available to all our Commanding Officers should we pursue it, or the Brigade. So I am aware of that being available through the Defence Flight Safety Bureau should anyone want to pursue that.

40 MS McMURDO: So it's available to officers or anyone?

BRIG THOMPSON: To the Commanding Officers, yes.

45 MS McMURDO: To the Commanding Officers. Right.

BRIG THOMPSON: The only other sleep - - -

MS McMURDO: From what level are we talking about there?

5 BRIG THOMPSON: I would be unclear, but I can get access to the website
and just find out how we would access that. It's advertised on the Defence
– so an individual level would not require my authorisation to conduct,
ma'am. The only other sleep study would be a medical-in-confidence kind
of matter that I would - - -

10 AVM HARLAND: Yes.

BRIG THOMPSON: Which is part of – in my experience, is part of my
15 annual aircrew medical for where the Medical Officer will deep dive into
my sleep and my sleep hygiene and fatigue, and explain what's available to
me. And unless a sleep study is associated with someone's health, which I
may not be aware of - - -

AVM HARLAND: Okay. Great, thanks.

20 BRIG THOMPSON: So that's the sleep studies I'm aware of.

MS McMURDO: That's just an individual examination of sleep between
the medical practitioner and the individual. That's not a study, as such.

25 BRIG THOMPSON: Okay. Ma'am, I misunderstood. Perhaps the –
clarify what a study is. Could be an individual medical study or on an
organisational level, and that's probably answered both of them.
Apologies.

30 MS McMURDO: No, we're talking about organisational level.

BRIG THOMPSON: Okay, organisational. Apologies.

35 MS McMURDO: You're not aware of any DFSB organisational sleep
study?

BRIG THOMPSON: Not being conducted within the Brigade right now.

40 MS McMURDO: You're just not aware of a DFSB sleep study that has
fed back to the Brigade anything?

BRIG THOMPSON: Not in my tenure.

MS McMURDO: No. Thank you. Thank you, I just wanted to clarify that. Yes.

5 AVM HARLAND: A follow-on question and regards to a previous witness spoke about in 6 Aviation Brigade, non-Aviation Officers and airmen have been filling positions of Aviation support roles in a way to depressurise the overheads on the aircrew, so they could concentrate on flying.

10 BRIG THOMPSON: Okay.

AVM HARLAND: You're aware of that?

15 BRIG THOMPSON: I'm aware of we have Aviation Officer as a stream in our employment category, yes.

AVM HARLAND: But non-Aviation Officers are filling some of the Aviation support roles in 6 Aviation.

20 BRIG THOMPSON: Sir, I don't know what a – as in a different corps?

AVM HARLAND: Non-aircrew. Let's say non-aircrew.

25 BRIG THOMPSON: Non-aircrew, sorry. So, yes, I am aware there are Aviation Officers who are not pilots – is that – are fulfilling roles, and there is a career model for them.

30 AVM HARLAND: Yes. So is that something which is likely to be enduring to – because as has been alluded to before, the workload and distractions that the aircrew, particularly as they become more senior in the unit are exposed to have been articulated as problematic. And one of the ideas was that the non-aircrew folk do some of the secondary duty, like the OPSO role, et cetera. 6 Aviation Regiment have said that that's actually happening at the moment while they're transitioning through Black Hawk.
35 Do you see that as being something which is enduring within Army Aviation or is this just an episode that's all part of the transition?

40 BRIG THOMPSON: So we have had Aviation Officers who have not been aircrew for many years and ever since I joined Army Aviation in 1998. There are – so they are aircrew – sorry, Aviation Officers who are just not pilots and they fulfil those roles of OPSOs for many years in the Regiments that I've served. So this is – I describe that because that's new – if that's new to you, it's not new to me that they've been part of it.

5 Recently the career management model for those Aviation Operations Officers has been rearticulated through Army. And it has recently been, I suppose, available to people at 6 Aviation Regiment, this has been across the Regiments as long as I have served in them, there have been Aviation Officers who are not aircrew fulfilling a number of roles across the Regiment, including OPSOs.

AVM HARLAND: Do aircrew fill those roles as well?

10 BRIG THOMPSON: Yes, they can, as part of their career development, and also opportunity. Some of our aircrew, in my experience, strive to serve in those roles.

AVM HARLAND: Okay.

15 BRIG THOMPSON: Does that answer your question, sir?

20 AVM HARLAND: It does, yes. Yes, thank you. A general question, and it's to do with administration and governance and the overheads. And again, we've heard evidence from witnesses, almost a constant theme, of the overheads of admin and administration and governance are high, they distract them from their primary role of doing their military job. What's your observation of that and, in your experience, has the administration and governance overheads within Defence increased over time during your career?

25 BRIG THOMPSON: Can you clarify if the administration and governance is pertaining to flying operations or is it administration and governance writ large?

30 AVM HARLAND: In general.

35 BRIG THOMPSON: I'm very careful, because as I have progressed through the ranks I would see more administration and governance because it's my role and responsibility and accountability. So I would be more involved in that type of the business. So I actually don't know if it's actually increased for a certain person in a time and space. Can you just ask the question again, if it's been - - -

40 AVM HARLAND: I'm just trying to get a sense of whether the – kind of like the day-to-day distractions. The overheads of pulling on the uniform and having to do all these other things, other than your main task as a military person, whether you be a soldier or an officer, in the Aviation sense, refining your trade as an aviator or as a maintainer.

45

BRIG THOMPSON: Okay.

AVM HARLAND: All the things that don't pertain to that, that are just overheads.

5

BRIG THOMPSON: Potentially there could be increases, I would say, but the different systems have come into place which are meant to reduce and provide information are more available. So I would say, from my experience, going into – and I would apply it to Special Flying Instructions, when I was a junior pilot, we would have to trawl through books to get information. Now I can go to an electronic flight book and search for it and it can be available quicker.

10

I couldn't give you an assessment of what the content, but if that's what people are feeling there is more administration and governance, that is their lived experience and that's what I would look at, sir, as opposed to whether it is an actual fact or more governance. I can't actually answer that question. But I am very aware that if people feel that and they are reporting that, that is something that I would look to help them out with.

15

AVM HARLAND: No, thank you. That's great. Another question, the Regimental Pilot Scheme, which appears to be a scheme that allows you to manage experience within units to bolster experience where you might have a shortfall, is that actively used in 16 Brigade across all of the flying units to manage experience to make sure you've got the appropriately skilled and experienced people to build the future aviators?

20

BRIG THOMPSON: Yes, it's across all the units. I would also describe and characterise it by a career preference of a member as well.

25

AVM HARLAND: But do you use it to manage risk, effectively?

BRIG THOMPSON: It would manage a proficiency of a – if the risk was poor proficiency or low experience in a specific role. And I'm drawing my mind to instructional experience here, sir. But, yes, it is employed across the Brigade to manage – to treat areas, where there isn't that level of experience, we would seek to have a more broader and balanced level of experience across a certain part of the Brigade, yes.

30

AVM HARLAND: Thank you.

MS McMURDO: Could I just ask, following on from that, how many Regimental pilots would have you at the moment in the Brigade?

BRIG THOMPSON: I can give you a general number, ma'am, just

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45

because of the classification.

MS McMURDO: Yes, sure. Just a rough idea.

5 BRIG THOMPSON: Between 100 and 200.

MS McMURDO: Thank you.

10 AVM HARLAND: They're Regimental pilots?

BRIG THOMPSON: They are pilots within the Brigade who are in flying positions.

MS McMURDO: No, that's not what I meant.

15 BRIG THOMPSON: So Regimental pilots. I wouldn't – I'll have to take that on notice, ma'am. I do not - - -

MS McMURDO: The stream of going neither to the specialised stream or the generalist stream, but choosing to be – or a decision between the Regiment and the individual to go into a special Regimental pilot stream.

BRIG THOMPSON: I apologise. I'll have to take that on notice.

25 MS McMURDO: Thank you.

BRIG THOMPSON: Thank you. If you can just write that down for me, I will - - -

30 AVM HARLAND: Great. Just in terms of Defence aid to the civil community, we've heard about how that can create stressors when the unit is trying to develop its aircrew because it comes in and it changes the program at short notice. What's your approach to that, as the current Commander?

35 BRIG THOMPSON: I'm not quite sure, sir, what that is in particular relation to. So is it around the whole of Army Aviation and the Brigade?

40 AVM HARLAND: Yes. So when you get a short notice task where you're in the middle of a training program, you get a short notice task, now what's your approach to that? Is it to push back and say, "Hey, this is really going to upset our continuum", or is it basically, you know, all hands to the pump and you basically just automatically pick it up and go?

45 BRIG THOMPSON: I will be careful with my words because of the

5 security classification, sir. So I would say that I will manage the operational demands on the Aviation Brigade accordingly, and we will allocate a number of aircraft or options to respond to specific missions or tasks, and they will be allocated those tasks. So it's very clear within our Orders and procedures for whom would have that responsibility, so that the unit can prepare for that competing priority that I think you just described to me.

10 So I will manage that across the Brigade. It doesn't need to go to one particular unit or element, and I will take into consideration the demands, the tasks that are already placed on that unit, and manage the operational demands and take that into consideration if they were producing, as you described, an introduction to Service or a training piece.

15 So, for example, our Aviation Training Centre will have a lot of clear tasks to deliver training, and I would seek to allocate tasks if there was a short notice task in support of our community outside of that. It would depend on the priority, but they will have very clear roles and responsibilities so that we don't disrupt any of our tasks, certainly during the generation of
20 people qualifying on a certain platform.

AVM HARLAND: So I'm reading - - -

25 BRIG THOMPSON: And that's quite roundabout, sir, but I suppose I could give you a more detailed briefing outside of this forum, if required.

30 AVM HARLAND: Tell me if I've got this wrong, but I sense that it's a significant priority. Other things would be stopped to be able to enable you to conduct the Defence aid to the civil community task, and then you'd play catch-up later.

35 BRIG THOMPSON: I would say it's not as clean as that. It would be a management of what is the priority at the time. So if the priority is the training, I would articulate that operational demand and provide another option as a Military Commander to provide the same outcome, but not on a particular machine, if that's what you're getting towards, sir. So I do have that flexibility. Receipt of military planning is – I just provide this so that – the military planning, I can provide options to how the effect is sought and delivered, as opposed to someone usually coming to me saying, “I
40 specifically want this thing to deliver that effect.” So it gives me that freedom, and it's a discourse between the tasking authority and me, as the Commander.

45 AVM HARLAND: Okay. That gives me a sense. With that, over the stand down period, so the period of reduced activity over the Christmas

period, for example, when you have your folk on leave, are they also holding standby for the high-risk weather season, I think it's called?

5 BRIG THOMPSON: There will be specific tasks and readiness and availability that we will require. It's very clear and unambiguous for our people, who are specifically identified for that, so that we can manage their life around that. That is clearly articulated well in advance of them commencing that period for which they would need to respond quickly. Yes, sir.

10

AVM HARLAND: So are they on leave at that time?

BRIG THOMPSON: Yes.

15

AVM HARLAND: They're on leave, and they're on short notice, so their ability to be able to do what they want on their leave is impacted.

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BRIG THOMPSON: So that is managed at the Troop Commander level, and then will be managed at the OC level, and so there is flexibility for which – and we aim to get as many people away on leave, and protect their leave, particularly if it's for the purposes of rest or spending time with family.

25

AVM HARLAND: Are there restrictions on where they can travel to, for example?

BRIG THOMPSON: It would be dependent on the notice to move, sir.

30

AVM HARLAND: Yes, okay. That's great. Just one final question. Just in terms of – I'm not sure if during your time at the hearings you heard about the austere environment, deploying in tents and the like. Did you hear some evidence on that?

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BRIG THOMPSON: Yes, I did, sir.

40

AVM HARLAND: I was just wondering if that's given you pause for thought in terms of what you might do in future deployments? I mean, acknowledging the fact that Army Aviation, yes, will on occasions require to deploy to austere environments, has that given you pause for thought about how that might be improved in the future?

45

BRIG THOMPSON: Sir, I have deployed in austere environments on many exercises. There are things that we will learn from how best we can prepare for, and prepare our people for those austere environments. So, yes, I will think about how we best do that. I have experienced living in austere

environments, in a different range of environments in my career, and I don't anticipate we will ever not deploy to austere environments, sir. We're a Military Force, and we will - - -

5 AVM HARLAND: Yes, and I'm not suggesting that's the case at all.

BRIG THOMPSON: Yes. So learning from experiences, exposing our people to that, is part of the preparation for the hazardous and uncertain environment for which we are force preparing, sir.

10

AVM HARLAND: Okay. Thank you.

MS McMURDO: Yes, LCDR Tyson.

15

<CROSS-EXAMINATION BY LCDR TYSON

20 LCDR TYSON: Ma'am, my name is LCDR Matt Tyson. I represent the interests of CPL Alex Naggs. I just have some short questions for you, ma'am. Ma'am, I just wanted to follow-up, COL Streit was asking you some questions about the pre-flight bubble. Can you just explain with the pre-flight bubble, is that a period that takes place immediately before you get into the plane to fly it, the helicopter, or can it be done something earlier, say, some hours beforehand? Can you just explain the incidence of the pre-flight bubble, please, when it actually takes place?

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30 BRIG THOMPSON: For me, my pre-flight bubble will be when I arrive at work, regardless of if I am – and if I'm flying in the morning, say at 11 o'clock, I will commence that from – that will be my daily routine. I won't do anything else but prepare for that flight.

35

LCDR TYSON: And roughly how long when you set that boundary – the pre-flight bubble for yourself, how long do you set that period for, ma'am?

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BRIG THOMPSON: It would be at least one hour.

LCDR TYSON: Ma'am, are you familiar with the term "FMP", or full mission profile? Are you familiar with that term?

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BRIG THOMPSON: Yes.

LCDR TYSON: Can you explain to the Inquiry, please, what that means?

BRIG THOMPSON: I'm just selecting my words carefully. It would be a

sequence of – a scenario-based flying activity which is bounded by time and events.

5 LCDR TYSON: Would it be your practice in those conditions, under the FMP conditions, that you wouldn't have your mobile phone with you?

BRIG THOMPSON: I would not have my mobile phone with me.

10 LCDR TYSON: Would you have your mobile phone with you in the pre-flight bubble?

BRIG THOMPSON: No.

15 LCDR TYSON: One of the things – and you would accept, wouldn't you, ma'am, that normally as an Army Aviation helicopter pilot, when you're in the aircraft before a flight, you've normally got pre-flight checks and a flight authorisation process to go through?

20 BRIG THOMPSON: That's correct.

LCDR TYSON: Would it surprise you that there's been some evidence in this Inquiry that the Aircraft Captain of Bushman 83, after the Taipan was on the Auxiliary Power Unit, was sending mobile phone messages to colleagues within the Squadron? Would that surprise you?
25

BRIG THOMPSON: That is not normal. That would be not normal.

LCDR TYSON: Well, if, for example, the Aircraft Captain was sending a message to another officer within the unit, arranging for a meeting the next morning, while the helicopter is under FMP conditions, would that surprise you?
30

BRIG THOMPSON: Yes.

35 LCDR TYSON: Because that's an indicator, isn't it, that the administration burden was so heavy that the Aircraft Captain had to do that? Is that a potential indicator of that?

40 BRIG THOMPSON: I think that the – I don't know the context of the meeting. Before I go flying, the task at hand is to go flying. And if the meeting was so important, I would be reconsidering why I'm going flying.

LCDR TYSON: There's also been some evidence that the Aircraft

Captain of Bushman 83 was using his mobile phone to send messages to, well, D20, a person who had a fatigue-related issue that day. Would that also concern you?

5 BRIG THOMPSON: Can you just repeat when the message was being sent, please?

LCDR TYSON: So I think it's after the Taipan was on the Auxiliary Power Unit. So it's within probably two, perhaps three hours before
10 take-off, sending messages to another officer within the Squadron. Would that concern you?

BRIG THOMPSON: Yes, it's – yes.

15 LCDR TYSON: Are there boxes or receptacles for aircrew in Army Aviation to place their telephones – their mobile phones in a box prior to flight within the Squadrons within the Brigade? Are you aware of anything like that?

20 BRIG THOMPSON: So there may be different procedures at different units. There are boxes available in various buildings – I'll just keep it at that. Whether there are specific boxes at every unit, I can't recall whether I've seen them or whether they're available.

25 LCDR TYSON: That's a hard question. Yes, ma'am. They're my questions, ma'am.

MS McMURDO: Thank you. Any other applications to cross-examine?
30 MAJ Jobson?

COL GABBEDY: Ma'am.

MS McMURDO: Sorry, COL Gabbedy. It's late in the day.

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<CROSS-EXAMINATION BY COL GABBEDY

COL GABBEDY: Thanks for the promotion, ma'am.

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I'm COL Gabbedy, I appear for MAJGEN Jobson. Could I have access to - - -

45 BRIG THOMPSON: One and the same.

COL GABBEDY: That may be problematic for me – 39, please. It’s over there. Do you want me to approach?

MS McMURDO: You can have this one, thank you. We’ll share.

5

COL GABBEDY: Thank you. I’ve got many of them now. Now, before I go there, I just want to go to paragraph 15(c) of your statement, please, ma’am. You start that paragraph by talking about “the mission”. Is that the mission of Army Aviation?

10

BRIG THOMPSON: That’s the mission of 16 – a portion of the mission of the 16th Aviation Brigade.

COL GABBEDY: Could you expand on that in terms of what the mission is and how you seek to achieve it?

15

BRIG THOMPSON: So our mission is to provide safe – so safety, as I describe in a colloquial setting, is part of our DNA. So we are striving to be as safe as reasonably practical in all we do. Sustainable, that we have the sustainable structures, aircraft and support elements in order to sustain Aviation operations. And effective is that we are an effective fighting force, and to deliver combat aviation as required by the Joint Force. And that’s – our mission is to provide safe, sustainable and effective aviation.

20

COL GABBEDY: Thank you, ma’am. If I could get you then to turn to paragraph 27 of your statement, and in the final paragraph you refer to, “a generative safety culture”. Would you mind outlining what a generative safety culture means to you?

25

BRIG THOMPSON: So this is a culture where we have a continual improvement disposition, that we seek to understand and be curious about the hazards that present within our flying system, that we can communicate freely issues, both up and down, through that system, that we have a responsibility at all levels. It pertains to the shared responsibility I referred to earlier. So it’s at the individual level, the first supervisory level. So those broad elements are what I believe is a generative safety culture for which we strive towards.

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COL GABBEDY: Thank you, ma’am. Now, if I take you to Exhibit 39, and page 32 that COL Streit took you to.

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BRIG THOMPSON: Just stand by.

COL GABBEDY: Sorry, yes.

45

BRIG THOMPSON: Yes.

5 COL GABBEDY: I think COL Streit first took you to paragraph 8(d) of your statement, which appears on page 7, where you had said, “Shared responsibility exists between Command, management and individuals”. Do you recall that evidence?

BRIG THOMPSON: I have the evidence, yes.

10 COL GABBEDY: Then COL Streit took you to Exhibit 39 at page 32, and this reference to:

15 *Individuals are not good judges of their levels of fatigue-affected performance.*

BRIG THOMPSON: Yes.

COL GABBEDY: The second paragraph, which says:

20 *Research has demonstrated, without training, humans are quite poor at determining their actual level of fatigue.*

25 What I’d like to explore with you is the training that’s provided at Aviation Command and at 16 Brigade in relation to fatigue.

BRIG THOMPSON: Okay. There’s quite a broad number of training iterations, so I’ll describe a couple that come to mind. So the training is we conduct Aviation Medicine training. And that is part of a certain period of currency where fatigue forms part of the curriculum. The training that we receive as Authorising Officers and supervisors also highlights the aspect of fatigue and how that may impact people’s performance, also into the causes of fatigue. There are training aspects to fatigue awareness courses that are provided through our Defence network. And then annually we do safety training days, safety awareness campaigns. I just can’t recall any other training-stipulated periods of a training course that I can recall right now. But I can take that on notice.

40 COL GABBEDY: It was a very broad question, ma’am. Perhaps if I narrow it down for you a little bit. We’ve had evidence from the SO1 Psych for Aviation Command that she presents on fatigue at the ROIC.

BRIG THOMPSON: Yes.

COL GABBEDY: Over the last few years, are you able to say whether or not training in relation to fatigue occurs annually or more frequently at either 16 Brigade or at any of the units beneath 16 Brigade?

5 BRIG THOMPSON: I would say it would occur more than annually – more regularly than annually.

COL GABBEDY: Would you say that that training is aimed at remediating that deficiency identified in the manual, that people are a poor
10 judge of their own fatigue?

BRIG THOMPSON: Yes, I think it would mitigate the risk, that we rely on many sensors, one of us is a sensor, and the team which we operate in, and training other people on awareness of how to identify fatigue would
15 absolutely be part of it.

COL GABBEDY: When you talk about fatigue in your statement, you expand on it in paragraph 12. And before I start asking you questions about that, it would be fair to say, would it not, if we take the converse proposition, fatigue is not just a Command responsibility. It can't be, can it?
20

BRIG THOMPSON: No, it's a personal responsibility. It's a personal responsibility for my mental health and wellbeing. I need to manage my own fatigue, just to operate as a human. So in that regard, yes, it is a shared
25 responsibility.

COL GABBEDY: So to drill down on that, at the bottom of page 9 you talk about things that you do as aircrew to manage your own fatigue.

30 BRIG THOMPSON: Yes.

COL GABBEDY: Do you have an expectation that all aircrew would do similar things?

35 BRIG THOMPSON: Yes, it is my expectation, yes, they would do similar things.

COL GABBEDY: Your expectation in relation to all aircrew, is that based on the training that they receive?
40

BRIG THOMPSON: It would be on the training, the demands and their commitment to the type of skills and alertness that is required to conduct our duties as aircrew.

COL GABBEDY: Do you think it's a matter of general understanding with aircrew that you need to be fit to fly?

5 BRIG THOMPSON: Yes, you must be fit to fly.

COL GABBEDY: And fatigue is a part of that, I assume?

BRIG THOMPSON: Correct.

10 COL GABBEDY: If you turn the page, you talk at the top of page 10 about decisions not to fly. During your flying career, have there been more than one occasion where you have decided not to fly?

15 BRIG THOMPSON: Yes.

COL GABBEDY: How has that decision manifested itself in terms of your engagement with your immediate team and those above you?

20 BRIG THOMPSON: As it manifested, how I have made that possible?

COL GABBEDY: Yes, if I step through it – sorry, ma'am. I suppose how did you come to the decision? What discussions did you have with your team? How was the decision then implemented? Was there any push back?

25 BRIG THOMPSON: So as part of FACE checks or even conversations, you would probably say that, "Hey, I haven't slept well," or "I've been really committed to something else. I may not be the best judge of my fatigue levels," or "Hey, I'm coming off a period of really high intensity work". That's how I'd probably open the conversation, to provide people context.

35 I mean, these are people we fly with and we trust, so I can have those conversations with them. So I would say either I would not fly, "I'm not fit to operate as part of a crew," or "I might be distracted", or similarly, "Hey" – the way that I would also manage it, as I've given in my evidence, is say, "Let's put the more complex tasks first, so that I can be most alert in those periods of time".

40 I would also say that clearly to the Authorising Officer who has the responsibility and accountability to authorise that sortie. I would say, if I'm not going to fly, that would be – in my experience, has always been supported. It's never been – I can't remember the last thing you said in your – whether it was - - -

45

COL GABBEDY: I might step back a bit. Have there ever been occasions where you have said to a member of your team, or to someone under your command, “I don’t think you’re fit to fly”?

5 BRIG THOMPSON: Yes.

COL GABBEDY: How have those sort of circumstances manifested themselves?

10 BRIG THOMPSON: Well, you can – like any human interaction, you can explain why you’re saying it or, you know, “I’ve noticed this, we don’t have to do this sortie”, and give them some context and try and provide some level of support so that they don’t feel like they are being judged. You know, we operate as a very tight team in our aircrew. And so if – I would
15 have those conversations.

COL GABBEDY: I take it from the second paragraph on page 10, ma’am, that this is a decision that can be made both before the flight commences and also while the flight is in progress?

20 BRIG THOMPSON: And I’ve experienced both of those.

COL GABBEDY: Then if we go beyond that. As a Commander or as a Manager, there are circumstances where you have either not authorised flight operations - - -
25

BRIG THOMPSON: That’s correct.

COL GABBEDY: And that’s part of a CO or Brigade Commander’s role?
30

BRIG THOMPSON: Or as an Authorising Officer.

COL GABBEDY: And there’s also planning requirements come into it to try and reduce fatigue?
35

BRIG THOMPSON: Yes.

COL GABBEDY: The Air Marshal asked you some questions in relation to short notice tasks. And there’s been some evidence about DACC tasks and how they can impact upon remediation measures like end-of-year holidays that might otherwise be looked at managing fatigue. Is it generally the case that those DACC tasks are directed to 5 Avn rather than 6 Avn?
40

BRIG THOMPSON: The task will be assigned to the most appropriate unit or capability that conducts that mission. I would also clarify that DACC
45

tasking may not be the short notice tasking. I don't know how – are you going to describe to me what “short notice” means? Because that could be an assumption that it's – is it days? Is it weeks? Is it minutes? I'm not quite sure what your perception of short notice tasking is.

5

COL GABBEDY: Which is always a problem with a hypothetical.

BRIG THOMPSON: It is, yes. So I would say if a task came in, it will – as an Aviation tactician and a Commander, I will apply the most appropriate Aviation Force element to achieve that mission.

10

COL GABBEDY: Just to finish on a topic that my colleague, LCDR Tyson, took you to the issue of the pre-flight bubble. What priority do you give as an aviator to the pre-flight bubble? How important is it to you in preparing for a flight?

15

BRIG THOMPSON: That is part of my preparation to fly. It is very important.

COL GABBEDY: What is the purpose of it?

20

BRIG THOMPSON: It's to allow me to prepare. We also demonstrate to the team that I work with that I am prepared to go flying. To reduce distractions, so that the distractions aren't going into the aircraft with me. But I also take that time to get the most up-to-date information before I go and conduct a flight or a mission because that is most relevant to the task at hand.

25

COL GABBEDY: So it's about placing all your immediate focus on the task at hand?

30

BRIG THOMPSON: When I go – yes.

COL GABBEDY: Thank you, ma'am. I have nothing further.

35

MS McMURDO: How many times, Brigadier, in your very long career, have you FACE'd out and not gone on a sortie because you've been fatigued?

BRIG THOMPSON: I can recall around about 10 times, ma'am. That would be a - - -

40

MS McMURDO: Rough estimate, yes.

BRIG THOMPSON: Yes. So sometimes I will choose not to fly, noting

45

on a month-long schedule. So I will do that well before I have FACE'd out before the – when I get to the aircraft or for that authorisation sequence. So I would say, yes, 10 times.

5 MS McMURDO: Well, I'm talking about more when you're planning to go, but you're doing the final FACE check.

BRIG THOMPSON: I would say around about the same amount.

10 MS McMURDO: About the same. And how many times have you experienced other people doing it?

BRIG THOMPSON: Probably around the similar amount of times. We operate in different crews, ma'am, so I wouldn't be able to say that one
15 person has done that, but the crew might do that maybe up to 10 times.

MS McMURDO: Thank you. Yes.

20 <CROSS-EXAMINATION BY LCDR HAY

LCDR HAY: Thank you. Good afternoon, ma'am. My name is
25 LCDR Hay. I represent the interests of D19. Ma'am, can I firstly just begin by asking you when you took over as Commander 16 Aviation Brigade, you took over from BRIG Thompson. Is that right?

BRIG THOMPSON: Yes.

30 LCDR HAY: [REDACTED]

BRIG THOMPSON: [REDACTED]

35 LCDR HAY: When you took over, did you get a handover brief from the Brigadier?

BRIG THOMPSON: Yes.

40 LCDR HAY: Was that handover brief an oral brief, was it a written brief, was it partly oral, partly written? What was the nature of the brief that you received?

45 BRIG THOMPSON: It's a combination of both and it's articulated by the Chief of Army's Directive in the handover takeover procedures.

LCDR HAY: Since you've taken over the position, have you attended the Regimental Officers' Intermediate Course?

5 BRIG THOMPSON: I have attended one Regimental Officers' Intermediate Course.

LCDR HAY: Have you spoken to the attendees of the course?

10 BRIG THOMPSON: Yes, I have.

LCDR HAY: Just in a very general way, what's the nature of your presentation or discussion with the members of that course?

15 BRIG THOMPSON: It would provide the leadership from their senior aviator as part of their career development. There is no – there was no specific guidance given to me from the course. It was an opportunity to provide leadership and command guidance to the Regimental Officers' Intermediate Course, which are invariably going into supervisory roles.

20
LCDR HAY: Now, at the end of your discussion, or your presentation, is it your practice to, as it were, open up the floor for questions, comments or concerns to be raised with you directly?

25 BRIG THOMPSON: Yes.

LCDR HAY: Can you just tell us how many courses have you spoken to or presented at?

30 BRIG THOMPSON: One.

LCDR HAY: Just the one. When you opened up the floor to those questions, et cetera, did anyone at any stage raise with you concerns or issues that they had at the Regimental level?

35
BRIG THOMPSON: I recall the topics were how best to prepare their Troops for combat, and how – yes, the focus of those discussions were, yes, how do we train our people for combat. It was topical discussions – were about conflicts that are happening across the world right now. This is a professional development course, and that was the opportunity that I recall was taken.

40
LCDR HAY: Can I just ask you, sort of coming back to that brief that you received on handover, did you receive any information from the outgoing Commander about an issue raised with him on one of these ROICs?
45

BRIG THOMPSON: I can't recall from that specific event, no.

5 LCDR HAY: Had you been told at any stage that BRIG Thompson had consulted with Commanding Officers within the Brigade about ways to reduce governance and regulatory overheads on pilots?

10 BRIG THOMPSON: I would anticipate that's part of normal operational demands on our – from my experience, I will engage with Commanding Officers on how best to manage demands on our workforce, and how – and that would be inclusive of operational demands because I just – can you explain what administration and governance is pertaining to that, please?

15 LCDR HAY: No, I can't. What I can do, ma'am, to provide some context is was it ever explained to you that as a result of issues raised with BRIG Thompson, that he had put out a request for ideas from Commanding Officers within the Brigade for ways to minimise or reduce the workload of pilots, particularly at the Troop Commander level?

20 BRIG THOMPSON: I don't know that there's a document or guidance for that.

25 LCDR HAY: Did you know, or were you told, that BRIG Thompson was waiting for information to come back from the Commanding Officers before he could take any action on those issues?

30 BRIG THOMPSON: Not specifically relating to that, but the discourse with myself and the Commanding Officers is to continually assess their workload and operational demands against the capacity of the workforce and resources for which they have right now, but not specifically about that ROIC.

35 LCDR HAY: Just in fairness to you, ma'am, and so that you fully understand, evidence given in the Inquiry was to the effect that BRIG Thompson had put out a request for suggestions, and could not, or felt that he could not, take action to remediate those concerns raised with him because no response had been received from the Commanding Officers. Were you aware of that?

40 BRIG THOMPSON: I didn't get any response from the Commanding Officers. I did hear evidence early about an ROIC from one of the officers, saying that they'd raised it at ROIC, so I actually recall that evidence which I was in the hearing room for.

45 LCDR HAY: In a similar vein, as part of the handover were you told by

BRIG Thompson that there had been a sleep study that was commissioned at 6 Aviation Regiment?

5 BRIG THOMPSON: I can't recall there was a specific sleep study.

LCDR HAY: Were you told that phase 1 of the sleep study had been completed, and that there was some suggestion that a second phase might be implemented and was being considered?

10 BRIG THOMPSON: I wasn't aware of a specific study that there was a follow-on phase.

LCDR HAY: Were you ever made aware as part of the handover brief from BRIG Thompson that he, at least, was waiting for information from other agencies about other options, or other sleep studies that were, or could have been, commissioned in the ADF?

20 BRIG THOMPSON: Fatigue and sleep studies did come up, but not that there was a specific item that we would come in to inform any other phase.

LCDR HAY: So just to be clear, and as I understand your evidence, you weren't aware that there had been a sleep study that had been – at least phase 1 had been undertaken within 6 Aviation?

25 BRIG THOMPSON: I can't recall a specific item to say that there was a specific sleep study across the organisation, no.

LCDR HAY: And you weren't aware that there was a phase 2 proposal, which was subject to – or was being held in abeyance until answers were received about wider options available, or other options that were available?

30 BRIG THOMPSON: I'm just trying to recall if I discussed this with the Commanding Officer, and I can't recall either, whether it was – not a specific sleep study, I can't.

35 Lcdr HAY: Yes, I understand. Just turning very briefly to another topic, ma'am. You, in your statement at page 11, say this – about point 5 of the page, halfway through the page, you say:

40 *I have personally engaged individual members within the Brigade who have command duties and who continue to fly.*

Was that the situation that you were thinking of when you were answering Counsel Assisting's questions about being approached by members about

concerns that they had with various issues, including fatigue, fatigue management?

5 BRIG THOMPSON: So from my experience, and in my position as the
Commander, I will engage with Officers Commanding because I'm
interested in - it's leadership. I'm interested in how they are operating, and
if I can assist in any ways. So I will tend to engage with the Commanders
of certain Force elements in that role, and that's specifically what I was
relating to because the evidence that I heard wasn't from Commanders in
10 the first two hearings. It was from other people, and so I specifically
engaged, and I just don't want to reveal those people, but that would be in
command duties.

15 LCDR HAY: Just thinking about your experience in Army broadly, and
Army Aviation more specifically, would you consider it to be usual for, for
instance, a Troop Commander to make approaches to you as the Brigade
Commander directly with concerns that they might have about their
workload, for instance?

20 BRIG THOMPSON: In my experience, they will engage with me directly.

LCDR HAY: How would they do that generally? Don't go into details
about people who have made approaches to you.

25 BRIG THOMPSON: They will come up to me, whether we're in a formal
setting, or I've been approached at social settings as well. So, yes,
communication, in my experience, from the Troop Commander level has -
they have an opportunity to go through their Chain of Command, and I'll
raise it with their Chain of Command afterwards, but in my experience,
30 people will come up and talk to me often.

LCDR HAY: Is that - and I don't know if you feel comfortable in
answering this particular question - but is that as a consequence of your
particular leadership style? Is that something that is encouraged in the
35 Aviation world? Is it an Army general position, that somebody at that level
feels comfortable to speak to a Brigade Commander?

40 BRIG THOMPSON: I am unable to answer that question because I'm not
that other person. I would say that part of our - my leadership and my
approach to command is that - and it's in my Safety Statement - that
communication across the organisation is a good sign of positive learning
and generative safety culture, as I was onto before. It doesn't - in my
experience, it hasn't - you don't have to go through your Chain of
Command, but I can't answer the first part of your question.

45

5 LCDR HAY: No, that's all right. It was probably an impossible question to answer, to be honest. Just thinking though about those types of approaches that you have received in the past, are you talking about whilst you've been the 16 Aviation Brigade Commander, or are you talking about before that time as well?

BRIG THOMPSON: Can you clarify the question, "before that time"?

10 LCDR HAY: In other positions. So you've held many positions within Army more broadly than Army Aviation.

BRIG THOMPSON: Yes.

15 LCDR HAY: Is it the case that when you've spoken about people making approaches to you – and I think I put the limit on Troop Commanders – but is it the case that throughout your position, throughout your time in Army, people have come to you with concerns, or problems, or issues?

20 BRIG THOMPSON: As you said, I've fulfilled a number of roles across Army and Defence, and from my experience, people will come and talk to me. I can't compare that with someone else. I apologise. That's an impossible question to answer. I would say that all ranks are more comfortable engaging with higher ranks now than when I started in the military 33 years ago.

25 LCDR HAY: Yes. I think really the thrust of my question, or where I'm proposing to go, is the types of concerns, and issues, and complaints they're coming to you with. When they approach you as the Brigade Commander, are they usually, sometimes, always, coming to you with personal issues? Are they coming to you more about systemic issues, cultural issues? What sorts of things are they approaching you about?

35 BRIG THOMPSON: I'd like to say that they're not always coming to me with issues. They come to me with some good news stories, and what they really enjoy, and providing their story because I think that a lot of our soldiers and officers have really positive stories to tell, and they're really proud of their service. So I get a range of engagement and conversations with both soldiers and officers. I couldn't qualify whether it's just personal issues, but more often than not it is personal issues, and seeking individual mentoring, as opposed to large, systemic problems.

40 LCDR HAY: Just picking up on that answer, when you're talking about – you used the word "mentoring". Do you get the sense that when those members are approaching you, that they're looking for solutions, or are they looking for advice?

BRIG THOMPSON: That's a really hard question to answer. It could be that they're just wanting someone to listen. I can't answer that question.

5 LCDR HAY: Yes, thank you. Thank you, those are my questions.

MS McMURDO: Any other applications to cross-examine? Any re-examination, CMDR Vesper?

10 CMDR VESPER: No re-examination.

MS McMURDO: Thank you. Anything from you, COL Streit?

15 <FURTHER CROSS-EXAMINATION BY COL STREIT

COL STREIT: Just very briefly, if I may. You were asked some questions about the pre-flight bubble, and I understand you were going to
20 make some enquiries as to whether there's a directive or policy in relation to that. But just in relation to this scenario, you talked about the timeline, or minimum timeline you give yourself. If in circumstances where we've had some evidence about Troop Commanders finding it difficult to get in
25 their pre-flight bubble, or young officers with command responsibilities in that pre-flight bubble, because they're responding to requests in relation to their secondary role, in circumstances where you're in a pre-flight bubble and you're a junior officer, and you're getting a phone call from your immediate boss, or your CO, there'd be a pretty clear desire – or you'd be
30 hesitant, wouldn't you, to ignore that call to maintain your pre-flight bubble, in the absence of some sort of policy that might protect you?

BRIG THOMPSON: I would also contest that Commanding Officers and OCs understand the importance of that pre-flight bubble, and should not be calling. That's unusual, that they would be calling or texting a member
35 when they are part of the supervisory chain in order to support safe flying operations. So in that hypothetical, I think it's unusual, as I just described, for a supervisor to impose that on someone.

COL STREIT: Sure. Let's assume that the supervisor doesn't know that
40 the member is in a pre-flight bubble, and there's a phone call. My question really is as a junior aircrew pilot, Troop Commander, notwithstanding the pre-flight bubble, getting some message or phone call from their – told it's from their boss, there'd be a natural desire to respond to that rather than ignore it, wouldn't there?
45

BRIG THOMPSON: I can't answer that definitively, but I would imagine it would create a dilemma for that person.

5 COL STREIT: Let's assume that your enquiries reveal that at the moment there is no directive establishing a pre-flight bubble or parameters. If that is the result of your enquiries, would you consider the development of some sort of policy or directive in and around pre-flight bubble mandating it, and protections afforded to the aircrew when they're in that pre-flight bubble so they're not subsequently after a flight sort of asked by the boss, "Well, why didn't you return my call or my email or my text?"

10 BRIG THOMPSON: Once again, I struggle to find something so imperative that they are to be called about. But, yes, I would absolutely work with the Commanding Officers, the OCs, and I've provided some evidence of where bottom-up initiatives are helping that. So I would – if it works, and it can help, I would definitely consider it and whether it's feasible. But that would be in collaboration with the Commanding Officers and the OCs. Yes, making a rule that is impossible to keep would be very challenging.

20 COL STREIT: Of course. I understand.

BRIG THOMPSON: So, yes, I can't actually give that exact answer, but I would absolutely look at it, if it's part of a continual improvement.

25 COL STREIT: Well, let's see what the enquiries reveal. Thank you, ma'am. Thank you.

MS McMURDO: Thank you very much, BRIG Thompson.

30 BRIG THOMPSON: Thank you, ma'am.

MS McMURDO: You are free to go.

35 <WITNESS WITHDREW

MS McMURDO: It has been a long day. How are we going with our witness list?

40 COL STREIT: Thank you, Ms McMurdo. So the next witness is MAJ Scullard, and he will be the first witness tomorrow morning, followed by LTCOL Langley, who will also be here tomorrow morning. We'll then proceed with the three witnesses who are identified for Friday:

AIRCDRE Strong, AIRCDRE Pesce, and CAPT Dale of the Royal Australian Navy. I anticipate those witnesses will be short compared to other particular witnesses. MAJ Scullard, I anticipate, will be short. LTCOL Langley might be around an hour or an hour and a half. So I
5 I anticipate there's sufficient time tomorrow to complete all witnesses. It will be a full day, but sufficient time to complete all witnesses, based on estimations given to me, and I'm not holding Counsel representing to those estimations, but based on estimations given to me.

10 MS McMURDO: Sometimes they're not too good, are they?

COL STREIT: Well, I can indicate I'm not terribly good at that either, but I have a level of confidence we can finish our witness list tomorrow.

15 MS McMURDO: Can we comfortably start at 9.30, or should I start earlier?

COL STREIT: I'm content to start earlier, if that was convenient to the Inquiry, and I also note family members are present as well, indicating some
20 positive nods, and thumbs up in that regard, and the rest of us at the Bar table will just be here.

MS McMURDO: Well, they're punishingly long days but we'll start at
25 9 o'clock. Thank you, 9 o'clock tomorrow morning, everyone. Thank you.

**PUBLIC INQUIRY ADJOURNED UNTIL
FRIDAY, 22 NOVEMBER 2024 AT 0900**