

1 points that exist that would be qualified anywhere
2 near the PFS site.

3 Q. Did I just hear you say that one of the
4 factors would be if it were cloudy you would use it
5 as a turning point?

6 A. As I explained to the judge, you plan
7 your flight hoping it's going to be cloud free; and
8 if it's not, then you go to backup missions. And
9 so whether it's cloudy or not wouldn't affect your
10 picking a turn point, because you have sensors on
11 the airplane that see through the clouds.

12 Q. But it's not necessary for a pilot to
13 use that facility as a turning point?

14 A. No, ma'am, it is not, no.

15 Q. And not all pilots would use that
16 facility as a turning point, would they, to your
17 knowledge?

18 A. Not -- I don't think any pilot would
19 ever use any -- all pilots would ever use any one
20 turn point. There would be some that don't.

21 Q. And pilots are flying today in Skull
22 Valley without the use of that as a turning point?

23 A. Yes, ma'am.

24 Q. Are you aware of any specific plans to
25 expand Hill Air Force Base?

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1 A. Not currently, no.

2 Q. Are you aware of any specific plans to
3 have more F-16's stationed at Hill Air Force Base?

4 A. Not currently, no.

5 Q. Are you aware of any specific plans to
6 increase the number of sorties to be flown from
7 Hill through Skull Valley?

8 A. No, ma'am.

9 Q. You in your testimony stated that the
10 flight leader will select a flight path to allow
11 the furthest east aircraft in the formation to
12 retain a sufficient distance which you characterize
13 as two miles from the Stansbury Mountains. Do you
14 recall that testimony?

15 A. I do.

16 Q. And you were a flight leader for
17 four-ship flights in Skull Valley, correct?

18 A. Yes, ma'am.

19 Q. And two-ship flights as well?

20 A. If you're qualified to lead four-ship
21 flights, you're qualified to lead two-ship flights.
22 It's not necessarily vise-versa.

23 Q. But you were the leader of both types,
24 right?

25 A. Yes, ma'am.

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1 Q. When planning your flights, did you
2 always keep that furthest eastern ship no closer
3 than five miles from the eastern boundary of the
4 MOA?

5 A. I'm confused, I'm sorry. Can you
6 restate that?

7 Q. When you were planning the flights as
8 the flight leader, did you always select it so that
9 the furthest aircraft in your formation would be
10 five miles from the eastern edge of the --

11 A. No, I always selected the flight path
12 that allowed my formation members to meet their
13 assigned responsibilities and not exit the air
14 space. So if my wingman was two miles away and I
15 was two miles away from the boundary, he would
16 potentially be flying outside the boundary. So I
17 would give him some kind of a buffer, a mile or
18 two. And a wingman will wander in and out from
19 that two miles or one and a half miles, and there
20 are times when you are close in certain terrain and
21 they'll wander out depending on the visibility. So
22 the objective of the flight leader is to put the
23 wingman in a position where he can support the
24 leader defensively to an air attack and not run him
25 into the ground or anything else.

1 Q. So you're saying --

2 A. I don't think I answered your question
3 completely. I'm sorry.

4 Q. You're saying that sometimes that
5 eastern flight, that eastern F-16 pilot would
6 venture beyond that two-mile boundary?

7 A. Yes, in a normal course of two-mile line
8 abreast flying. The wingman is maintaining his
9 position off of the leader primarily through
10 visual, by just looking at the aircraft two miles
11 away. It's very small. Has an air-to-air TACAN he
12 would probably use also which gives him another
13 rough estimate for two miles. And my experience
14 has been that most wingmen, myself included when I
15 was a wingman, was never able to maintain precisely
16 two miles.

17 JUDGE FARRAR: Ms. Marco, let me get a
18 clarification. At one point you switched from one
19 question to another. You had us two miles from the
20 Stansbury Mountains and then five miles from the
21 eastern edge of --

22 MS. MARCO: From the MOA, right.

23 JUDGE FARRAR: From the MOA. Refresh me
24 on -- the MOA goes on the other side of the
25 Stansbury Mountains?

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1 MS. MARCO: Well, you've got the MOA and
2 you have --

3 JUDGE FARRAR: Let me ask the witness.
4 Refresh us on the eastern edge -- the eastern edge
5 of the MOA --

6 LT. COL. HORSTMAN: This will be very
7 helpful, the map.

8 JUDGE FARRAR: -- versus the --

9 LT. COL. HORSTMAN: I share your
10 confusion, sir.

11 JUDGE FARRAR: Just from your --
12 forgetting the map for a moment, from your
13 recollection as a pilot, where is the eastern edge
14 of the MOA in relation to the Stansbury Mountains?

15 LT. COL. HORSTMAN: Right about the top.

16 JUDGE FARRAR: Okay. So Ms. Marco, my
17 question was, you switched from two miles from the
18 mountains to five miles from the MOA, and I didn't
19 know if that was a misstatement in your question
20 or --

21 LT. COL. HORSTMAN: I'm confused also.
22 I don't know if it's from the north boundary, the
23 east boundary, or the west boundary.

24 Q. (By Ms. Marco) Five miles from the
25 eastern boundary of the MOA is what I said.

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1 A. Okay. Now, ask the question again,
2 because I'm confused. I'm sorry.

3 Q. The question I had asked was whether
4 when planning your flights you always kept the
5 furthest eastern ship no closer than five miles
6 from the eastern boundary of the MOA.

7 A. No. I allowed my wingman to go over
8 to -- and there's no real definition. I didn't
9 want him to go to the top of the mountains. A mile
10 or two from the eastern edge, I would let my
11 wingman go that far.

12 Q. That was all that question was about.

13 A. I'm sorry.

14 MR. GAUKLER: Eastern edge of the MOA
15 or -- referring to the eastern edge of the MOA?

16 LT. COL. HORSTMAN: Yes, sir, I am.

17 Q. (By Ms. Marco) And when planning your
18 flights did you always keep the furthest western
19 ship no closer than one mile from the western
20 boundary?

21 A. I never used the word "always" when
22 planning a flight.

23 Q. Well, that was my question. Maybe it
24 wasn't --

25 A. So when I say always, let me -- I never

1 tried to get closer than a mile from a boundary,
2 because you could get violated, for one. You could
3 fly into air space where you didn't belong. Some
4 people would use more, some people would use less.
5 It would depend upon whether you had a precise
6 location on the ground you could come close to.

7 So a mile or two from the western edge
8 is what I routinely used myself when I flew. And
9 when I flew as a wingman, most of my recollection
10 is that we flew -- we tried to avoid the
11 boundaries, east and west, by a mile or two.

12 Q. But they would be able to venture in
13 still, is that correct, as they would on the
14 eastern side?

15 A. The wingman?

16 Q. Yes.

17 A. The wingman would be able to fly
18 directly off of his flight lead. If his flight
19 lead flew into the restricted air space, the
20 wingman would fly into it also. The wingman
21 doesn't have that kind of opportunity. He has a
22 two-mile leash, basically, like a dog, and you want
23 the wingman to stay two miles. And if I got to
24 within a mile of the boundary and the wingman was
25 on the other side of the boundary, that's my fault,

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1 not his.

2 Q. But other pilots and other flight leads
3 at Hill might select different areas within that
4 Skull Valley?

5 A. Yes, ma'am.

6 Q. For positioning their flights?

7 A. That's correct. There are some
8 standards for how the formation will proceed.
9 There's a number of different types of formations,
10 but they all have variations upon them. So you
11 could watch ten flights and they would all be
12 slightly different.

13 MS. MARCO: I did have another question.
14 I'm trying to find it right now.

15 That's all from the Staff, your Honor.

16 JUDGE FARRAR: Thank you, Ms. Marco.

17 Mr. Soper?

18 MR. SOPER: Thank you, your Honor.

19

20 REDIRECT EXAMINATION

21 BY MR. SOPER:

22 Q. Col. Horstman, would you look at State's
23 Exhibit 59, which is the International Station
24 Meteorological Climate Summary. Do you have that
25 in front of you, sir?

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1 A. I will in a moment. I have that, sir.

2 Q. I believe you described this as a
3 document that you received from an officer at Hill
4 Air Force Base. Is that right?

5 A. That's correct, sir.

6 Q. Have you ever received such a document
7 before while you were in active duty at Hill?

8 A. We routinely requested this type of
9 information in this document. Whenever we deployed
10 a squadron of aircraft outside the local area,
11 whether it was Saudi Arabia, the Caribbean or
12 Hungary or anywhere else, the initial planning and
13 briefings would always entail climatology, the
14 history of the weather during the applicable months
15 if you're going during the winter or the summer.
16 And so I contacted the 75th operational support
17 squadron weather flight, and they would provide
18 this data to us and provide us with written stuff
19 and a verbal briefing as well.

20 Q. Is this the type of report that you
21 regularly relied on as an air force pilot?

22 A. When I flew as a day-to-day -- as a
23 pilot, I did not use it because I didn't care what
24 the weather was next month, I cared what the
25 weather was today. But for all of the planning

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1 for, you know, large force kind of stuff we would
2 try to use climatology.

3 Q. And it would be this exact type of
4 report that you'd use?

5 A. This, and there are other reports as
6 well. And they generally try to condense it into a
7 briefing that was applicable to where we were
8 going.

9 Q. And does this report make any reference
10 to transparent clouds or opaque clouds or --

11 A. No, sir, it does not.

12 Q. And does that description of a cloud
13 have any particular significance to you?

14 A. It does to a weatherman. And when we
15 talk about transparent clouds, as I walked outside
16 at lunch and looked up and there's clouds in the
17 sky today, I don't know what altitude they are, but
18 I could see through some of them. And those I
19 would consider transparent per the previous
20 testimony. And I find that interesting, because
21 it's from a ground sight looking straight up. And
22 as we had the example with the Scrabble is when I'm
23 looking at a 10-degree angle at that weather, if
24 the cloud is 100 feet thick and I can see through
25 it straight up, I look at it at a 10-degree angle,

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1 it's effectively like trying to looking through 800
2 feet of moisture. So a transparent cloud to a
3 weatherman means to a pilot I can assume I'm not
4 going to get to see through it.

5 Q. To a pilot it means what? I'm sorry.

6 A. That I will not be able to see through
7 it.

8 Q. Even though that a weather person might
9 characterize it as transparent?

10 A. That's correct.

11 MR. SOPER: I'm asking to have an
12 exhibit marked.

13 JUDGE FARRAR: This is a new exhibit, so
14 it would be State 186, if I'm not mistaken. Have
15 the reporter mark it.

16 (STATE'S EXHIBIT 186 MARKED.)

17 JUDGE FARRAR: Go ahead, Mr. Soper.
18 It's been marked.

19 MR. SOPER: Thank you, your Honor.

20 Q. (By Mr. Soper) You have testified on
21 cross-examination about encountering engine failure
22 north of the PFS site and heading towards Michael
23 Army Air Base to land, and I think you've testified
24 with regard to Col. Fly's statement that he would
25 set it down at Michael Air Field and call a taxi

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1 back to Hill. With respect to that notion, can you
2 tell us what State Exhibit 186 represents?

3 A. It represents the portion of the Sevier
4 B MOA which, as all the discussion has alluded to,
5 the middle to the eastern portion typical flight
6 path both by Col. Fly and Col. Owen and myself
7 where you would fly typically entering the MOA.
8 And then anywhere in there, if you experienced an
9 engine failure, essentially a cone or a vector
10 towards Michael Army Air Field.

11 Q. Is Michael Army Air Field designated
12 specifically as the air field that you would land
13 at in event of an emergency?

14 A. It is. At Hill Air Force Base there
15 are -- you would use Hill Air Force Base as an
16 emergency air field until you got approximately
17 halfway across the Great Salt Lake, then you would
18 use Michael Army Air Field here. And then you draw
19 circles to see which is the nearest air field. So
20 the northern UTTR, the western part of that would
21 use Wendover as well as the western part of the
22 south UTTR. So it's designated as a primary divert
23 base.

24 Q. The area that's shaded in yellow, is
25 that what would represent the flight path of those

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1 planes that were in the Sevier B MOA and elected to
2 divert to Michael Army Air Field?

3 A. That's the flight path they would take
4 direct to Michael Army Air Field.

5 Q. And the yellow shaded portion that is on
6 the eastern -- at the top of the MOA on the eastern
7 side appears to be a straight line for enter to
8 going straight up and down north to south. Again,
9 what does that border of the yellow represent
10 there?

11 A. That's the border of a typical flight
12 path, having used that 6,048-foot knoll that we've
13 previously discussed.

14 Q. And that is about five statute miles
15 east of the PFS site?

16 A. Yes, sir, it is.

17 Q. And the other border westerly at the top
18 of the MOA where the yellow shading begins, that
19 again represents what?

20 A. That's essentially the farthest west
21 that a typical flight path would fly based on
22 Col. Owen, Col. Fly and my testimony.

23 Q. So based on this, if an aircraft were in
24 fact flying on the eastern edge of the yellow
25 shaded portion towards the top of the MOA, in other

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1 words, approximately five miles east of the PFS
2 site, and encountered, for example, engine failure,
3 that aircraft would divert to Michael Army Air
4 Field and travel closer to the PFS site or possibly
5 over it in the event of an emergency?

6 A. Yes, sir.

7 Q. Now, the top of the MOA is about how
8 many miles from the PFS site?

9 A. I'll have to measure here.

10 MR. SILBERG: Sorry. When you said the
11 top of the MOA, you meant the northern --

12 MR. SOPER: The northern boundary of the
13 MOA. Towards the top of the yellow shaded area,
14 the northern part of the yellow shaded area.

15 LT. COL. HORSTMAN: About eight miles.

16 Q. (By Mr. Soper) So an aircraft losing
17 its engine, an F-16 losing its engine could easily
18 have enough energy to reach the PFS site from the
19 northernmost part of this shaded area?

20 A. Absolutely.

21 Q. In fact, I think you testified that as
22 far out as 17 miles a disabled aircraft might be
23 able to glide to the PFS site. Is that right?

24 A. Under no wind conditions, that's
25 correct.

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1 MR. SOPER: I would offer State Exhibit
2 186.

3 JUDGE FARRAR: Any objection?

4 MR. GAUKLER: No objection.

5 JUDGE FARRAR: Staff?

6 MS. MARCO: No objection.

7 JUDGE FARRAR: All right. Before we
8 admit it, Col. Horstman, can you refresh us? That
9 gray area that has the designation that looks like
10 but isn't 10 to the 7th, what does that represent?

11 LT. COL. HORSTMAN: The gray area? I'm
12 not sure I understand.

13 JUDGE FARRAR: It's -- let me see if you
14 have the same thing we have. Yeah, right above
15 the --

16 LT. COL. HORSTMAN: Oh, I'm sorry.
17 That's mud flat, wetland.

18 JUDGE FARRAR: And the dashed diagonal
19 line going from the northeast corner to the
20 southwest corner is what?

21 LT. COL. HORSTMAN: That represents
22 magnetic variation from True North.

23 JUDGE FARRAR: Then there being no
24 objection to it --

25 (STATE EXHIBIT-186 WAS RECEIVED.)

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1 MR. SILBERG: Can you repeat that?

2 JUDGE FARRAR: Yes. The diagonal dashed
3 line from the northeast to the southwest corner of
4 the map, that is nothing physical, it's just the
5 magnetic?

6 LT. COL. HORSTMAN: No, it's just an
7 indication for aviation maps that if you want to go
8 north and you have 17 degrees of variation, true
9 north would be 343 degrees, as an example. So to
10 fly north, true north, you don't put your compass
11 heading on north, and this gives you the variation.

12 JUDGE FARRAR: Do you ever use a
13 commercial airport, Salt Lake City International as
14 an emergency?

15 LT. COL. HORSTMAN: You try not to.

16 JUDGE FARRAR: It's not illegal?

17 LT. COL. HORSTMAN: No. And I took a
18 12-ship or a 10-ship or something there and landed
19 once because Hill closed. But it wouldn't be
20 primarily an emergency base, because when you draw
21 the diameters it ends up that Michael Army Air
22 Field and Hill Air Force Base, I mean, it's pretty
23 logical.

24 JUDGE FARRAR: Go ahead, Mr. Soper.

25 MR. SOPER: Your Honor, I'd offer that

1 this exhibit is simply a copy of the Applicant's
2 Exhibit KKK, the bottom left-hand corner and
3 overlaid by the shading to represent Col.
4 Horstman's testimony.

5 JUDGE FARRAR: Right. Thank you for
6 that clarification.

7 Q. (By Mr. Soper) Your testimony states
8 that you have flown through Skull Valley at 500
9 feet, yet it also states that presently the minimum
10 altitude is 1,000 feet. Is that correct?

11 A. That's correct. We've flown through
12 Skull Valley below the English Village at 500 feet
13 before the current restriction was put in there.
14 As Col. Bernard, retired, spoke of, they used to
15 fly through there at a very low altitude all the
16 time. It's currently just a published restriction
17 on the altitude. Sevier B MOA starts at 100 feet
18 AGL.

19 Q. So what is the current significance of
20 the current 1,000 feet restriction? It's not an
21 FAA-imposed restriction, is it?

22 A. No, sir, it's not an airspace issue with
23 respect to regulation. It is a procedural
24 restriction placed upon it by the Air Force.

25 Q. So the Air Force may elect to use any

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1 altitude it desires in the future; is that right?

2 A. Yes, sir, that's correct.

3 Q. If I might call your attention to answer
4 38 of your testimony. You were asked in that
5 question about whether or not you had an opinion as
6 to the PFS assumption made in its crash report that
7 an F-16 pilot can maneuver a crashing F-16 aircraft
8 to avoid impact with the proposed PFS site. Is it
9 your understanding with respect to that that the
10 assumption that we're talking about is that 95
11 percent of the time a pilot in control of an
12 aircraft would in fact be able to avoid the PFS
13 site? Is that the assumption that you understood
14 that's being referred to?

15 A. Yes, sir, it is.

16 Q. And that particular assumption, you've
17 made two comments in your answer. No. 1, it is
18 unrealistic?

19 A. Yes, sir.

20 Q. Could you explain that?

21 A. I believe it's unrealistic for a number
22 of the things we've discussed: the pilot's mental
23 state that day, the aircraft performance that day,
24 whether he slept that night before, whether he can
25 see the ground in the weather. And as we've shown,

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1 weather can be a significant factor. So there's a
2 whole bunch of mitigating issues that would remove
3 the pilot's ability or reduce the pilot's ability
4 to be able to avoid a site.

5 Q. So do you continue to hold it as your
6 opinion that the PFS assumption is in fact
7 unrealistic?

8 A. Yes, sir.

9 Q. And do you also continue to maintain the
10 position that that same assumption is
11 unconservative?

12 A. Well, the way I understand it, if it's
13 not realistic it can't be unconservative.

14 Q. That it can't be conservative?

15 A. I'm sorry. It cannot be conservative if
16 it's not realistic.

17 Q. I thought I understood you to give an
18 answer to a question to the effect that your answer
19 was over broad or something like that.

20 A. I was trying to answer the question that
21 I was asked, and essentially I don't believe that
22 the 95 percent number is realistic, for the reasons
23 I've stated.

24 Q. You interviewed four pilots with respect
25 to their ejection experiences, four fighter pilots.

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1 Is that right?

2 A. That's correct.

3 Q. And that is the subject of your
4 testimony in answers 45 and 46, at least. I'm just
5 glancing at your testimony here. And 47. With
6 respect to, first of all, to Major Smith, how did
7 you come to select or talk to Major Smith about his
8 ejection experience?

9 A. Major Smith and I were in the same
10 squadron in Germany. We were flying in different
11 formations at the same time when he ejected. I was
12 his supervisor, and so because of all of those
13 reasons we had numerous conversations about his
14 ejection experience.

15 Q. And with the exception of the mistake
16 made by the attorney general's office in failing to
17 get this portion of the testimony to you for review
18 and the subsequent resulting change that you
19 made -- I'm trying to find that right now. Oh. In
20 your answer to 46 you've corrected and inserted,
21 "given the same set of circumstances." Is that
22 right?

23 A. That's correct.

24 Q. And that is your change upon your review
25 of this document?

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1 A. Yes, sir.

2 Q. Except for that particular change, does
3 your answer otherwise reflect the conversations
4 that you had with Major Smith concerning his
5 ejection experience?

6 A. Yes, it does.

7 Q. And with respect to the other three
8 pilots that you interviewed, you began to tell us
9 how you came to talk to those specific three
10 pilots. Can you complete that for us, please?

11 A. The discussion about whether Major Smith
12 would testify or not, before that it was Captain
13 Smith, we discussed whether or not ejection
14 thoughts of pilots that ejected would be valuable,
15 and we determined it would probably be useful to
16 talk to a pilot or two who had ejected from a
17 fighter aircraft.

18 So I called the operations group at the
19 388th Fighter Wing and spoke to the deputy
20 commander and discussed it with him and said, if
21 there was a pilot would we be able to interview
22 him, on the assumption that we weren't going to
23 talk specifically about the cause of the accident
24 or placing blame or any of the things outside
25 releasability. And he said that he would get back

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1 to me. And he called a couple days later and said
2 that we have an appointment on Friday to discuss
3 with the pilots, and when I showed up there were
4 three. I had no idea who, if any, would be
5 available or who would show up or anything else.

6 Q. And those are the three individuals that
7 are identified in addition to Major Smith in
8 Footnote 2 on page 18 of your testimony?

9 A. Yes, sir.

10 Q. And you had conversations at that time
11 with these people and made some notes of those
12 conversations?

13 A. I did.

14 Q. And those, to your understanding, have
15 been furnished to PFS?

16 A. I believe so. I passed them out to
17 Connie Nakahara.

18 Q. And are the representations in your
19 testimony consistent with your interviews with
20 them, what you learned from them?

21 A. Yes, sir, it is.

22 Q. And what did you find with regard to
23 their mental state in connection with the stress of
24 ejection?

25 A. They all said it was similar to what the

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1 two previous folks who testified, that it was a
2 very, very stressful event, unplanned, immediate,
3 very stressful.

4 Q. Causing them to focus on their immediate
5 survival?

6 A. Correct. Can I save the airplane, yes
7 or no; and if I can't, can I save myself, yes or
8 no; and if the answer is yes, then get out.

9 Q. You were asked about the data base, more
10 specifically the ten-year period of time from I
11 think '89 to '98 that PFS has chosen to review
12 accidents and the 126 accident reports that come
13 from that period of time. And do you recall being
14 asked about those accidents?

15 A. Yes, sir, I do.

16 Q. And you were asked whether or not any of
17 those accident reports showed a case where the
18 pilot failed to avoid a ground site.

19 A. Yes, I remember that.

20 Q. And your answer I think was that you
21 were not aware of any reports that failed to show
22 that a pilot avoided the ground site. Is that
23 correct?

24 A. That's correct.

25 Q. What would be your opinion as to the

1 reason for that?

2 A. It's not the focus or the purpose of the
3 accident report.

4 Q. Would you say that most accident reports
5 don't even mention that subject one way or the
6 other?

7 A. That's correct. If the aircraft were to
8 crash in the UTTR in the middle of essentially
9 nowhere, then it wouldn't be part and parcel of the
10 accident. Where it hit would be irrelevant. So in
11 most accident reports it's not listed, and in many
12 cases there's no claim. Many times if you get a
13 claim it's a year later, and that wouldn't be in
14 the accident report, either. But it's not part of
15 the report to go into whether a pilot intentionally
16 avoided or intentionally hit something. If it
17 comes out in the investigation that they've
18 maneuvered the airplane, then that may or may not
19 be a part of the report.

20 Q. You testified that in conducting
21 g-awareness turns you would, if I can kind of
22 paraphrase your testimony, you would conduct them
23 early on in the flight as you entered the Sevier B
24 MOA?

25 A. Yes, sir. There's a variety of places

1 you conduct a g-awareness. And it depends on the
2 weather, the aircraft weight, your mission, the
3 current tactics, the strategy, etc. In the late
4 80's when we were doing low level flying in Skull
5 Valley, we would do a g warmup before we entered
6 the Skull Valley. I've done mine up through south
7 of the proposed site. A little farther south as
8 the neck gets narrow, you wouldn't do it there
9 because you'd have air space violation problems.

10 And if you were really heavy weight for
11 one of those missions, which you rarely flew with
12 heavyweight ordnance, you might delay it for
13 another ten or fifteen minutes down track. And
14 it's dependent upon what the flight lead decides
15 and the weather, and I've seen it done throughout
16 most of Skull Valley. If there's a predominant
17 location, it probably migrates north and south over
18 time based on weather and tactics and training,
19 etc.

20 Q. Referring to your deposition of December
21 11th, 2000, and in particular page 58, your answer
22 at line -- question at line 19 and your answer, if
23 I might paraphrase that -- let me take that back.
24 Let me just read it. It's very short. "And where
25 do you do your warmups when you go down to Skull

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1 Valley, varies?"

2 A. I'm not following you. I'm sorry.

3 Q. Pardon me. It's page 58 of your 2000
4 deposition.

5 A. I have it now.

6 Q. I direct your attention to line 22, the
7 question there. The question being at line 19,
8 "And where do you do your warmups when you go down
9 to Skull Valley, varies?" And your answer says --
10 you answer, "It would vary depending on your time
11 and the fuel, the ordnance you had on board." And
12 it continues. Do you follow me there?

13 A. I do.

14 Q. Following that you're again asked on
15 page 105, directing your attention to line 7, your
16 answer is, "generally the G," I assume that's
17 meaning g-awareness, "generally the g-awareness
18 maneuver would come after you pass south of the
19 proposed site, as I mentioned before, maneuvers
20 such as tactical turning, maneuvering getting your
21 aircraft oriented towards flying down to the south
22 after a turn." My question to you, sir, is, you
23 say generally the g-awareness maneuver would come
24 after you passed the proposed site. Can you tell
25 me why that was your view then and whether it's

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1 your view now?

2 A. My view then was that it depended upon a
3 variety of categories. Generally or most of the
4 time or all of the time or every single time, kind
5 of hard to quantify. And this was about 18 months
6 ago, and I've had this conversation with a number
7 of the current pilots at Hill Air Force Base and
8 most of them have said that they do it before that
9 now.

10 So it's changed yet again over time, and
11 perhaps it's the type of missions they're flying.
12 I didn't get into any great details. If they don't
13 have as much heavy ordnance, then they would
14 potentially do it earlier. The weather obviously
15 is another one.

16 So I can see it moving around Skull
17 Valley over time back and forth. I don't think
18 there's going to be a precise location that would
19 be optimum, because you have too many other
20 variables.

21 Q. And it's not your intention here to
22 mislead anybody about that, it's just --

23 A. No, sir.

24 Q. -- the fact that it varies?

25 A. Yes, sir.

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1 Q. You were asked a few moments ago about
2 leaving a buffer or a distance from the Stansbury
3 Mountains.

4 A. Yes, sir.

5 Q. And that distance would be normally
6 around two miles, did you say?

7 A. Well, I would want it farther -- the
8 formation member closest to the eastern edge, which
9 is essentially the top of the Stansbury, to have a
10 navigational buffer as well as kind of a terrain
11 buffer. If the person is flying up in the top of
12 the mountains and I'm flying down in the valley,
13 it's hard for me to see him.

14 So flying right next to a steep mountain
15 or a fairly steep mountain causes some problems
16 because his, his being the wingman's
17 responsibilities aren't navigation. They're
18 clearing the aircraft and clearing the flight
19 leader's six o'clock position. So I always built
20 in a buffer, and it would depend on, you know,
21 again the weather and things such as that. And two
22 miles is about as -- that would be where my comfort
23 level would begin to erode any closer than that.

24 Q. And with respect to keeping a certain
25 distance from the eastern boundary of Sevier B MOA,

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1 that doesn't seem to be in your testimony a
2 particular concern, it seems that that boundary
3 does not dictate any particular elevation. It
4 varies place to place here depending on where the
5 mountains come up.

6 A. As we've talked about, sir, there's a
7 great deal of basic situation awareness provided by
8 those mountains. And you would stay west of those
9 because you have a very identifiable boundary which
10 you wouldn't want to go over because then you're
11 essentially at the edge of the MOA. You also
12 wouldn't want to climb up on top of those trying to
13 get close to the boundary.

14 So what I used to use and what the
15 flights that I was involved with as a wingman used
16 to use was staying west of the tops of the
17 Stansbury. And that's where that comfort level
18 comes in, and the fact that the MOA at times is on
19 the east and the west, we used for a navigational
20 situation the mountains, primarily. We stayed west
21 of them. And you don't want to fly at the top
22 because the military crest and the visibility, so
23 down the mountains somewhat would be as far east as
24 I would ever go.

25 Q. So on the east side it's the mountains

1 that become your guidance as far as what to stay
2 away from, not the edge of the MOA?

3 A. It's your primary reference point, yes.

4 Q. Col. Horstman, I'm looking at the
5 testimony of -- joint testimony of Gen. Cole,
6 Jefferson, and Col. Fly with regard to the accident
7 that occurred on September 16th, 1997. Are you
8 familiar with that accident?

9 A. What page?

10 Q. That's question 110 on page 78.

11 A. I am familiar with that.

12 Q. This accident is one where you
13 originally disagreed with the assessment of the PFS
14 witnesses as far as the characterization of the
15 various definitions that they had assigned to this
16 accident?

17 A. That's correct.

18 MR. GAUKLER: I would object as beyond
19 the scope of cross. I referred generally to try to
20 identify which accidents he disagreed with. We did
21 not get into a discussion of this accident.

22 JUDGE FARRAR: Mr. Soper?

23 MR. SOPER: The questions on
24 cross-examination of Col. Horstman were to the
25 effect that he had either not made a definitive

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1 decision on certain accidents or questioned his
2 ability to correctly characterize the accident
3 within the definitions. This is an example where
4 the PFS witnesses in response to Col. Horstman's
5 comments in fact changed their mind, agreed with
6 him, and in fact some of the reasoning that they
7 purport to have based that on is in fact untrue
8 facts. I thought it only fair that if that sort of
9 thing was presented to Col. Horstman, that he ought
10 to also comment on PFS witnesses doing the same
11 thing.

12 JUDGE FARRAR: And this is the one of
13 the accidents listed in this PFS exhibit?

14 MR. SOPER: It is.

15 JUDGE FARRAR: I think, Mr. Gaukler,
16 where your point may be correct in a narrow sense,
17 it's not in a broad sense. So we'll overrule the
18 objection.

19 Q. (By Mr. Soper) Can you generally
20 describe the accident of September 16th, 1997, so
21 we can just get the general nature of it?

22 A. It was a night vision goggle training
23 sortie, a recurrency training. Two airplanes
24 involved in the incident. They took off to an
25 initial altitude of about 7,000 feet, leveled out,

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1 got their NVG's on and then did a rejoin where the
2 wingman ran into the leader.

3 When we characterized it, it was
4 initially characterized as a takeoff and landing
5 accident because it was on its initial climb, even
6 though the aircraft had already leveled off.

7 And then when we looked at the heads-up
8 display, or the night vision goggles, there were --
9 a discussion goes from the testimony that PFS was
10 not aware that the 388th Fighter Wing didn't have
11 or use night vision goggles, and they'd them for
12 over a year and used them for over a year. The
13 419th Fighter Wing stationed at Hill Air Force Base
14 and F-16's were using them in 1998, so they'd had
15 them for an exceptionally long period of time.

16 It's important because there's a midair
17 collision here involving a new type of training or
18 tactic or equipment that the Air Force has procured
19 which this type of accident is an exact simulation
20 of what I would expect to occur in Skull Valley.
21 So we went through and further defined, they didn't
22 think it was Sevier B flight conditions or it was a
23 Skull Valley type event. And they have changed
24 their categories not with Sevier B because of the
25 altitude, but with respect to normal inflight and a

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1 Skull Valley type event.

2 Q. And I see that they conclude that
3 "Consequently, we now believe that this accident
4 should be considered not able to avoid." Is that
5 right?

6 A. That's correct.

7 MR. SOPER: And that's all I have, your
8 Honor. Thank you.

9 JUDGE FARRAR: Thank you, Mr. Soper.
10 I've got a couple of questions. On this map, let's
11 make sure we -- the map that was State 186, which
12 differs from the company -- the Applicant's map in
13 that it has the yellow superimposed, the southwest
14 trending borders of the yellow simply represent the
15 edge of the flight path that you would use to get
16 to Michael Army Air Field if you started up at the
17 top of the yellow?

18 LT. COL. HORSTMAN: Yes, sir.

19 JUDGE FARRAR: If you got in trouble at
20 the top of the yellow, then you'd just -- at any
21 point across the northern boundary of the top of
22 the yellow and you'd try to get to the air field,
23 that would define --

24 LT. COL. HORSTMAN: That's correct. If
25 you extrapolate that yellow line, it goes out to

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1 the departure quarter. So if you were anywhere
2 from about halfway across the Great Salt Lake, you
3 would still be in that yellow cone.

4 JUDGE FARRAR: This morning your resume,
5 which is already in the record, as I understand, as
6 54, there was a question about your job title when
7 you were at Langley Air Force Base. In the first
8 job as aircraft program manager, to whom did you
9 report, or what level of individual?

10 LT. COL. HORSTMAN: I had two jobs as
11 aircraft program manager. The first was to manage
12 the F-111 and F-16 weapon systems. And I reported
13 to a colonel, his name was Bob Swain, who reported
14 to Gen. Mike Ryan, who was at the time the director
15 of plans at Tactical Air Command, which
16 subsequently became Air Combat Command.

17 After, I don't know exactly the date,
18 under a year, I became program manager for the
19 composite wing that I discussed at Mountain Home
20 Air Force Base, Idaho. I had the same colonel
21 boss, and then the next boss -- there was actually
22 a series of general officers. One was Dick Myers
23 and the other was Tom Griffith, both general
24 officers.

25 JUDGE FARRAR: All right. Then when you

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1 changed to become the executive officer to the
2 chief of staff of plans, who was that individual?

3 LT. COL. HORSTMAN: The first one was
4 Gen. Tom Griffith and the second one was Gen.
5 Marcus Curley.

6 JUDGE FARRAR: Then is that how you
7 explain what was being talked about today, that you
8 thought you had conversations with somebody in one
9 job, but you hadn't really had that job until after
10 the accident report was done, and you walked me
11 through that?

12 LT. COL. HORSTMAN: That's correct. I
13 had dozens and dozens of conversations with general
14 officers in their office and their outer office in
15 the course of my duties.

16 JUDGE FARRAR: In the first job or
17 second job, or both?

18 LT. COL. HORSTMAN: Three jobs. The
19 first one I had routine contact, the second one I
20 had extensive contact, and the third one I had
21 extensive contact. And so today I don't really
22 recall exactly what I -- who I worked for at the
23 time, because they all kind of blend together, 10,
24 11, 12 years ago. That's all I have.

25 JUDGE FARRAR: Well, I guess my question

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1 is, having listened to the description this morning
2 of the jobs raised the concern that perhaps you had
3 not had the conversation you claim to have had.

4 LT. COL. HORSTMAN: We had the
5 conversation, sir.

6 JUDGE FARRAR: Applicant want to do any
7 more cross?

8 MR. GAUKLER: Follow up on a couple
9 things, your Honor.

10

11 RE CROSS-EXAMINATION

12 BY MR. GAUKLER:

13 Q. I'd like to look at State Exhibit 186.
14 You drew some yellow lines on this map, and I want
15 to know the basis of the assumptions how -- what
16 altitude were you assuming the plane was flying
17 when it developed engine failure?

18 A. It's not based on airspeed or altitude,
19 it's based on flight path.

20 Q. Did you do any calculation in terms of
21 whether a plane -- well, strike that. I take it
22 that you're assuming that an accident could occur
23 anywhere in this yellow range. Is that what the
24 assumption is?

25 A. No. This just gives you what would

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1 happen if a pilot had an emergency, where his
2 flight path would be if he had to divert to Michael
3 Army Air Field.

4 Q. And going up to, say, the Sevier B MOA,
5 the northern border of that --

6 A. Yes, sir.

7 Q. What if a pilot was flying, say, at
8 3,000 feet AGL at that point? Would he be able to
9 clear the Cedar Mountains and make it to Michael
10 Army Air Field, do you know?

11 A. If his engine worked he would. I
12 don't -- assuming he loses an engine?

13 Q. Yeah, assuming he loses an engine.

14 A. Where specifically?

15 Q. Where the yellow begins.

16 A. Okay. Where the yellow begins, say, at
17 the at the road intersection. If you pick a point,
18 an airspeed, an altitude, then I can calculate
19 that.

20 Q. So in other words, a pilot may or may
21 not be able to reach Michael Army Air Field,
22 depending upon the -- from these points, depending
23 upon the particular circumstances of the flight if
24 he had an engine failure. Is that correct?

25 A. That is correct. And there are points

1 where he could make it as well.

2 Q. And there are points he could not make
3 it as well, correct?

4 A. That's correct. This is just trying to
5 depict the flight path.

6 Q. And you've not tried to calculate or
7 determine what percentage of airplanes would or
8 would not be able to make it to Michael Army Air
9 Field?

10 A. No, sir. That wasn't the purpose of
11 this.

12 Q. And if a person wasn't going to make it
13 to Michael Army Air Field, he would know that,
14 given generally what his parameters were at the
15 time of the accident, correct?

16 A. No, I completely disagree. Because if
17 you have an engine failure, and in a couple of the
18 cases we looked at the engine restarted and
19 subsequently quit, you would try to make it to
20 Michael Army Air Field. If you didn't have that
21 opportunity or the energy, then you would make a
22 subsequent decision. But your initial reaction,
23 just as Col. Fly has stated, is you would head for
24 Michael Army Air Field, and this is a flight path,
25 so whether you made it or not is a subsequent

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1 decision.

2 Q. Does that mean before you knew whether
3 or not you could make it to Michael Army Air field
4 you would head towards the mountains?

5 A. I would head towards Michael Army Air
6 Field.

7 Q. But that would be heading towards the
8 mountains as well, correct?

9 A. You bet.

10 Q. And when you head towards the mountains,
11 wouldn't you inhibit or reduce the opportunity to
12 have available safe landing or ejection?

13 A. No, not at all. I mean, your first
14 concern is going to be to make it to Michael Army
15 Air Field, and that's what the procedures are to
16 try to make it to an emergency divert base. If you
17 said, oh, I don't want to go there because there's
18 a mountain, you would be violating a procedure.

19 Q. Well, I thought I remember you saying,
20 at least in one of your depositions I took, that a
21 pilot with engine failure would normally not steer
22 towards high ground just because you would want to
23 try to stay in a level, flat area.

24 A. That's correct. And at the terminal
25 phases of that actual flight without an engine, you

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1 would do just that. But you have to aim it
2 somewhere, and if you think you can get it
3 restarted you aim it to Michael Army Air Field.
4 And if in the terminal phases you realize, I'm
5 going to end up crashing in the mountains, then you
6 would try to do an avoidance maneuver so that you
7 could land in a flat -- the Beauty Rest example.

8 Q. And your assumption here, the assumption
9 that you're making here is that these planes are
10 under the control of the pilot, like we talked
11 about, engine failures that we talked about earlier
12 today and earlier in your testimony, correct?

13 A. That is an assumption, yes, sir.

14 Q. And you also made the statement I think
15 at various points that a person who had engine
16 failure, was in control of his plane in Skull
17 Valley would most likely take steps to avoid the
18 site, correct, time and circumstances permitting?

19 A. I've made that statement that there are
20 things you do before that. There's a sequence of
21 events that occur.

22 Q. Are you telling me that all these things
23 are in a sequence of events and they don't do
24 things in parallel? They're not trained to do
25 situation awareness and, for example, the emergency

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1 procedures at the same time? Strike that. Doesn't
2 a pilot just generally have general situational and
3 positional awareness as he's flying?

4 A. They're supposed to.

5 Q. Yes. So they would know generally where
6 they're at when an event happens, correct?

7 A. Generally speaking, that's correct.

8 Q. So it's not a matter of saying, ooh, I
9 have an accident, I need to look out and see where
10 I'm at, because he should know that already,
11 generally speaking, correct?

12 A. Generally speaking, that's true.

13 Q. And also, being you were just talking
14 about mountains, didn't you just say in talking
15 with Ms. Marco, you would look for mountains in the
16 way and that was one reason why you said would you
17 stay away, so far away from the edge of the border?
18 Correct?

19 A. That's why we drew it away from the
20 eastern edge of those mountains.

21 Q. Now, you represented that this was based
22 on your testimony and various other people's
23 testimony. And I know that Col. Fly when he talked
24 about flying down in Skull Valley, he kind of said
25 that he would come more to the northwest -- make

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1 sure I say this correctly. You might fly more to
2 the northwest than cut down across the valley, and
3 so he would be -- at the top of the valley he would
4 be to the -- looking from south to north, he would
5 be left of your yellow space there. Isn't that
6 what you understood?

7 A. That could happen. And the way I
8 understood his testimony, entering in the northwest
9 because of the way the entire Sevier B MOA is with
10 the neck at the bottom, you enter in the yellow and
11 you turn southeast, and that is in the northwest
12 part, I believe.

13 Q. I understood him to say, but further
14 northwest than what you show here.

15 A. Can you put out his testimony so I can
16 research it, please?

17 Q. You don't recall that testimony?

18 A. I do. We drew this based on his
19 testimony and Col. Owen's information and my
20 information.

21 Q. But if you do come in, say, further to
22 the northwest, your yellow line would be different,
23 correct?

24 A. That's correct, and you could do that.

25 JUDGE FARRAR: Mr. Gaukler, when you say

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1 further to the northwest, do you mean, for example,
2 under the abbreviation "Lt." in the logo, or the --

3 MR. GAUKLER: Yes. Under the edge, just
4 come down from the o-n-y of "testimony" and
5 entering there at that point.

6 JUDGE FARRAR: Col. Horstman, could you
7 come in that way?

8 LT. COL. HORSTMAN: You could come in
9 any way you wanted, sir. And yet we've spent a
10 great deal of time discussing the predominant route
11 of flight and variability, etc. So our intent here
12 is to put a depiction based on all those
13 conversations.

14 JUDGE FARRAR: I was just trying to
15 understand Mr. Gaukler's question.

16 Q. (By Mr. Gaukler) What's the elevation
17 of the Cedar Mountains to the west and southwest of
18 the PFS site compared to the elevation near the
19 yellow area?

20 A. Can I get another map? I believe it's
21 between 5,000 and about 7,000 feet. I'd be happy
22 to look it up for you.

23 The highest point of the Cedar Mountains
24 to the far northwest of the Sevier B is 7,700 feet.
25 North of that the highest point is 6,700 feet, and

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1 then it drops down to about 5,000-foot contour and
2 there's a peak short of Michael Army Air Field of
3 5,781 feet.

4 JUDGE FARRAR: And what's the valley,
5 elevation of the valley? Doesn't say on here.

6 LT. COL. HORSTMAN: It's about 4,500
7 feet MSL.

8 JUDGE FARRAR: So you'd have to be 1,300
9 feet above the valley to clear -- to get into
10 Michael Army Air Field?

11 LT. COL. HORSTMAN: Well, to clear that
12 one knoll, you wouldn't have to be that high. To
13 clear that mound --

14 JUDGE FARRAR: Go to the side of the
15 mound?

16 LT. COL. HORSTMAN: And once you get
17 close to the runway, if you realize you have the
18 energy to land, you will then call and find out
19 what the winds are and adjust your landing on the
20 runway that is applicable for the wind situation.
21 So a few miles out you would approach the low key
22 position where you practice your flameout
23 approaches.

24 JUDGE FARRAR: Let me ask you, you
25 mentioned the runway. Is this a depiction of the

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1 direction? Is that --

2 LT. COL. HORSTMAN: Yes, sir. It's
3 aligned magnetically correctly.

4 JUDGE FARRAR: So the runways are --

5 LT. COL. HORSTMAN: Essentially
6 perpendicular to your flight path.

7 JUDGE FARRAR: Perpendicular to your
8 flight running northwest to southeast, probably?

9 LT. COL. HORSTMAN: Yes, sir.

10 Q. (By Mr. Gaukler) So in fact, if you
11 wanted to land at Michael, you'd have to go -- the
12 angle of this line should be further to the north,
13 correct, because you have to come in from the
14 northwest?

15 A. No, sir, not at all. What you do is you
16 point to the runway, and then later on, when you
17 realize that you had the ability and the energy to
18 land, you will then choose which runway based on
19 the winds. And it may be a headwind, it may not,
20 depending on your energy state.

21 JUDGE FARRAR: At that point, though,
22 how minute -- how much of a -- let me ask that
23 question differently. When you're landing one of
24 your commercial planes, you take these big,
25 sweeping turns.

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1 LT. COL. HORSTMAN: Yes, we do, sir, and
2 it's all about you.

3 JUDGE FARRAR: It's not to upset us.
4 You don't need to do that in this situation,
5 emergency situation with your F-16?

6 LT. COL. HORSTMAN: That's correct. And
7 if you remember Col. Cosby's testimony, some pretty
8 aggressive maneuvering to get towards the runway.
9 So you don't need a lengthy approach. Because
10 Michael Army Air Field is a shuttle landing field
11 for the Space Shuttle, it's extremely long, I would
12 never go outside a very short distance from the end
13 of the runway, because when you're landing you
14 don't need two or three miles to land.

15 Q. (By Mr. Gaukler) And how high would you
16 have to be when you went over the Cedars? For
17 example, you said the Cedars was -- in that area
18 you have that knoll of 5,786, and say the range is
19 five to six thousand feet, just to have a range.

20 A. Okay.

21 Q. How high would you have to be above
22 that? If you've got 8,000 feet or 7,500 feet AGL,
23 would you eject when you got to the minimum of
24 2,000 feet AGL level?

25 A. If I could land, I would not eject; if I

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1 could not land, I would eject, just like Col. Cosby
2 did. Because since you can land, the ejection
3 altitude is no longer applicable.

4 Q. If a pilot had the expectation of being
5 able to clear the Cedar Mountains, at what altitude
6 would you have to be in the vicinity of the PFSF?

7 A. I don't know. I'd have to calculate
8 that.

9 Q. You don't know what that is?

10 A. No. It would be sufficiently higher
11 than the Cedar Mountains.

12 Q. And what's the likelihood -- if a plane
13 was at that point, what's the likelihood of a plane
14 crashing at the PFSF?

15 A. At what point?

16 Q. If it was at an altitude sufficient to
17 make Michael Army Air Field at the PFSF.

18 A. If he would crash at PFSF.

19 Q. Do you know what the minimum altitude is
20 to enter the flameout pattern at Michael Army Air
21 field?

22 A. Whatever the pilot wants. There's a
23 published simulated flameout approach, but if you
24 have a flameout approach you do just what Col.
25 Cosby did.

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1 Q. You were asked some questions also with
2 respect to, while we're on the same topic, what the
3 edge of the MOA, and I got a little bit confused in
4 terms of the eastern edge of the MOA. At one point
5 I thought you said in response to a question from
6 Ms. Marco that you would try to have your closest
7 plane flying as you were flying down the valley a
8 mile to a mile and a half west of the eastern
9 boundary of the MOA, and then I thought I got some
10 different answer when you were talking with
11 Mr. Soper. How far would you maintain a
12 boundary -- how much of a boundary would you
13 maintain from the eastern edge of the MOA based on
14 what you've said? I'm confused right now.

15 A. There's a number of ways to answer that,
16 and it depends on where in the MOA and what the
17 geography is. Right adjacent to the 11,031-foot
18 peak, I would fly to the west of that so that my
19 wingman would be in the military crest of the
20 mountain if he was uphill of me on the eastern
21 side. So I guess that puts that at about three or
22 so miles away.

23 Farther down south when you get down to
24 the 6,515-foot elevation, I don't have a peak so I
25 would look in my -- on my map, and I would try to

1 keep him then approximately -- I'd be comfortable
2 to two miles, and then inside of that I'd become
3 uncomfortable for my wingman who's closest to the
4 MOA boundary on the eastern edge.

5 Q. And you're talking about the MOA
6 boundary in both cases this time?

7 A. Yes, sir. That's what I was trying to
8 reference it to.

9 Q. You also were talking about State
10 Exhibit 59, which discussed the -- which is that
11 printout of weather for Dugway for a period of
12 time. And I gather from your testimony that you
13 did not receive this exact printout or page of
14 paper as part of the information normally received
15 in your -- you received climatic information but
16 not necessarily on this page or this format. Is
17 that correct?

18 A. I've received various sorts of
19 information from weather shop with respect to
20 climatic information. It was all in a drawer when
21 I retired.

22 Q. So you received information in many
23 different types of formats?

24 A. Many different types of formats.

25 Q. And this information would often have

1 ceiling references to it?

2 A. Yes, it would have ceiling references to
3 it.

4 Q. And you would use this -- did you know
5 the basis of ceiling references?

6 A. The basis?

7 Q. Do you know the basis of definitions of
8 the various ceiling references?

9 A. I used what the weather shop gave us.
10 And if they said that there was a cloud cover
11 greater than 50 percent, then we assumed that that
12 was a ceiling.

13 Q. And that they -- did you know the
14 different types of clouds that may be involved in
15 terms of determining percentage of coverage of the
16 sky?

17 A. One of the first classes you take in
18 pilot training, which for me was 25 years ago, or a
19 very long time ago, talks about weather and talks
20 about sky conditions, talks about the different
21 types of clouds that make up weather patterns. And
22 so they talk about a lot of things in these. I'm
23 not sure I understand the question.

24 Q. Do you know the basis by which the
25 definition of ceiling is defined with respect to

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1 cloud cover with respect to the various type of
2 weather information that you were provided?

3 A. As I've said, when the weather shop
4 provided me with information, they said it was
5 greater than 50 percent, I assumed that was the
6 ceiling, which is what we've used for a long, long
7 time. Now they use a different measurement and
8 they use opaque versus transparent. To a pilot, as
9 we demonstrated, if you have 50 percent of the sky
10 covered, you can't see the ground. So whether you
11 want to call it a ceiling or not is irrelevant.

12 Q. I'm just asking you in terms of, you
13 would not get involved in defining whether
14 something was a ceiling or not and what constituted
15 a ceiling, you'd take the information as provided
16 to you by the --

17 A. Yes, sir. I was a user of the
18 information.

19 Q. User of the information, not the
20 developer of the information, correct?

21 A. That's correct.

22 JUDGE FARRAR: Col. Horstman, this State
23 Exhibit 59 with the meteorological data you were
24 just talking about with Mr. Gaukler, I thought I
25 heard you tell Mr. Soper you got something like

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1 this all the time, and then you just told
2 Mr. Gaukler it came in many different formats. I
3 had understood when Mr. Soper asked you about this
4 that you got this exact format a lot of times, not
5 with this precise data on it, but this exact format
6 all the time.

7 LT. COL. HORSTMAN: I've received that
8 from the weather shop, I've received verbal
9 briefings, we've received Microsoft PowerPoint
10 briefings.

11 JUDGE FARRAR: But I'm focusing on this.
12 In your job when you were at Hill, you got things
13 that looked exactly like this except for the
14 precise data points that are entered on this?

15 LT. COL. HORSTMAN: Yes, we did, sir.
16 It looked very different for Saudi Arabia, but yes.
17 It captured their weather differently.

18 Q. (By Mr. Gaukler) But that was not used
19 for planning individual flights, correct?

20 A. No, sir. I would never use this to plan
21 an individual flight, because I'd be interested in,
22 by regulation, what the forecast and the
23 observation were for the flight.

24 Q. And you were looking at that data on the
25 weather on that thing that we talked about before.

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1 Would you be surprised if we just went in, say,
2 several months ago and printed out that same sheet
3 of paper, same data on it? Would that surprise
4 you?

5 A. Nothing surprises me about the weather.

6 Q. No further questions. Oh, excuse me. I
7 had one more.

8 You mentioned the potential -- well, you
9 said the Air Force could change the flight
10 limitation of not flying below 1,000 feet AGL north
11 of Dugway village in Skull Valley. You testified
12 that they could do that?

13 A. Yes, sir.

14 Q. Are you aware of any plans to make any
15 change in that restriction?

16 A. No, sir, I'm not.

17 JUDGE FARRAR: When you're the commander
18 at Hill, do you get a lot of requests or a few
19 requests or no requests to change your operations
20 so as not to offend various parts of the citizenry?

21 LT. COL. HORSTMAN: We get requests
22 every week.

23 JUDGE FARRAR: For example, you take
24 off, and if you take off to the southwest --

25 LT. COL. HORSTMAN: Southeast. The

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1 runway doesn't go to the southwest at Hill.

2 JUDGE FARRAR: There's nothing going
3 southwest?

4 LT. COL. HORSTMAN: Not the runway.

5 MR. SILBERG: I think Col. Horstman goes
6 Southwest a lot.

7 LT. COL. HORSTMAN: I think I can expand
8 on that.

9 JUDGE FARRAR: The reason I'm asking
10 that is, on one of the Board's outings when we get
11 out of this hotel we went up to Antelope Island,
12 and it looked like a couple of planes happened to
13 be headed south, had just left the runway and be
14 heading southwest.

15 LT. COL. HORSTMAN: Yes, sir. When they
16 initially take off -- is that it? Because I can --
17 does that have Hill Air Force Base on it?

18 JUDGE FARRAR: Yeah.

19 LT. COL. HORSTMAN: Let me step forward.
20 I'm holding a map of northern Utah which goes from
21 Michael Army Air Field up to Hill Air Force Base.
22 The runway is aligned northwest-southeast, and you
23 fly to a point of the departure onto the runway,
24 and you make a right-hand turn to go to your
25 working area.

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1 JUDGE FARRAR: Now you're headed
2 southwest when you make that turn?

3 LT. COL. HORSTMAN: Yes, sir. And
4 Antelope Island is right here, and there's a
5 causeway that you drive out on Antelope Island.
6 And you fly over the northern tip of the Antelope
7 Island over the causeway. We routinely have
8 requests to modify the departure track to avoid
9 somebody's house. If we're going to change --

10 JUDGE FARRAR: Not to fly on Sunday
11 morning or --

12 LT. COL. HORSTMAN: All of that stuff,
13 sir. In the Utah Test and Training Range, wing
14 officials and base officials routinely meet with
15 small, very, very small villages of people that
16 want us to put a huge restriction above where they
17 live. So it's a very common occurrence. Somebody
18 owns a farm that we fly too low and they say
19 they're farming something that is noise sensitive.
20 It's not uncommon to receive those at all.

21 JUDGE FARRAR: And what does the
22 commander usually do with requests like this?

23 LT. COL. HORSTMAN: With respect to the
24 Utah Test and Training Range, we try to get as many
25 military and civilian to include congress involved

1 to discuss it, because we have certain rights and
2 they have certain rights, and we discuss the issues
3 and try to -- we try to just have dialogue with
4 them, which generally solves most of it. And we
5 would then instruct the pilots without a formal
6 restricted air space over it to avoid that. We
7 avoid Fish Springs, which is a no-fly area low
8 level due to a bird sanctuary in the Utah Test and
9 Training Range.

10 JUDGE FARRAR: Does the commander
11 think -- would most commanding officers of a base
12 wish none of these requests ever came in because it
13 makes their job harder?

14 LT. COL. HORSTMAN: That's a personal
15 opinion. If I were the wing commander I wouldn't
16 want to hear any of it, but you're obligated to
17 listen to them.

18 JUDGE FARRAR: I mean, the whole -- if
19 you can anticipate where I'm going, eventually
20 there could be a request to ignore the -- to avoid
21 the 4,000 casks.

22 LT. COL. HORSTMAN: Yes, sir, there
23 could be. And I think what would happen is that
24 the Air Force would include that facility along
25 with the rest of nuclear power production

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1 facilities which we've talked about, which is, it's
2 really not much of a restriction. And if I were
3 the commander, I would try to avoid that as well.

4 JUDGE FARRAR: Avoid --

5 LT. COL. HORSTMAN: Avoid placing a
6 restriction on it as well. Because there's only so
7 much limited resource of air space, and every time
8 you lose a piece you never gain it back. It's a
9 losing situation. And the Air Force is in dire
10 need of more training air space, and they
11 understand that to get it is going to be literally
12 an act of congress. It just doesn't come lightly.
13 We've been asked to fly over southern Utah and the
14 Moab area, avoid it by 500 miles because they can
15 see our contrails. There's a whole lot of folks
16 that don't want to be airplanes, and there's a lot
17 of reasons they bring up for you to avoid near
18 them, if you will. And the lower you get, the
19 noisier you get.

20 JUDGE FARRAR: Anybody want to follow
21 this up?

22 Q. (By Mr. Gaukler) Lt. Col. Horstman,
23 there are therefore, for example, villages or towns
24 or ranches that may have some type of restriction
25 in terms of how high you can fly over them or

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1 something like that? That's quite common?

2 A. Yes, but those restrictions are
3 generally below where you would want to fly anyway.
4 They're a couple hundred feet, 500 feet, 1,000
5 feet.

6 Q. By English Village there's 3,000 feet,
7 correct?

8 A. English Village is, but it's not --
9 well, yes, sir, it is. That's more of a town, so
10 yes.

11 JUDGE FARRAR: Staff have any questions?

12 MR. GAUKLER: I have one more question
13 just very quick.

14 JUDGE FARRAR: Okay.

15 Q. (By Mr. Gaukler) How -- you're talking
16 about making sure you're so far from the boundary.
17 If you had clouds or scattered clouds, how would
18 you make sure that you were a mile and a half, two
19 miles from the boundary?

20 A. That's why I wouldn't go right next to
21 the boundary. I would try to steer closer to the
22 middle, and if there were clouds in my way I would
23 avoid them, either horizontally or vertically. I
24 would climb over them or I would fly around them
25 to, in this case, to the west.

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1 MR. GAUKLER: No further questions.

2 JUDGE FARRAR: Staff want to follow up?

3 MR. TURK: Your Honor, one question that
4 relates back to earlier cross-examination.

5 JUDGE FARRAR: Hold that for a minute.

6 Mr. Soper, do you want to follow up on
7 the discussion of what commanders like about these
8 requests and how they act on them?

9 We've been at this for an hour and 40
10 minutes. We can take a little break. It's 20 of.
11 Let's just take a less than a ten-minute break, ten
12 minutes. We'll start promptly at ten of.

13 (A recess was taken.)

14 JUDGE FARRAR: Let's see if we can get
15 back together here. All right. We're back after a
16 break.

17 Mr. Soper, we were going to give you the
18 opportunity to follow up the Board's questions.

19 MR. SOPER: Thank you, Your Honor.

20

21 RE CROSS EXAMINATION

22 BY MR. SOPER:

23 Q. Colonel Horstman, you said something to
24 the effect that if the Air Force were to decide to
25 put a restriction around the PFS site, you thought

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1 it would be no big deal? I'm not sure I understood
2 that right, but is that what you said?

3 A. Well, every restriction is a deal
4 whether it's big or small. I think it would be
5 consistent with the previous Air Force decisions to
6 put the standard 1,000-foot avoidance altitude zone
7 over that, which is no restriction at all right now
8 in Skull Valley.

9 Q. And you say it's no restriction at all
10 because of what?

11 A. Because you already have the thousand
12 foot limit. So if they put one in, as I discussed,
13 it would have no impact on the current flying
14 operations.

15 Q. So it wouldn't do anything to assess the
16 risk from crashes that we have discussed in this
17 hearing?

18 A. It would have no impact at all.

19 Q. Let's assume for a moment that a pilot,
20 in fact, does lose an engine of his F-16 in this
21 Sevier B MOA, somewhere in this yellow zone shown
22 on State 186. When would the pilot decide to point
23 the aircraft towards Hill -- or excuse me, towards
24 Michael?

25 A. After the pilot had accomplished the

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1 first couple of steps of the critical action
2 procedures. Zoom the aircraft, jettison the
3 stores, and then after that, there's a series of
4 decisions that the pilot has to make. If -- one of
5 them is to eject immediately. Another is to
6 restart the engine. There's a variety of things
7 you analyze. So what would happen is you would
8 zoom stores jet and say, oh, my gosh, I've lost my
9 engine and you'd turn to Michael's. So you would
10 turn to Michael's Army Airfield, and once you've
11 turned to Michael's Army Airfield which is --
12 because it's a primary divert field, it's
13 preprogrammed as an emergency field to land on, you
14 would have directional capability in your
15 navigation system. You would aim towards
16 Michael's, and then you would begin doing the other
17 kinds of steps that we talked about before.

18 Q. So you wouldn't wait for your engine to
19 restart to say I'm going to go to Michael's?

20 A. No, because most pilots believe that if
21 their engine quits, it's going to restart, and then
22 if it doesn't, then subsequently, they modify their
23 decisions based on whether, you know -- give it a
24 few times to restart and then start picking a place
25 to land or eject, et cetera. So restarting an

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1 engine can take quite a long time, and you wanted
2 to be headed towards a runway when that happens.
3 So heading towards an emergency divert base is
4 pretty important to do very, very quickly. Now,
5 would you do it when you zoomed? No, I think you'd
6 zoom and then you would stores jet, and after you
7 accomplish those two things, you would turn so
8 there would be a couple of seconds before you did
9 that timewise.

10 MR. SOPER: That's all I have. Thank
11 you.

12 JUDGE FARRAR: Once you make the
13 decision to go to Michael Army Airfield, and if you
14 were aware there was some kind of order about the
15 casks, but you knew it had been put in simply to
16 reduce the risk, the general risk, would you
17 make -- would you have high on your list that you
18 better not go over them?

19 COL. HORSTMAN: When you say put in an
20 order, I'm assuming you mean an overflight
21 restriction at a thousand feet?

22 JUDGE FARRAR: Yeah.

23 COL. HORSTMAN: No, I'd ignore that. I
24 mean because you're above that. You're trying to
25 make it to Michael's Army Airfield. You're

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1 trying -- the pilot is going to try to save
2 himself, the aircraft, et cetera, and the way you
3 do that is to point towards a runway. You don't
4 try to avoid something initially. Later on in your
5 decision process, then if you realize your engine
6 isn't going to start, it would lead you down that
7 rabbit trail to say, all right, we're going to end
8 up jumping out. Where then? So there's a series,
9 a sequence of events that would happen
10 decision-wise. Saving yourself and the airplane
11 would be higher than picking where you were going
12 to jump out initially.

13 JUDGE FARRAR: Put on your other
14 captain's hat if you would, and if there were a
15 terrorist-related order to avoid flying near
16 nuclear power plants which you knew had a different
17 basis for the order, and you were in Western New
18 York headed for Laguardia or somewhere, would you
19 make it your business not to get near Indian Point?

20 COL. HORSTMAN: What kind of airplane am
21 I flying?

22 JUDGE FARRAR: Your 737s.

23 COL. HORSTMAN: Yes, sir, I would.
24 Combat aircraft has an ejection seat and no
25 passengers. If I was in a 737 and lost my engines,

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1 I would do the exact same thing I would do in an
2 F-16, I would find the nearest runway and land.
3 It's your only option. And if you couldn't find a
4 runway, you can do what a 737 did years ago and
5 landed in the Mississippi River Levi where they had
6 fuel stored. So that the aircraft are landable.
7 Your decision process might be impacted, but we're
8 flying 56 airports, so when you say Indian Point,
9 I'm assuming that's a nuclear facility. I have no
10 idea.

11 JUDGE FARRAR: Yeah, about 30 miles
12 north of Manhattan.

13 COL. HORSTMAN: I didn't know that.

14 JUDGE FARRAR: Okay. But in other
15 words, I'm trying to distinguish between orders and
16 orders. If Tom ridge says don't fly near nuclear
17 power plants in any kind of airplane, that's one
18 kind of order. If the commanding officer at Hill
19 is saying, okay, people are bothering us, don't get
20 near the dairy herds, that's a different kind of
21 order in terms of the consequences of violating it.

22 COL. HORSTMAN: That's correct.

23 JUDGE FARRAR: I'm just trying to get a
24 feel for when you're in trouble in one of the two
25 situations, which orders do you follow and which

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1 orders you say, I'm not paying attention to that?

2 COL. HORSTMAN: One of the things we
3 probably ought to talk about is when an aircraft
4 declares an emergency, all of those orders you just
5 talked about are irrelevant. The pilot has the
6 complete authority to do whatever they want. If I
7 was flying a Boeing 737 and thought I could make
8 the Salt Lake City Airport landing to the north and
9 they had all kinds of takeoffs and departures going
10 to the south, I would say too bad, I'm in
11 emergency, I'm landing on runway three four right
12 in three minutes to the north, clear the runway.
13 And they would do that, it's that simple. When you
14 declare an emergency, all those rules and the SFO
15 pattern altitude, you ignore them and you save the
16 airplane.

17 JUDGE FARRAR: Okay. Anyone want to
18 follow up?

19 JUDGE LAM: I have one for Colonel
20 Horstman. Colonel Horstman, I remember hearing a
21 retired pilot or active pilot testifying before us
22 during the first week saying that if the facility,
23 the PFS facility is built down in Skull Valley, the
24 Air Force should not fly over it. He somewhat
25 testified to that effect. My question is, what

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1 type of penalty are we talking about if the Air
2 Force would not fly down there? I mean the penalty
3 to the Air Force.

4 JUDGE FARRAR: And let me interject
5 before you answer that question. When Judge Lam
6 said testified, it was not testimony in this
7 hearing, but a limited appearance statement a
8 couple of years ago?

9 JUDGE LAM: Both. Two years ago, we
10 heard that in a limited appearance. I thought six
11 weeks ago, I heard one of the pilots saying
12 something that he would not fly --

13 JUDGE KLINE: Yeah.

14 JUDGE FARRAR: All right.

15 JUDGE LAM: Now, I don't recall the
16 pilot's name.

17 JUDGE FARRAR: That's fine. I was
18 thinking of the other panel.

19 JUDGE LAM: Right, so we heard it twice.

20 JUDGE FARRAR: Yes.

21 JUDGE LAM: Just what type of penalty
22 would that be to the Air Force?

23 COL. HORSTMAN: First you have to
24 determine whether or not the Air Force would do
25 that. I believe the Air Force has publicly stated

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1 on numerous occasions that they would not.

2 JUDGE FARRAR: Would not?

3 COL. HORSTMAN: Would not.

4 MR. SILBERG: Would not do what?

5 COL. HORSTMAN: Would not close ranges,
6 would not close airspace. And I'm not talking
7 specifically about this one thing that they avoid
8 at all cost doing that. If that were to happen, it
9 would be a significant decrease in the training
10 capacity at Hill Air Force Base, and it would
11 subject them more closely to scrutiny for Base
12 closure, et cetera. So there's a lot of things to
13 consider, but it would be a dramatic impact on the
14 flight training for the F-16s at Hill Air Force
15 Base.

16 JUDGE LAM: So they may be a severe
17 restriction to the training capability? May be.
18 Or will be?

19 COL. HORSTMAN: Actually, sir, I don't
20 think that's anybody's decision except for the
21 military. So I can't speculate as to whether
22 they'd do that or not.

23 MR. SILBERG: Judge Lam, could I just
24 have a clarification? The precise question is, if
25 the Air Force loses the right to fly Skull Valley

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1 or if the Air Force loses the Utah Test & Training
2 Range?

3 JUDGE LAM: If the Air Force loses
4 flying over Skull Valley.

5 COL. HORSTMAN: I think the impact is
6 huge to the F-16 combat capability at Hill Air
7 Force Base.

8 JUDGE LAM: Thank you.

9 MR. TURK: May I ask for one
10 clarification also, Your Honor?

11 JUDGE LAM: Sure.

12 MR. TURK: Losing Skull Valley as an
13 airway is different from having a restriction
14 placed around the PFS site; correct?

15 COL. HORSTMAN: It could be very
16 different. You could put a variety of things on
17 it.

18 MR. TURK: Thank you.

19 JUDGE FARRAR: If you can elaborate.

20 COL. HORSTMAN: Well, as I said, they
21 could put a thousand foot restriction and the
22 impact would be nothing.

23 JUDGE FARRAR: Mr. Soper.

24 MR. TURK: Your Honor, that's one
25 example. May I ask for another?

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1 JUDGE FARRAR: Sure.

2 MR. TURK: Another example could be
3 placing a horizontal restriction around the PFS
4 site. For instance, don't fly closer than one mile
5 or two miles to the site horizontally. That's
6 another type of restriction that the Air Force
7 could decide on its own; correct?

8 COL. HORSTMAN: No, you'd have to
9 associate an altitude with it.

10 MR. TURK: Okay, associate that with an
11 altitude, then. Don't fly a certain horizontal
12 distance from the PFS site up to a certain range of
13 altitude; correct?

14 COL. HORSTMAN: I assume it could be
15 done. I don't do that.

16 MR. TURK: Thank you. And if they did
17 that, that wouldn't be a huge loss of Skull Valley;
18 Skull Valley would still be available as an airway;
19 correct?

20 COL. HORSTMAN: It would depend on what
21 the restriction was.

22 MR. TURK: If I said, you can't fly more
23 than one or two miles horizontally close to the PFS
24 site, that would still leave Skull Valley pretty
25 much open as an airway; correct?

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1 COL. HORSTMAN: Okay, so you're saying a
2 thousand feet unlimited vertical. The Air Force
3 doesn't do that.

4 MR. TURK: Lieutenant Colonel Horstman,
5 if I was to put in hypothetically a restriction
6 that said don't fly closer than one mile or two
7 miles to the side of the PFS site horizontally, at
8 any altitude, either it's 1,000 or 2,000, wherever
9 the Air Force decides to put in, that would still
10 leave the balance of Skull Valley open for an
11 airway; correct? Yes or no?

12 COL. HORSTMAN: It would and it would
13 restrict the training.

14 MR. TURK: I'm sorry. The question is,
15 it would still leave Skull Valley open as an
16 airway; correct?

17 MR. SOPER: Well, I think he answered
18 that.

19 COL. HORSTMAN: You have to define
20 "airway".

21 JUDGE FARRAR: Let me modify or take
22 Mr. Turk's question a step further. We've heard
23 evidence in this proceeding about the two ship and
24 the four ship flights, and the spacing you need
25 between them. If you have an eight mile wide

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1 airway and you take out the central two miles, that
2 would limit your ability to do --

3 COL. HORSTMAN: To train and to fly
4 combat Air Force's, yes, sir, it would.

5 JUDGE FARRAR: In other words, you could
6 send a single plane down there, but --

7 COL. HORSTMAN: You don't go to combat
8 in single airplanes. So you have to train like
9 you're going to fight and any restrictions put upon
10 any of your training airspace impact that. And as
11 far as notional this or that, you'd have to talk to
12 the Air Force.

13 JUDGE FARRAR: All right. Mr. Soper?

14 MR. SOPER: That's all I have.

15 JUDGE FARRAR: Okay. Does that conclude
16 -- Oh, Mr. Gaukler, you had one question on an
17 unrelated thing?

18 MR. GAUKLER: It follows up, I think in
19 terms of Mr. Soper's cross.

20 JUDGE FARRAR: Okay.

21 MR. GAUKLER: Cross, redirect, wherever
22 we're at right now.

23 FURTHER RECROSS EXAMINATION

24 BY MR. GAUKLER:

25 Q. You were talking, I guess both with

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1 Mr. Soper and with the Board of how, in certain
2 circumstances, if it was an emergency, you weren't
3 worried about where you were flying, you'd be
4 trying to save yourself and the airplane; correct?

5 A. Yes, sir.

6 Q. And I take it by the same token, for
7 example, if you were -- had just taken off from
8 Hill Air Force Base, and you were just departing
9 and a mile or two from Hill Air Force Base and you
10 had engine failure, you would direct yourself back
11 towards Hill?

12 A. If it was a mile or two, I wouldn't have
13 the energy to do that. I would aim to land in the
14 lake, because I knew I wouldn't be able to get back
15 to the field. As soon as I had the energy to reach
16 my flameout pattern altitude, I would then bend the
17 airplane back around to land at the Air Force base.

18 Q. Okay. So, then, in that situation, you
19 would -- whatever that altitude was, you would go
20 back and try to land at Hill Air Force Base;
21 correct?

22 A. Yes, sir.

23 Q. And again, I take it, just like you
24 would direct your flight, regardless of whatever
25 facilities you were flying over, it wouldn't make

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1 any difference in that situation whether it was a
2 school or a hospital?

3 A. Yes, sir. If I thought I could make it
4 back to the runway, I'd fly over anything.

5 MR. GAUKLER: Okay, no further
6 questions.

7 JUDGE FARRAR: That, I think, wraps up
8 the examination of Colonel Horstman. Colonel,
9 thank you for coming back here a second time. Good
10 luck with your test of some kind tomorrow morning.

11 COL. HORSTMAN: Check ride. If I fail,
12 I lose my license.

13 JUDGE FARRAR: Well, then we hope -- we
14 wish you great success there. Thank you. You're
15 excused with the Board's thanks.

16 COL. HORSTMAN: Thank you.

17 JUDGE FARRAR: That concludes this
18 portion of the State's presentation -- or on this
19 portion of the contention. Now it would be time
20 for the Applicant to have rebuttal, is that where
21 we are?

22 MR. GAUKLER: That's where we're at per
23 the schedule we had talked about before.

24 JUDGE FARRAR: Right.

25 MR. GAUKLER: I would suggest, we have

1 several hours of rebuttal, do you want to even try
2 to do it now, or what the Board and the parties
3 desire is. Because when we had planned this, we
4 thought we would have until noon tomorrow.

5 (Board conferred off the record.)

6 JUDGE FARRAR: Okay. If we don't
7 complete -- and the rebuttal would consist of whom,
8 the same panel?

9 MR. GAUKLER: Yes, General Cole, Gen.
10 Jefferson, Colonel Fly.

11 JUDGE FARRAR: And they're going to be
12 addressing what subjects?

13 MR. GAUKLER: They will be addressing
14 various subjects that were raised so far with
15 respect to their testimony and Lieutenant Colonel
16 Horstman's testimony as it relates to the second
17 testimony as opposed to some of the specific
18 testimony that's in Dr. Resnikoff's testimony that
19 would not be addressed at that point in time.

20 JUDGE FARRAR: If we don't finish this
21 before Colonel Horstman -- recognizing he has to
22 leave tomorrow morning, when will we finish? Back
23 in the D.C. session?

24 MR. GAUKLER: I would imagine we would
25 finish back in D.C.. we haven't talked about

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1 scheduling at all in that respect, but I certainly
2 would not want to have to fly our three experts out
3 here again for a third time. We'd be willing to
4 finish tomorrow, because they're here, and when we
5 talked about this back in April, I -- at the time
6 of the hearing, I made sure that my three people
7 were available virtually all week with the idea
8 that we were going to finish it off at this point
9 in time.

10 JUDGE FARRAR: Mr. Soper.

11 MR. GAUKLER: I objected to that at that
12 point in time.

13 JUDGE FARRAR: Mr. Soper, do you need
14 Colonel Horstman here for the entire course of the
15 rebuttal, here with you as your advisor.

16 MR. SOPER: Well, I would think so. I'm
17 somewhat concerned or wondering about what the
18 scope of rebuttal is going to be. If it's going to
19 be truly something that was not anticipated that
20 could have been raised on direct, or a rehash of
21 issues that we've already visited. And maybe -- I
22 don't know if the Board thinks it would be
23 appropriate to give some guidance on that. But I
24 don't think that the Board is interested in hearing
25 the same subjects rehashed. I wouldn't think

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1 that's within the scope.

2 JUDGE FARRAR: Well, the Board is
3 assuming that rebuttal is classic rebuttal limited
4 to something that came up on cross.

5 MR. SILBERG: No, it's a reply to direct
6 testimony --

7 JUDGE FARRAR: I didn't mean cross. I
8 meant that came up on the State's presentation of
9 its direct case, is what I meant to say.

10 (Board conferred off the record.)

11 JUDGE FARRAR: Colonel Horstman, what
12 kind of a note do you need from the Board to put
13 off your test?

14 COL. HORSTMAN: It's too late, sir.

15 JUDGE FARRAR: Okay.

16 (Board conferred off the record.)

17 JUDGE FARRAR: Mr. Soper, I think I
18 heard you say a minute ago, you did not want to
19 proceed tomorrow without Colonel Horstman advising
20 you; is that correct?

21 MR. SOPER: Yeah, I anticipate these
22 will be things that we'll need him to be able to
23 evaluate the testimony.

24 JUDGE FARRAR: Okay. Mr. Gaukler,
25 what's -- given that every lawyer -- every lawyer

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1 in the case so far has had his or her consultants
2 with them all the time, how do you suggest we
3 proceed? In other words, the Board is not going to
4 tell Mr. Soper to proceed without his consultants
5 available, when every other party has had tables
6 full of consultants with them during the entire
7 proceeding.

8 MR. GAUKLER: Let me consult --

9 MR. TURK: May I make a comment, Your
10 Honor. Not that this should affect Mr. Soper's
11 ability to have an expert present, but on Friday, I
12 will be here without experts. Sometimes it's
13 necessary. For the convenience of my experts, I
14 allowed them to go home and I agreed to continue
15 without them. That's one point. The second point,
16 if Colonel Horstman has to be away tomorrow, we
17 haven't heard how long his assignment or his test
18 will last and whether he's able to come back
19 midweek after that's completed. For instance,
20 Wednesday night or Thursday some time or Friday.
21 So maybe we can still finish all of this this week
22 and not have to revisit it later.

23 JUDGE FARRAR: Colonel Horstman.

24 COL. HORSTMAN: I'm due back here mid
25 morning Sunday.

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1 MR. TURK: No, not when he's due back,
2 but how long will the test take that he has to
3 undergo before he's able to return?

4 COL. HORSTMAN: It's a three-day event,
5 sir.

6 JUDGE FARRAR: Three-day? Good
7 suggestion, Mr. Turk.

8 MR. TURK: Doesn't always work.

9 COL. HORSTMAN: Sorry.

10 MR. SILBERG: Mr. Chairman.

11 JUDGE FARRAR: Yes.

12 MR. SILBERG: Two things. I think we
13 ought to get started, see how long we go. Second,
14 I think all the parties were informed what the
15 schedule is and we planned accordingly, and we all
16 assumed we were going to have Lieutenant Colonel
17 Horstman here till Wednesday noon, and I'm not --
18 it's not going to be fair to somebody. And I think
19 having been informed that Lieutenant Colonel
20 Horstman was here until Wednesday noon, if it means
21 that and then coming back in three weeks at some
22 other location, I think you got to balance the
23 hardships.

24 JUDGE FARRAR: I think Ms. Nakahara said
25 that -- she apologized yesterday for

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1 miscommunication either between her and Colonel
2 Horstman or between her and you, that she thought
3 he could be here until Wednesday noon, and that was
4 a misstatement. Am I right on that?

5 MS. NAKAHARA: That's correct.

6 MR. SILBERG: It's not a question of
7 assigning blame, it's just the facts.

8 JUDGE FARRAR: Let's get started, see
9 where we go. Mr. Gaukler, put on your panel.

10 While they're doing that, is the Staff
11 planning to have rebuttal?

12 MS. MARCO: We have a little bit, Your
13 Honor. Just a very small portion.

14 JUDGE FARRAR: And who would your panel
15 be?

16 MS. MARCO: The same as last time.

17 JUDGE FARRAR: The two gentlemen?

18 MS. MARCO: Yes. Dr. Campe and
19 Dr. Ghosh.

20 MR. GAUKLER: And Mr. Barnett will be
21 doing the rebuttal.

22 JUDGE FARRAR: Welcome back.

23 MR. BARNETT: Thank you.

24 JUDGE FARRAR: Gen. Jefferson, Colonel
25 Fly and General Cole, although it seems like a long

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1 time ago, you were previously sworn, so please
2 consider yourselves still under oath. Thank you.
3 Go ahead.

4
5 REDIRECT EXAMINATION

6 BY MR. BARNETT:

7 Q. Gen. Jefferson, Lieutenant Colonel
8 Horstman testified to the effective width of Skull
9 Valley for the purpose of calculating the crash
10 impact hazard to the Private Fuel Storage facility,
11 and in your analysis, you assumed an effective
12 width of the valley for the purpose of doing your
13 calculations. How did your assumption of the width
14 account for or reflect where the aircraft would be
15 when the emergency begins at least to a
16 hypothetical crash?

17 GEN. JEFFERSON: Actually, the analysis
18 does not. It was taken literally at the latitude
19 of the PFSF. An airplane, because of the
20 predominant, or the tracks running north to south,
21 will have to have a problem somewhere before that,
22 somewhere to the north of that line in order to
23 impact the site.

24 I did some calculations. If an airplane
25 was at 2000 feet, which is the minimum ejection

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1 altitude, in a glide speed, it would need to be
2 three -- a little over three miles, 3.2 miles,
3 statute miles north of the latitude of the PFSF.
4 If you're up there, the MOA is wider. If you take
5 an account of the mountains and go over to the
6 border of the MOA, you have a distance of about 11
7 miles, statute miles. If you go all the way to the
8 mountain range, you have a distance of about 12 and
9 a half miles.

10 Q. Which mountain range is that?

11 GEN. JEFFERSON: That's the Cedar
12 Mountain range?

13 Q. And what did you assume when you did
14 your crash impact hazard calculation?

15 MR. SOPER: May I just object at this
16 point. I don't see anything here that has anything
17 to do with Colonel Horstman's testimony. This is
18 all material that we've covered with Gen. Jefferson
19 on direct and cross and redirect.

20 MR. BARNETT: Your Honor, Lieutenant
21 Colonel Horstman testified to a narrower width,
22 effective width of the valley that he asserted
23 should be used in calculating the crash impact
24 hazard probability.

25 MR. SOPER: But he's not asking about

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1 his testimony. He's just once again having him
2 explain his original calculations.

3 MR. BARNETT: This is a rebuttal to that
4 point.

5 JUDGE FARRAR: But if it's nothing -- if
6 it's not nothing more than them saying again what
7 they've already said, hearing it twice isn't going
8 to make us -- you know, isn't going to mean that
9 you win two to one. I mean if it's already in
10 there, it's in there.

11 MR. BARNETT: No, I understand, but what
12 Gen. Jefferson just said was that if you look at
13 different aspects of an emergency, then the
14 effective width could be wider than what he had
15 assumed.

16 JUDGE FARRAR: Okay, what was the
17 pending question?

18 MR. BARNETT: The pending question was
19 what was the width that he assumed in his original
20 calculation. It was for point of comparison.

21 JUDGE FARRAR: Let's try to avoid that.
22 If it's in there, you'll have plenty of opportunity
23 to point it out to us later.

24 MR. BARNETT: All right, very well.

25 Q. (By Mr. Barnett) Colonel Fly, when you

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1 flew in Skull Valley, how close did you fly to the
2 Stansbury Mountains on the east side of the valley.

3 COL. FLY: In general, I would say I
4 would position the flight such that the closest man
5 was clear of the mountains, but not a specified
6 distance in terms of mileage, but I would say
7 notionally, a couple of thousand feet, just well
8 clear, so there was no concern about him running
9 into the mountains or positioning himself in such a
10 way that it would be a conflict. I think that was
11 fairly standard throughout. Not just Skull Valley,
12 but other mountainous terrain I flew in in my Air
13 Force career.

14 Q. Colonel Fly, last month Colonel Horstman
15 was describing how F-16s flew down Skull Valley,
16 and he gave an example where a two-aircraft
17 formation was flying south on the east side of the
18 valley with a flight leader on the east and the
19 wing man on the west. He described a 90-degree
20 right g-awareness turn where both aircraft would
21 turn to the right putting the wing man ahead of the
22 leader. He then said about the wing man, at no
23 time in here does my young inexperienced wing man
24 have any idea where we are navigationally. Is it
25 correct at that point that the wing man would have

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1 no idea where he was?

2 COL. FLY: No, I would not agree with
3 that statement. A wing man, one of his
4 responsibilities -- it's normally not his primary
5 responsibility, but one of his responsibilities is
6 to back up in navigation. And they're trained
7 early on to know where are you? He may not be able
8 to call out his latitude and longitude at any given
9 moment, but he I would think would be able to point
10 to a map and say I'm about here. So he would have
11 good situational awareness in terms of where am I
12 positionally with respect to routes of flight and
13 that type of thing.

14 Q. General Cole, in Question 24 of his
15 prefiled testimony, Lieutenant Colonel Horstman
16 stated that missions flown in Skull Valley are
17 quote, unquote, high risk. Do you agree with that?

18 GEN. COLE: I do not agree with that.
19 They are basically routine. You'll recall the 15
20 October, '99 memo from the Chief of Safety of Air
21 Combat Command, Colonel Greg Alston, who
22 specifically stated g-awareness maneuvers and
23 flying in Skull Valley were not high risk.
24 Specifically referring to flights 500 feet above or
25 g-awareness maneuvers.

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1 Q. Colonel Fly, in Question 28 of his
2 testimony, Lieutenant Colonel Horstman claimed the
3 pilots can and do fly through Sevier B MOA under
4 instrument flight rules, and I believe you heard
5 some further testimony to that effect this morning.
6 Do you agree with that?

7 COL. FLY: No, I don't. If you're
8 flying IFR, that's under instrument flight rules,
9 that means you have to comply with all the rules
10 and the procedures under IFR. And one of the
11 things you have to do -- one of the considerations
12 in there is altitude. Specifically, the minimum en
13 route altitude which was described earlier this
14 morning in Lieutenant Colonel Horstman's testimony,
15 as the minimum en route altitude that you can be
16 given by air traffic control where they're allowed
17 to vec you or put you on a flight plan at an
18 altitude. And that minimum altitude is designed to
19 provide you safe elevation or altitude clearance
20 between the surrounding terrain and obstructions.

21 So the MEA, if you will, is the lowest
22 altitude that they will allow you to fly under IFR.
23 And IFR, if you look at the terrain in Skull
24 Valley, the minimum -- there's actually two
25 different minimum en route altitude in Skull Valley

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1 on the western portion, toward the lower mountains,
2 is 9,700 feet. As you move over to the eastern
3 side, because of the significant vertical rise of
4 the mountains there, the minimum en route altitude
5 is 13,000 feet.

6 And there was some discussion about
7 radar coverage, and -- I'm trying to think. Oh,
8 procedural control, I'm sorry. Which normally
9 applies when you're not in a radar environment.
10 That can be because you may be in a place where the
11 land-based radars can't see you. The radar could
12 be inoperative for some reason. Or crossing large
13 bodies of water, traditionally there's no radar
14 that can see you out there, so you rely on
15 procedural control. And what procedural control
16 generally does from a pilot's perspective is
17 require that you issue more position reports. You
18 have to say things on the radio about at
19 such-and-such a time, I'm here, expecting my next
20 point, those types of things, to keep the air
21 traffic controllers advised of where you are. But
22 it does not obviate your requirement to comply with
23 all the instructions in terms of minimum route
24 altitude, your headings and those types of things
25 that you were issued in your flight plan.

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1 So I do not agree with the statement
2 that under procedural control you could fly IFR in
3 the weather in Skull Valley, Sevier B MOA below the
4 minimum en route altitude. So no, I do not agree
5 with that statement.

6 Q. Colonel Fly, in Question 31 of his
7 testimony, Lieutenant Colonel Horstman stated that
8 the air expeditionary force concept involved the
9 388th fighter wing at Hill Air Force Base beginning
10 in July 1997, and that therefore, the air
11 expeditionary force concept, the AEF concept, does
12 not provide a reason for one to use an average of
13 fiscal year 1999 and fiscal year 2000 sortie counts
14 for Skull Valley F-16 transits as a basis for
15 estimating the annual sortie count through Skull
16 Valley. Is that correct?

17 COL. FLY: I think it needs some
18 clarification, if you will. That AEF that was
19 mentioned was the first no notice AEF, where they
20 said everybody go, and there were units from
21 various different bases. Within the established
22 time criteria, we all deployed to Alaska, in what
23 became a two-week training exercise.

24 That AEF was, as I said, the first no
25 notice. The very first AEF was an already planned

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1 deployment to Southwest Asia. I don't know if it
2 was Operation Northern Watch or Southern Watch, one
3 of the Iraq things. But it was one of those
4 deployments, and it was basically already on the
5 books and the Air Force made a decision, we're
6 going to go to the AEF concept and they basically
7 labeled an already planned deployment in AEF. And
8 then the one where we went from Hill Air Force
9 Base, was I think the fifth.

10 But those were very much in the
11 developmental phase of the AEF construct. Each
12 one, I would say, was a little different than the
13 one before. While they were trying to say okay,
14 how do we do this, how do we structure this
15 program, what sort of buildup times do we have to
16 give, what's the proper rotation for the units? Is
17 it once a year, 18 months, I'm just -- these are
18 exemplars. When they return, how long should they
19 be in their vulnerability period for deployment?
20 When they return home, how much time should we
21 leave them down to kind of recover and take care of
22 their families and social life and all those kinds
23 of things? Then what sort of retraining program do
24 we need to give, how quickly do we jump back into
25 that, what's the graduation of that?

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1 So this early on was very much an
2 experimentation, a learning exercise, what's the
3 best way to actually implement Air Force wide, this
4 AEF concept. And it was not until the following
5 year, I don't remember the exact date, I believe it
6 was the next October, but the next fiscal year I
7 believe is when the AEF concept was actually
8 implemented Air Force wide, because they felt like
9 they had developed enough -- gotten enough of the
10 bugs out, had a chance to think their way through
11 it and really come up with a meaningful program and
12 a schedule that would affect and effect what they
13 had hoped.

14 So that's really why we used the basis
15 that we did, because that was the first full year
16 that it was implemented as an Air Force wide
17 program to try to take care of these ongoing
18 concerns that the Air Force had about operational
19 tempo, people being away, being able to plan
20 training, all those other types of things.

21 Q. Now, when you said the following
22 October, did you mean October of 1998?

23 COL. FLY: Yeah, I'm going to have
24 to -- I think -- I have to think about that for a
25 second. I think it was actually -- I think it was

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1 October, '99.

2 Q. Now, Colonel Fly, in Question 36, there
3 was testimony, Lieutenant Colonel Horstman asserts
4 that the joint strike fighter or F-35 or other
5 replacement for the F-16 will experience high
6 initial crash rates as have other fighter aircraft.
7 Will the joint strike fighter have the same high
8 initial crash rates as the other fighter aircraft
9 that have gone before it?

10 MR. SOPER: I object as beyond the
11 scope. This very thing has been covered on direct
12 and recross.

13 MR. BARNETT: Your Honor, this is part
14 of Lieutenant Colonel Horstman's prefile testimony.

15 JUDGE FARRAR: Let's go off the record
16 to discuss this.

17 (A discussion was held off the record.)

18 JUDGE FARRAR: Back on the record.
19 We've discussed the order in the proceeding at some
20 length. The parties have expressed their views and
21 we're going to allow this question. But have an
22 eye out to avoiding any duplicative rebuttal that
23 duplicates what came in on direct or was discussed
24 on direct.

25 MR. BARNETT: Could you read the

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1 question back, please.

2 (Record was read as follows:

3 "Now, Colonel Fly, in Question 36, there
4 was testimony, Lieutenant Colonel Horstman
5 asserts that the joint strike fighter or F-35
6 or other replacement for the F-16 will
7 experience high initial crash rates as have
8 other fighter aircraft. Will the joint strike
9 fighter have the same high initial crash rates
10 as the other fighter aircraft that have gone
11 before it?"

12 COL. FLY: No, I don't expect that the
13 F-16 -- I'm sorry, that the joint strike fighter
14 will have the same initial crash rates as the F-16.
15 The historic trend in the Air Force has been for
16 newer generations of airplanes to have lower crash
17 rates than the aircraft that -- than the older
18 airplanes that they replace. There's nothing to
19 indicate that that wouldn't happen again, that that
20 training would not continue. I fully expect it to.

21 The other thing to think about is the
22 F-16 -- well, the joint strike fighter will be
23 going -- it's multi national, actually. It's more
24 than just multi service, it's multi national. The
25 Air Force is the second -- the Marines are supposed

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1 to get it first and the Air Force gets it a year
2 later. So there's a more -- we're further down the
3 stream, if you will, in terms of when the Air Force
4 will start having initial operating capability.
5 Also, unlike the YF-16 which was a technology
6 demonstrator, the F-35 is intended from the get-go
7 as a production airplane. So I would expect that
8 the joint strike fighter would have a lower initial
9 crash rate than the F-16 and a lower lifetime crash
10 rate than the F-16.

11 Q. Colonel Fly, you said YF-16. Could you
12 explain what that means?

13 COL. FLY: I'm sorry, the original F-16
14 and what eventually became the F-18, were
15 technology demonstration airplanes designated YF-16
16 and YF-17. They were built as technology
17 demonstrators, just to kind of see what the
18 state-of-the-art would allow back in the early to
19 mid '70s in terms of fighter aircraft.

20 JUDGE FARRAR: Colonel Fly, you just
21 mentioned this trend about, you know, the later the
22 technology, the better the plane gets. Where does
23 the Osprey fit into that?

24 COL. FLY: Sir, I would indicate that
25 that's a radical new airplane in terms of the tilt

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1 wing. The phenomena that's plagued it, if you
2 will, during -- and please understand, I'm not an
3 expert on the V-22 Osprey, but I have done a little
4 bit of reading on it. The phenomena that has been
5 associated, as you know, it's still in development,
6 it has to do within the landing phase, when it
7 rotates the wings up, there's some vortices
8 phenomena here to -- for unknown, that has cost
9 many of these accidents. I can't give you a
10 percentage. Again, I'm not a V-22 expert. But
11 it's a significantly different technology than a
12 jet fighter.

13 JUDGE FARRAR: Would it be, then -- it
14 would not be unfair to characterize your testimony
15 as the newer the technology, the better it gets
16 until it's too new?

17 COL. FLY: Radically different is
18 perhaps a better term, Your Honor. Not too new.
19 Just radically different. They've never done that
20 before.

21 JUDGE FARRAR: Go ahead, Mr. Barnett.

22 GEN. COLE: May I add to that?

23 JUDGE FARRAR: Sure.

24 GEN. COLE: Your Honor, there's another
25 issue, too. In the realm of rules and mission, not

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1 only is the V-22 a new technology prototype type of
2 aircraft, but primary buy will go to the Marine
3 Corps for over the beach assaults to replace their
4 older helicopters. And secondly for the Air Force,
5 most importantly is a special operations platform.
6 And so it's far different from traditional fighter
7 operations.

8 JUDGE FARRAR: Okay. Go ahead.

9 Q. (By Mr. Barnett) Gen. Jefferson, in
10 Question 38 of his testimony, Lieutenant Colonel
11 Horstman claims that an assumption that a pilot of
12 a crashing F-16 could maneuver his aircraft to
13 avoid the Private Fuel Storage facility is
14 unrealistic and unconservative. Is that correct?

15 GEN. JEFFERSON: Oh, absolutely not.

16 Q. Could you explain how you evaluated the
17 likelihood that a pilot would be able to avoid the
18 Private Fuel Storage facility in the event of an
19 accident in Skull Valley?

20 GEN. JEFFERSON: Yes, we went to
21 aircraft class A mishap reports, accident reports,
22 looked at all of the destroyed aircraft. We looked
23 at all of the accidents that were relevant to Skull
24 Valley, what we call the Skull Valley type event
25 category. Within that category, we looked for all

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1 the aircraft accidents which involved the pilot
2 having the time and the controllability to affect
3 the aircraft to steer away from a ground site.
4 That's what we called the able to avoid category.
5 We based our analysis on the accident reports, as I
6 said, and came to the conclusion that pilots
7 actually do that in a very high percentage of the
8 time. That's beyond what we know personally from
9 our experience.

10 Q. Given an accident where the pilot
11 remained in control of the aircraft and had time to
12 attempt to avoid the Private Fuel Storage facility,
13 how did you assess the likelihood that the pilot
14 would avoid the Private Fuel Storage facility?

15 MR. SOPER: Objection, it's beyond the
16 scope of rebuttal and duplicative.

17 JUDGE FARRAR: This sounds a whole lot
18 like the first three days of testimony we had.
19 This was -- Mr. Soper may agree with this testimony
20 or not agree with it, but we sat here for three
21 days and explored this at great length. Why do we
22 want to hear it again?

23 MR. BARNETT: Your Honor, I thought that
24 you had inquired of Lieutenant Colonel Horstman as
25 to how PFS had characterized the various accidents

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1 and said at some point that the Applicant would
2 have the opportunity to explain that. And that's
3 what I thought we would do here.

4 JUDGE FARRAR: If I said that, then
5 you're entitled to go ahead.

6 Q. (By Mr. Barnett) Gen. Jefferson, please
7 do.

8 GEN. JEFFERSON: Would you repeat the
9 question.

10 (Record read as follows:

11 "Given an accident where the pilot
12 remained in control of the aircraft and had
13 time to attempt to avoid the Private Fuel
14 Storage facility, how did you assess the
15 likelihood that the pilot would avoid the
16 Private Fuel Storage facility?")

17 GEN. JEFFERSON: We looked --
18 objectively, we looked at the training these pilots
19 get, we looked at the altitudes and the
20 requirements that they might have as being able to
21 do this. We looked at the size of the site and the
22 large amount of vacant or deserted land around it
23 and how easy it would be to avoid it. We took all
24 those factors into account when we came up with our
25 conclusion.

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1 Q. (By Mr. Barnett) And how did you
2 determine how much time a pilot would have to avoid
3 the site if he were involved in an accident?

4 GEN. JEFFERSON: From the onset of
5 engine failure, it's a fairly straightforward
6 calculation from the performance tables in the F-16
7 manual of what it takes to climb, how long it would
8 take to climb from the altitude that the aircraft
9 reached, is given a certain set of starting
10 conditions, altitude and starting speed. Then the
11 glide rate, how long it takes to glide back down to
12 200 feet. We also used a chart that has red,
13 yellow and green bands on it which I think has been
14 referred to, and if you're in the green area, you
15 have time to get an engine start, which is at least
16 45 seconds. So you'd at least have that.

17 Q. Gen. Jefferson, do you recall last month
18 Judge Lam asked you a question about cases in the
19 F-16 accident reports where it was documented that
20 pilots had avoided areas on the ground?

21 GEN. JEFFERSON: Yes, I do?

22 Q. Did you find anything -- or what did you
23 find in your review of the F-16 accident reports
24 for the period that you considered in assessing the
25 crash impact probability to the PFSF with respect

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1 to considering the accidents that were Skull Valley
2 type events and that you rated as able to avoid,
3 that indicated whether the pilot maneuvered the
4 aircraft to avoid population or structures on the
5 ground at the onset of the emergency and before he
6 ejected?

7 GEN. JEFFERSON: There were actually 59
8 accidents in that category. They are 17 of those
9 that have specific reference to avoiding the
10 populated area or structure on the ground. There
11 are an additional 29 that indicate the pilot made
12 turns to an emergency base or some other action it
13 took, that -- he took, that indicated he had
14 situational awareness and knew where he needed to
15 go. And then there were 13 more, the remaining 13
16 who -- in which there was no reference to turning
17 to avoid anything, but there was also no
18 significant damage associated with those aircraft
19 crashes.

20 Q. And have you documented this analysis or
21 depicted these accident reports anywhere?

22 GEN. JEFFERSON: I've put together a
23 table, a matrix that has that in it.

24 (EXHIBIT-100 MARKED.)

25 JUDGE FARRAR: All right, we've had the

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1 reporter mark this as PF Exhibit 100.

2 Q. (By Mr. Barnett) Gen. Jefferson, would
3 you describe what's in the table, please?

4 GEN. JEFFERSON: Sure. This is a table
5 of the 59 accidents, and you can see they total the
6 59 on the back page there, in which all of the
7 accidents which are relevant to Skull Valley
8 transit, that's the Skull Valley type event
9 category we had. Of those, all the ones which the
10 pilot retained control and had enough time to avoid
11 a specific site, those are the able to avoid
12 categories. So all that's here are the Skull
13 Valley type events that are able to avoid.

14 The date column is self-explanatory.
15 Under maneuvering, we took comments out of the
16 accident reports, and those that we could find
17 specific reference to population or unpopulated
18 areas or something along that line, are listed
19 under that maneuvering column. I put -- lumped
20 those mostly to the top. I notice there's one
21 further down. But after that, where there were
22 other references of the pilot turning toward a base
23 or turning to a home base or toward an airport or
24 to an emergency landing airfield, those kinds of
25 things, those are listed next. And then at the

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1 bottom of the category, where you see no
2 information given, there was simply nothing in the
3 report that we could record.

4 In the last column, which is called
5 damage, I listed the damage that was recorded in
6 the accident report. Some of it's minor, but
7 whenever it was mentioned, we put something in. We
8 took that and put it into this table.

9 Q. And would damage include injuries to
10 people on the ground?

11 GEN. JEFFERSON: Yes, we do have the one
12 there, No. 14, 11 July, '96, that's the one we
13 talked about earlier, it happened in Pensacola
14 where the pilot was trying to reach the landing
15 strip and found out he couldn't do it, so he turned
16 off to a less populated area. Unfortunately, a
17 person was killed on the ground.

18 Q. And so this table describes the basis
19 for the answer you gave to my previous question
20 regarding the number of accidents where maneuvering
21 was described or where damage was found?

22 GEN. JEFFERSON: Yes, and I think it's
23 also important to note the negative that -- or the
24 negative side of this is there was no report that
25 indicated the pilot had the time and ability to

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1 control and didn't do so to avoid something on the
2 ground.

3 MR. BARNETT: Your Honor, I would ask
4 that this exhibit be admitted.

5 JUDGE FARRAR: Mr. Soper.

6 MR. SOPER: The State objects to it,
7 Your Honor. It's, of course, hearsay and there's
8 no foundation for it. It's an attempted
9 recharacterization of documents that are already in
10 evidence, and it purports to conclude that the
11 pilot retained control and had enough time. I
12 realize that at most it would be the opinion of the
13 PFS witnesses, which it does not say. It simply is
14 a misrepresentation in that it's a
15 recharacterization. In other words, such things as
16 turn towards the airfield is characterized as
17 maneuvering. I don't see that it has any probative
18 value. I think it's prejudicial.

19 MR. BARNETT: Your Honor, it reflects
20 General Jefferson's review of the accident reports.
21 The accident reports are prepared by the Air Force.
22 We had some discussion of them at some length last
23 month regarding their hearsay nature or their
24 accuracy or probative value. This chart, as Gen.
25 Jefferson said, was the basis for the answer he

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1 just gave me. It does -- it is his -- does reflect
2 his review and interpretation of those reports, but
3 as an expert witness, I believe he's allowed to do
4 that.

5 JUDGE FARRAR: These are the same
6 reports he reviewed before?

7 MR. BARNETT: That's correct.

8 JUDGE FARRAR: And is this just the same
9 information put in a nice chart, or is it
10 additional information?

11 MR. BARNETT: It is additional
12 information regarding the maneuvering actions of
13 the pilot and the damage that was caused or not
14 caused on the ground.

15 JUDGE FARRAR: Why didn't we have it the
16 first time?

17 MR. BARNETT: I'm sorry, Your Honor.

18 JUDGE FARRAR: Why didn't we have it the
19 first time?

20 MR. BARNETT: This was in response to
21 Judge Lam's question about the number of accidents
22 where there was documentation of maneuvering and
23 damage on the ground. And we wanted to provide a
24 concrete number for that.

25 JUDGE FARRAR: Does the Staff have a

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1 position on this?

2 MS. MARCO: Well, we don't object in
3 light of the fact that this does go -- looks like
4 it does go to Judge Lam's question. I just have a
5 question about the relevance of the damage column
6 as it relates to this proceeding.

7 MR. BARNETT: The relevance of the
8 damage column is that if a pilot was trying to
9 avoid something on the ground and failed to do so
10 and he hit it, it would be reflected in the damage,
11 the accident reports record damage on the ground.

12 JUDGE FARRAR: Mr. Soper.

13 MR. SOPER: Well, whatever the accident
14 reports record is in the accident reports in full,
15 not a portion lifted out of context or summarized
16 or recharacterized. And if General Fly, although I
17 don't think it's a rebuttal, in all due respect to
18 Judge Lam and he's entitled to get his question
19 answered, but I think the witnesses have tried to
20 answer his question before and now is the time for
21 rebuttal witnesses and this is not part of
22 rebuttal, as I understand it.

23 The number -- the dates of those
24 accidents, if that's -- if those are the accidents
25 that seem to be responsive to Judge Lam, they are,

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1 but what's contained in the reports of those dates
2 speaks for themselves and they don't need to be
3 recharacterized as maneuvering and damage and so
4 forth. That information is in the report in full.

5 MR. BARNETT: Your Honor, this is an
6 expert witness's review of the material, and as a
7 report of his review. The reports are not -- all
8 the reports are not in evidence. There are only a
9 select few that are in evidence.

10 (Board conferred off the record.)

11 JUDGE FARRAR: The Board has consulted
12 among itself at some length on this. We don't see
13 that this is rebuttal. Judge Lam asked a question
14 and there was an answer given to the question, then
15 that was the answer. If you're going to -- it's
16 enough, we'll throw it back to the Applicant. Do
17 you think it's useful testimony that we ought to
18 have in front of us to decide the case, should all
19 other reviewing authorities, does that mean we
20 start a new phase and you can have more direct than
21 the other guys can have more direct. So what's
22 your preference?

23 MR. SILBERG: Well, one possibility is
24 we'll just put all the accident reports into
25 evidence as exhibits, if that's what Mr. Soper

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1 wants. Then he can't quarrel with our
2 characterization of them. It seems to me if Judge
3 Lam asked a question about why the 12 reports that
4 were used as exemplars, what about the others? You
5 know, I think to expect that you can
6 instantaneously come up with a review of all the
7 others and present that information as a follow-on
8 response, I think is unrealistic. I think this is
9 exactly the time when that kind of information
10 ought to be presented. But if the Board wants to
11 put all the reports into evidence, then everybody
12 can draw their conclusions from them, we can do
13 that. It seems to me that, you know, putting in
14 information in response to questions from the Board
15 is perfectly appropriate at this stage.

16 JUDGE FARRAR: It's not rebuttal. My
17 concern is, if you don't have rules on rebuttal,
18 then it's like more direct and then we're in phase
19 two of the aircraft accident case where we have a
20 whole second level phase and everybody gets their
21 direct. And, you know, we start again. And I know
22 that, you know, the Board asked questions, we like
23 to have answers, we like to make sure the record is
24 complete, but this is rebuttal. And that's our
25 concern unless someone wants to argue that there

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1 are no restrictions on rebuttal, that rebuttal is
2 just a second chance, and I have not heard anybody
3 in this proceeding argue that.

4 Let me ask if the Staff has an opinion
5 on this.

6 MR. TURK: Your Honor, I would draw an
7 analogy. If the Applicant had overnight, while
8 their witnesses were being cross-examined on the
9 first round, if Judge Lam had asked a question as
10 he did during cross-examination of their witnesses,
11 and if they had gone home overnight and prepared
12 this chart and then presented it, that would have
13 been an acceptable presentation in response to the
14 Judge's question. Because it's something that
15 apparently is too complicated to have given in a
16 snapshot orally, they had to prepare a table to
17 show the evidence.

18 So if it would have been acceptable then
19 and the only issue is they're now presenting it
20 later rather than originally, then in my view, the
21 mere fact that they waited until now to put it
22 forward, is not improper. It may not be rebuttal,
23 but there is a response to a Board question, if
24 that's the representation by counsel for PFS. In
25 which case, if another party wishes to counter it,

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1 they should have an opportunity to counter it.

2 The rule -- I was looking for cases, by
3 the way, on rebuttal and surrebuttal. I could only
4 find one case as an example, and the test is -- on
5 the case I just looked at now, if a party
6 reasonably should have anticipated the attack, or
7 in this case, the question, then it should have
8 been presented in the original direct testimony.
9 But if this is something that arose from
10 questioning by the Board, then it's something that
11 could not have been anticipated or may not have
12 fairly been anticipated, then they should have an
13 opportunity to put it forward, and the other party
14 should then have a chance to put on a countering
15 case, if that's what they want to do.

16 MR. SOPER: Well, this is not rebuttal
17 to a defense raised by Judge Lam.

18 MR. TURK: It sounds like it's illegal.

19 MR. SOPER: That's the issue. And if
20 you want to make the basis, the time it takes to
21 prepare a rebuttal, that would seem that Colonel
22 Horstman, who finished his testimony today, if he
23 touched on complex subjects, that will make them
24 proper sometime in the future in this proceeding,
25 because there's not enough time to raise it on

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1 rebuttal now. I think time is the very issue. If
2 you want to raise something on direct, that is the
3 time to raise it. This is simply not rebuttal.

4 JUDGE FARRAR: Mr. Turk, you mentioned
5 the notion of a question Judge Lam asked. But
6 there's also the question about whether this could
7 have fairly been presented at the outset, or should
8 it have been part of the direct, is the very nature
9 of the direct such that this should have been
10 included?

11 (Board conferred off the record.)

12 JUDGE FARRAR: Having consulted again at
13 some length, the Board thinks this is, as we said
14 before, it's not rebuttal. We think it's
15 information that should have been included, could
16 fairly have been anticipated in the Applicant's
17 direct case and should have been included there.
18 Nonetheless, we've been committed in this
19 proceeding to the fullest development of the record
20 possible. This is an important issue. We're going
21 to admit it, but with the -- given the argument
22 that it took a great deal of time to prepare, we're
23 going to give the State time to review this
24 document. Perhaps we should have all the accident
25 reports in evidence, and if the company gets a --

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1 in effect, I think what we're saying, is a second
2 bite on the apple on this, then the State gets a
3 second bite.

4 That's our ruling, that's what we're
5 going to do. Do I hear anybody want to speak on
6 the procedures for the hearing now? What is the
7 exact status of the accident reports now?

8 MR. SILBERG: I believe we have a set, I
9 think it's complete, but we don't have 15 sets.

10 JUDGE FARRAR: We looked -- we had it in
11 front of us before, but some were admitted.

12 MR. BARNETT: There are roughly 15
13 accident reports admitted right now. I think maybe
14 12, roughly 12 out of the period covering our
15 panel's review. So there are -- well, there are
16 121 all together, so that would leave the
17 remainder.

18 JUDGE FARRAR: Well, we're going to have
19 to get those into evidence. Does the State have
20 those?

21 MR. SOPER: Yes.

22 JUDGE FARRAR: As a logistical matter,
23 you have them. Whether or not they've been
24 admitted, you possess them?

25 MR. SOPER: Yeah. Is the number 121 or

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1 126?

2 MR. BARNETT: I believe it's 121. .

3 MR. SOPER: Colonel Jefferson, how many
4 are there? Or Gen. Jefferson, excuse me.

5 GEN. JEFFERSON: We had 126 original
6 class As. I think that's right. 126. And 121, I
7 believe were destroyed aircraft, the ones of
8 relevance of destroyed aircraft.

9 MR. TURK: The ones at issue, Your
10 Honor, were 121. I don't think you need to admit
11 all 121. I think if PFS and the State get together
12 and agree okay, which ones do they want in
13 together? For instance, this table that PFS has
14 now proposed has a total of --

15 JUDGE LAM: 59.

16 MR. TURK: 59 listed, which I assume
17 includes some of the original 12 that were
18 admitted.

19 MR. BARNETT: That's correct.

20 MR. TURK: Or the 15 that were admitted.
21 So maybe we can keep this down to a number of
22 roughly 60 or even less than 60, depending what the
23 parties agree between themselves.

24 (Board conferred off the record.)

25 JUDGE FARRAR: It's a good suggestion,

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1 Mr. Turk, but there's lurking in this case, a major
2 question of appropriate statistical analysis, and I
3 think sooner or later, someone's going to want to
4 see the entire universe of these, to see why you
5 cut them down to 59 or why you cut them down to 15,
6 and how that analysis is done. So I'm concerned --
7 we're concerned that if we only put in these 59
8 now, then, you know, sometime from now, we'll have
9 further argument about putting in the rest. And
10 I'm not saying we have to have them physically put
11 in now. I mean everybody but us has them all, so
12 we're looking for how logistically you handle this
13 and when and what the next phase of the trial is.

14 MR. SOPER: Well, I would suggest that
15 it would be the Applicant's responsibility if they
16 want to revisit this subject, to put all those
17 reports into evidence. I would suggest all 126.

18 JUDGE FARRAR: I think that's the safer
19 course.

20 MR. SILBERG: We don't think reports
21 dealing with aircraft that were not destroyed are
22 relevant, because those obviously were situations
23 where there is, you know, not a crash of the kind
24 that we would have in Skull Valley. But I suspect
25 the additional five reports isn't a big deal.

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1 JUDGE FARRAR: You know, let's get them
2 in there, and then sooner or later, someone can say
3 here's the right way statistically to analyze all
4 these and there's not a third bite. Well, someone
5 says, well, we got to explain these other five.

6 MR. SILBERG: But I think it is
7 important that the record reflect how this
8 developed. We did deal with this in our testimony.
9 The question was asked by Dr. Lam and at that time,
10 the 12 were provided as exemplars, and then Dr. Lam
11 asked the further question, as I'm informed, what
12 about all the others? And that's why we got into
13 the review of all of them. And so I don't think it
14 was something that could be anticipated unless that
15 standard says everything in the world has to go in
16 at the beginning, which I don't think is the case.

17 JUDGE FARRAR: No, but if his question,
18 in preparing your testimony, if it could have been
19 anticipated that someone would say, hey, what about
20 the others, then while you might not have
21 anticipated his question, you could anticipate that
22 someone would have a concern about the
23 presentation. But we don't need to -- I mean we
24 could thrash this out endlessly, and we don't need
25 to. Let's get them all in at some point and this,

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1 Exhibit 100, will be admitted, and the State will
2 get together with the other parties and let them
3 know how long they need to analyze these reports,
4 analyze this exhibit and come back.

5 MR. SILBERG: We will try to have these
6 copied and made available this week and introduced
7 this week.

8 JUDGE FARRAR: All right.

9 MR. GAUKLER: I make the point the State
10 has had these copies all along as part of the
11 discovery process, so the focus of their review
12 should be whatever information they see, that they
13 see in the table that we just provided.

14 JUDGE FARRAR: That's a fair position
15 for you to take. We will wait to hear from the
16 State on whether they agree with that, what they
17 think about this. All right.

18 JUDGE LAM: And while we are looking at
19 this table, I'd like to ask Gen. Jefferson to
20 reiterate the numbers again. How many of these
21 events you consider -- I believe you grouped them
22 into three different groups.

23 GEN. JEFFERSON: Yes, Judge, I found 17
24 where there was a specific reference to turning
25 away from populated areas or toward uninhabited

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1 areas or something along that line. I found an
2 additional 29 which referenced pilot actions to
3 turns towards an air base or do something like
4 that, to indicate that he had situational
5 awareness, knew where he was and knew where he
6 needed to go in this emergency. And then I found
7 13 -- excuse me -- excuse me, that's not right.
8 Excuse me, I'll have to -- let me take a minute,
9 look at the numbers one more time. Oh, yes, that's
10 correct. There were 13 --

11 JUDGE FARRAR: The 29 is correct?

12 GEN. JEFFERSON: The 29 is correct.

13 JUDGE FARRAR: Will you describe that
14 again.

15 GEN. JEFFERSON: That's where there's
16 some description of the pilot taking action to turn
17 towards an emergency field or do some other action
18 that indicates he knew where he was, had
19 situational awareness. And then there's 13 where
20 there was no such reference of either of the above
21 two categories.

22 JUDGE LAM: Gen. Jefferson, if I were to
23 label Group A for the 17 events, Group B for the 29
24 events and Group C for the remainder, would you be
25 able to identify these groups right now?

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1 GEN. JEFFERSON: Yes, Judge, the first
2 16 are in A and there's one, No. 49 that I failed
3 to put up into that group.

4 JUDGE LAM: 49 is A.

5 GEN. JEFFERSON: Is in the A group.
6 That makes the 17.

7 JUDGE LAM: Okay.

8 GEN. JEFFERSON: Then from the original
9 No. 17 here down to -- let's see. That would come
10 out to be 40 -- just a second. Down to 45. Yeah,
11 that's correct, would be in Group B. And then the
12 rest are Group C, except for that No. 49.

13 JUDGE LAM: Okay, thank you, General.

14 MR. SOPER: Excuse me, Group B went to
15 where? 17 to what?

16 GEN. JEFFERSON: Included 45.

17 JUDGE FARRAR: Mr. Barnett, is there
18 anything more you'd like to add that's appropriate
19 to question on this table, or should it wait?

20 MR. BARNETT: Your Honor, I think it can
21 wait.

22 JUDGE FARRAR: If we just simply
23 admitted this, if we said this was proper rebuttal
24 and had not done what we just did, what would your
25 next series of questions have been? Because maybe

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1 it would be better to get them out and on the table
2 so that when the State is planning its next bite,
3 they know everything you're presenting. So why
4 don't you go ahead and see where we get with these
5 questions on this.

6 Mr. Soper, is that all right with you if
7 we question further, get everything out there now
8 so that when you're doing your review, it's a
9 one-time review, you don't do it again?

10 MR. SOPER: Very well, yes.

11 Q. (By Mr. Barnett) Gen. Jefferson, out of
12 those 59 accidents, how many of them showed
13 either -- I'm sorry, let me restate that. How many
14 showed either that the pilot maneuvered prior to
15 ejecting or that the aircraft caused no significant
16 damage to structures or injuries on the ground?

17 GEN. JEFFERSON: In the or case, none.

18 Q. I'm sorry, is that --

19 GEN. JEFFERSON: I say that because
20 there was one where the pilot did.

21 JUDGE FARRAR: In the what case? No,
22 you used the word or.

23 GEN. JEFFERSON: Using the phrasing of
24 the question as or.

25 JUDGE FARRAR: Oh, okay.

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1 Q. (By Mr. Barnett) I think you
2 misunderstood my question. Out of the 59
3 accidents, how many showed either pilot maneuvering
4 prior to ejection or that the aircraft caused no
5 significant damage or injuries on the ground?

6 GEN. JEFFERSON: None of them showed
7 that.

8 Q. None of them showed pilot --

9 GEN. JEFFERSON: None of them showed
10 either one or the other.

11 Q. None of them showed pilot maneuvering?

12 GEN. JEFFERSON: All of them. I'm
13 sorry.

14 MR. BARNETT: All right. That's all
15 that I have.

16 JUDGE FARRAR: Is that -- I don't
17 understand the question, I don't understand the
18 answer. Ask two questions.

19 Q. (By Mr. Barnett) Out of the 59
20 accidents you have there, how many of them showed
21 either --

22 JUDGE FARRAR: No, how many showed that
23 the pilot maneuvered prior to ejecting? That's his
24 question.

25 Q. (By Mr. Barnett) All right. Answer

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1 that question.

2 GEN. JEFFERSON: Okay. That's a little
3 different than the A and B sum, because there are
4 some where they maneuvered but didn't indicate they
5 were turning in a particular direction. So that
6 would be 50 in that category.

7 Q. Out of the 59?

8 GEN. JEFFERSON: Out of the 59, yeah.

9 JUDGE FARRAR: And you got that number
10 how in relation to --

11 GEN. JEFFERSON: From the table. Just
12 looking -- number 46, 47, 48 and 50 indicated the
13 pilot was maneuvering, but they didn't say anything
14 about turning towards the base or turning away from
15 populated area or anything. But the pilot was
16 maneuvering. The others do not say anything.

17 JUDGE FARRAR: Wait. So you took your
18 first 45, No. 49 which should have been in the
19 first 45?

20 GEN. JEFFERSON: Yes, sir.

21 JUDGE FARRAR: And four more?

22 GEN. JEFFERSON: And the next four, down
23 to 50.

24 JUDGE FARRAR: And that gave you a total
25 of 50. Now, the second question is how many showed

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1 no damages?

2 Q. (By Mr. Barnett) And the specific
3 question is, out of those remaining that did not
4 discuss maneuvering, how many of them showed no
5 significant damage to structures or injuries on the
6 ground?

7 GEN. JEFFERSON: All of them showed no
8 significant damage.

9 JUDGE FARRAR: All nine of the remaining
10 nine?

11 GEN. JEFFERSON: Yes, sir. 51 through
12 59 inclusive.

13 JUDGE FARRAR: Had no damages?

14 GEN. JEFFERSON: No significant damage.
15 There's some minor stuff.

16 JUDGE FARRAR: Right, okay. And you
17 said that was your last?

18 MR. BARNETT: Yes, on this subject, yes,
19 it is.

20 JUDGE FARRAR: All right. You have a
21 lot more rebuttal, I assume?

22 MR. BARNETT: I do have a fair amount
23 more, yes.

24 JUDGE FARRAR: In terms of hours or --
25 and I'm not trying to limit you, I'm just trying to

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1 see where we're going.

2 MR. BARNETT: I would say, in terms of
3 numbers of questions, we're about one third of the
4 way through.

5 JUDGE FARRAR: All right. Adhering to
6 our original rule, we could try to press on and it
7 would end in disaster.

8 Let me make one suggestion. Mr. Soper,
9 are there any questions you want to ask about this
10 table now that might help you run your analysis?
11 This would not limit your ability to ask questions
12 about it later, but I'm giving you a chance to ask
13 questions now so that when you go back to the
14 drawing board, you know what you're dealing with.

15 MR. TURK: While Mr. Soper is
16 consulting, may I ask, the leadoff to this whole
17 line to the table and the line of questions I
18 assume is the question from Judge Lam that begins
19 at Page 3964? Is that the other parties'
20 understanding, as well? I was trying to
21 understand.

22 JUDGE FARRAR: What day is that?

23 MR. TURK: April 12th, the day session
24 rather than the evening session. The discussion
25 goes on then for approximately eight or so pages,

1 maybe a little more.

2 JUDGE LAM: That's exactly right.
3 That's exactly right. That's the questions that I
4 asked Gen. Jefferson and General Cole and Colonel
5 Fly.

6 I think without prejudicing the State's
7 claim, I think Exhibit 100 was responsive to my
8 question on Page 3966, Line 13. Because I was
9 asking Gen. Jefferson among the 59 events, I only
10 see 12 of them are clearly documented. What
11 happened to the remaining 47? So this exhibit was
12 responsive to my question.

13 GEN. JEFFERSON: Now, may I elaborate on
14 that, for clarification?

15 JUDGE FARRAR: Yes.

16 GEN. JEFFERSON: Of those 12, I went
17 back and looked. 10 of them are in this database.
18 The other two were not considered Skull Valley type
19 events, so they are not in here.

20 JUDGE FARRAR: I would just add to what
21 Judge Lam said, that while this is responsive to
22 his question, the question remains about whether it
23 should have been presented initially as being
24 something that should fairly have been included in
25 the original report, and that's remains the basis

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1 of our ruling. Mr. Soper.

2 MR. SOPER: I do have just a couple of
3 questions, Your Honor.

4 Under the column damage, Gen. Jefferson,
5 I notice that the next-to-the-last entry, No. 58,
6 it says, none reported. In fact, it's our
7 information that there were several hundred
8 thousands of dollars of damage claims presented.
9 What do you mean under the column damage if it's
10 not there?

11 GEN. JEFFERSON: I'll have to look at
12 the accident report.

13 MR. SOPER: Well, I don't know that it's
14 in the report. I mean is this damage limited to
15 the requirement that it has to be set forth in the
16 accident report or you conclude there is no damage?
17 Is that what this damage column means?

18 GEN. JEFFERSON: Yes, we took this
19 information directly from the accident report.

20 MR. SOPER: So the correct
21 characterization of this column would be damage
22 reported in accident report?

23 GEN. JEFFERSON: Yes.

24 MR. SOPER: And similarly, the other
25 column where it says maneuvering, for example, on

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1 No. 48, the description is on approach to landing,
2 50 is zoomed and glided. Maneuvering is any action
3 that the pilot took, is that what --

4 GEN. JEFFERSON: In those categories,
5 that's right.

6 MR. SOPER: So it doesn't mean
7 maneuvering to avoid anything, it just means that
8 the pilot did something?

9 GEN. JEFFERSON: That's correct for
10 those last couple of ones.

11 MR. SOPER: And you don't claim, do you,
12 sir, in the Category A, that there are 17 events
13 that represent the pilot locating and taking action
14 to avoid a specific ground site, do you?

15 GEN. JEFFERSON: Not unless it says that
16 specifically. What we did was -- what I did was
17 look for any indication the pilot was thinking and
18 taking action to avoid populated areas or turn to
19 an uninhabited area or avoid some structure on the
20 ground.

21 MR. SOPER: In this maneuvering column,
22 is there any distinction made as to whether the
23 pilot took a maneuvering action on his own as
24 opposed to being directed by either a back seater,
25 a wing man or some third person?

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1 GEN. JEFFERSON: I've specified that
2 where that's there. For instance, No. 11 -- excuse
3 me, that's not one. There are one or two cases
4 where someone else in the flight indicated to the
5 pilot that it's better not to head back to base but
6 to eject on the range, that sort of thing.

7 MR. SOPER: And every circumstance where
8 that is true, you've indicated it in that column?

9 GEN. JEFFERSON: I believe so, yes.

10 MR. SOPER: Thank you.

11 JUDGE FARRAR: Mr. Soper, that gives you
12 enough, then, to proceed with your analysis in due
13 course?

14 MR. SOPER: Yes, I think so.

15 JUDGE FARRAR: Okay. Let us know at
16 some later time when to do this.

17 We will then excuse -- in light of
18 Colonel Horstman's impending absence, we will
19 excuse this panel for now subject to recall at a
20 time and place to be determined, and then we'll do
21 Dr. Resnikoff tomorrow, is that the plan?

22 MR. SOPER: Yes, Your Honor.

23 JUDGE FARRAR: Okay. And how long will
24 your cross be on that?

25 MR. BARNETT: I would imagine no more

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1 than a couple of hours.

2 JUDGE FARRAR: How about you all?

3 MS. MARCO: About 15 minutes.

4 JUDGE FARRAR: Then what?

5 MR. TURK: We may be underestimating.

6 JUDGE FARRAR: No, you're kidding.

7 MR. GAUKLER: We've never done that

8 before.

9 JUDGE FARRAR: Okay. Then let's assume
10 we got through at 2:00 tomorrow. What do we do
11 Wednesday afternoon?

12 MR. BARNETT: Your Honor, we would have
13 some rebuttal to Dr. Resnikoff's direct testimony.

14 JUDGE FARRAR: These same people?

15 MS. MARCO: The Staff does, too.

16 JUDGE FARRAR: Okay. So that occupies
17 Wednesday. What happens Thursday?

18 MR. GAUKLER: We've got a couple of
19 witnesses planned for Thursday and/or Friday, and I
20 got to speak to Ms. Chancellor who isn't here
21 today.

22 JUDGE FARRAR: That's seismic?

23 MR. GAUKLER: Yes, seismic, yes.

24 JUDGE FARRAR: So that would finish
25 aircraft except for your rebuttal of Colonel

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1 Horstman?

2 MR. GAUKLER: That's correct.

3 JUDGE FARRAR: Good. So then we'd be
4 back on seismic, fine. Whatever you all prefer.

5 MR. TURK: We may have a small piece of
6 rebuttal to Colonel Horstman, also.

7 JUDGE FARRAR: Right.

8 MR. SOPER: And I imagine Colonel
9 Horstman would come back on respond.

10 JUDGE FARRAR: All right. Then we have
11 our plans set for Wednesday, Thursday and Friday,
12 then?

13 Having a plan in mind, we will go off
14 the record and terminate this evening's proceeding
15 subject to further discussions off the record.

16 (The proceedings were concluded for the
17 day at 5:45 p.m.)

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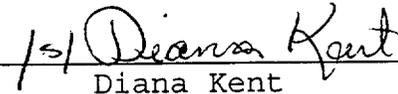
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Docket Number: Docket No. 72-22-ISFSI

ASLBP No. 97-732-02-ISFSI

Location: Salt Lake City, Utah

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and, thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.



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