

RAS 4622

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Private Fuel Storage, LLC

Docket Number: 72-22-ISFSI; ASLBP No. 97-732-02-ISFSI

Location: Rockville, Maryland

Date: Wednesday, July 3, 2002

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UNITED STATES OF AMERICA
 NUCLEAR REGULATORY COMMISSION

In the Matter of:)
 PRIVATE FUEL STORAGE, LLC,) Docket No. 72-22
 (Independent Spent Fuel) ASLBP No.
 Storage Installation) 97-732-02-ISFSI
)

ASLBP Hearing Room
 Third Floor
 Two White Flint North Building
 11545 Rockville Pike
 Rockville, Maryland

July 3, 2002

The above-entitled matter came on for hearing,
 pursuant to notice, at 8:00 a.m. before:

MICHAEL C. FARRAR, CHAIRMAN
 Administrative Judge
 U. S. Nuclear Regulatory Commission

DR. JERRY R. KLINE
 Administrative Judge
 U. S. Nuclear Regulatory Commission

DR. PETER S. LAM
 Administrative Judge
 U. S. Nuclear Regulatory Commission

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C-O-N-T-E-N-T-S

WITNESS DIRECT CROSS REDIRECT RECROSS

LT. COL HUGH HORSTMAN

By Mr. Gaukler 13530 13620

By Mr. Soper 13610

13624

By Mr. Turk 13623

GEN. WAYNE JEFFERSON

COL. RON FLY

GEN. JAMES COLE

By Mr. Gaukler 13631 13704

13659

By Mr. Barnett 13639

By Mr. Turk 13681 13708

By Mr. Soper 13685 13709

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E-X-H-I-B-I-T-S

<u>NUMBER</u>	<u>DESCRIPTION</u>	<u>MARK</u>	<u>RECD</u>
<u>PFS</u>			
246	Accident Report		13678
<u>State</u>			
220	Aerial Photograph		13714

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P-R-O-C-E-E-D-I-N-G-S

8:40 a.m.

1
2
3 CHAIRMAN FARRAR: On the record. It's
4 8:40. We're a little late getting started because
5 there was some security confusion, but everybody's
6 made it.

7 Given the timeframe we're going to be
8 under, let's make sure we all understand where we are
9 going with the time.

10 Mr. Gaukler, how long do you think you'll
11 need for your cross?

12 MR. GAUKLER: We don't exactly, but my
13 goal is to keep it within the hour you suggested
14 yesterday. It may take longer or shorter.

15 CHAIRMAN FARRAR: Okay. Staff?

16 MS. MARCO: We have a limited amount, Your
17 Honor.

18 CHAIRMAN FARRAR: Okay. Let me suggest
19 there's several ways to go about this, one of which is
20 go over all 59 reports and have Colonel Horstman say
21 the same thing he's said before. The other is to
22 challenge him on his assumptions and see if you can
23 knock him down on that. Then, of course, the third is
24 put your own people back on and they'll say why he's
25 wrong, and that will set it up for us to decide.

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1 So I think let's go about this as sensibly
2 as possible. All right, let's see how fast --

3 MS. MARCO: Your Honor, actually, it might
4 be of benefit to know that the staff has decided that
5 it will not be putting on its rebuttal testimony, and
6 therefore, there will be about a half-an-hour more for
7 your leeway in planning.

8 CHAIRMAN FARRAR: Okay, so you're not
9 going to have a rebuttal?

10 MS. MARCO: That is correct.

11 MR. TURK: Unless something changes today.

12 CHAIRMAN FARRAR: Okay. All right, then,
13 Ms. Marco, we appreciate that information. Without
14 further ado, let's get started, Mr. Gaukler.

15 CONTINUED CROSS EXAMINATION BY MR. GAUKLER

16 MR. GAUKLER: Good morning, Lieutenant
17 Colonel Horstman. Before we start, I would like to
18 ask just a few general questions.

19 First of all, referring to State Exhibit
20 223, you have a footnote, double-star footnote, on the
21 last page where you state, "Reference to a power
22 pointing aircraft away from a populated area or
23 pointing toward a sparsely populated area does not
24 demonstrate the ability to avoid a specific site, such
25 as the PFSF, located within a sparsely populated area."

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1 LT. COLONEL HORSTMAN: That's correct.

2 MR. GAUKLER: Now I would take it that is,
3 obviously, a philosophical difference between you and
4 the panel of General Cole, General Jefferson, and
5 Colonel Fly?

6 MR. SOPER: Objection. Foundation.

7 CHAIRMAN FARRAR: Overruled. Go ahead.

8 MR. GAUKLER: In other words, they believe
9 that that pointing away from a populated area is
10 indication that they would avoid a site on the ground?

11 MR. SOPER: A foundation objection.

12 MR. GAUKLER: I'm trying to --

13 MR. SOPER: You asked him what --

14 MR. GAUKLER: What he understands then,
15 okay? I'll use the word "understand," Counsel.

16 You understand them to say that pointing
17 the aircraft away from an inhabited area reflects an
18 ability or appreciation to avoid a specific site on
19 the ground, correct?

20 LT. COLONEL HORSTMAN: Your Honor, shall
21 I --

22 CHAIRMAN FARRAR: Yes, go ahead.

23 LT. COLONEL HORSTMAN: Pointing away from
24 a populated area has no reference to a single point.
25 It has to do with a large geographical area. I think

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1 the sentence speaks for itself.

2 MR. GAUKLER: Well, I'm trying to say it
3 represents a philosophical difference in approach
4 between you and General Cole, General Jefferson, and
5 Colonel Fly in terms of its significance, correct?

6 LT. COLONEL HORSTMAN: No, it actually
7 represents a factual difference.

8 MR. GAUKLER: Factual? Represents a
9 difference, a difference in positions? Difference in
10 positions, correct?

11 LT. COLONEL HORSTMAN: No, it's not a
12 difference of opinion. The Air Force has trained
13 their pilots to avoid populated areas, not individual
14 site targets or things in the middle of the desert.
15 There's no reference in any F-16 training manual or
16 any manual in the Air Force to avoid a specific site,
17 only a reference to avoid a populated area.

18 MR. GAUKLER: That can move on then.
19 Could we agree at least on one thing, and hopefully
20 shorten our questioning quite a bit? You have a lot
21 of your references, say, starting with 18 on, you have
22 -- for example, 21, 22, 23, 24 -- "no indication the
23 pilot checked for or steered away from ground sites
24 before ejecting." You have that on quite a few of
25 your statements for, I believe, accident reports 17

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1 through approximately 40, 40-something, correct?

2 LT. COLONEL HORSTMAN: There are a number
3 of those statements.

4 MR. GAUKLER: Yes.

5 LT. COLONEL HORSTMAN: I don't know the
6 exact numbers in there.

7 MR. GAUKLER: You were here when General
8 Jefferson testified that the Category B, as he called
9 it in reference to Judge Lam, was basically there was
10 no evidence in those reports, in Category B, that a
11 pilot checked for or steered away from ground sites?
12 Do you remember that testimony of his, that there was
13 a category of accident reports he categorized that
14 way?

15 LT. COLONEL HORSTMAN: I do remember that.

16 MR. GAUKLER: And, therefore, to the
17 extent that these accidents where you have indicated,
18 "No indication the pilot checked for or steered away
19 from ground sites before ejecting" fall within what
20 General Jefferson called Category B, you both seem
21 correct?

22 LT. COLONEL HORSTMAN: I haven't run a
23 correlation to see if these were all Bs. So I
24 don't --

25 MR. GAUKLER: I'm saying, to the extent

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1 they fall within Category B, to the extent your --

2 LT. COLONEL HORSTMAN: No, I have not
3 categorized anything. I merely took all 59 accidents
4 and tried to show what's on this piece of paper.

5 MR. GAUKLER: I understand. And my
6 question was, to the extent that these accident
7 reports on your sheet of paper fell into the Category
8 B, as categorized by General Jefferson, regardless of
9 how you categorized them, to the extent that accident
10 reports that you described as having "no indication
11 the pilot saw or steered away from the ground sites"
12 fell into General Jefferson's Category B, to the
13 extent they did, there would be no difference in
14 opinion with respect to those accidents, based on
15 those statements?

16 LT. COLONEL HORSTMAN: I would have to
17 look at each one --

18 MR. SOPER: I have an objection --

19 LT. COLONEL HORSTMAN: I'm sorry.

20 MR. SOPER: -- as to foundation. If it's
21 asking the witness to draw a comparison between this
22 exhibit and PFS Exhibit 100, those documents speak for
23 themselves.

24 MR. GAUKLER: Your Honor, my point was
25 just to say, to the extent that those accident reports

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1 fell within what he --

2 CHAIRMAN FARRAR: We'll overrule the
3 objection. You may continue your answer.

4 LT. COLONEL HORSTMAN: I don't know which
5 ones are Category B.

6 MR. GAUKLER: But to the extent they fell
7 into Category B, there would be no difference?

8 LT. COLONEL HORSTMAN: Well, I don't even
9 know what Category B is.

10 MR. GAUKLER: Okay, fine. We'll move on.

11 With respect to the first accident report
12 that you've identified as No. 1, you say on the right,
13 on your Exhibit 223, that the pilot was, quote, "not
14 able to avoid populated areas, the minimum ejection
15 altitude of 2,000 feet AGL, but he intentionally went
16 lower to avoid same."

17 LT. COLONEL HORSTMAN: That's what it
18 says.

19 MR. GAUKLER: That's what you said in 223.
20 Now if you look at that accident report, on page 2 --
21 do you have the accident reports with you handy?

22 LT. COLONEL HORSTMAN: I do.

23 MR. GAUKLER: And the last paragraph on
24 the bottom --

25 CHAIRMAN FARRAR: Mr. Gaukler, what's the

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1 date again?

2 MR. SILBERG: 26 December 1989.

3 CHAIRMAN FARRAR: Thank you.

4 MR. GAUKLER: Joint Exhibit 1. Isn't it
5 true that the last paragraph, the first sentence in
6 the last paragraph says, "The pilot made frequent
7 corrections to his flight path to avoid populated
8 areas"?

9 LT. COLONEL HORSTMAN: It says that.

10 MR. GAUKLER: And, therefore, isn't it
11 true that he made -- and it goes on to say that, at
12 the last sentence, "He delayed ejection below minimum
13 recommended" -- "below the minimums recommended in
14 T.O. 1F-16C-1," quote, "to further avoid populated
15 areas in his flight path." Do you see that?

16 LT. COLONEL HORSTMAN: It says that.

17 MR. GAUKLER: So would it be fair to say
18 that he was able to avoid populated areas at an
19 elevation above 2,000?

20 LT. COLONEL HORSTMAN: It does not say
21 that.

22 MR. GAUKLER: It does not say that? At
23 one point you had referenced a statement to the effect
24 that you can't rely upon your wingman or shouldn't
25 rely upon your wingman?

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1 LT. COLONEL HORSTMAN: No, I have
2 routinely relied on my wingman, but we can't guarantee
3 the wingmen will always do what we're asking them to
4 do in this case.

5 MR. GAUKLER: So but here's a case where
6 the wingman did provide assistance, correct?

7 LT. COLONEL HORSTMAN: Yes, and there are
8 a number of cases where other outside agencies are
9 providing assistance.

10 MR. GAUKLER: And so that's an instance
11 where a pilot had another set of eyes of assist him or
12 another set of -- another person to assist him,
13 correct?

14 LT. COLONEL HORSTMAN: That's correct, and
15 in about half of these accident reports they were
16 given information by outside agencies and they ignored
17 it.

18 MR. GAUKLER: Did he ignore the
19 information in this case?

20 LT. COLONEL HORSTMAN: I will research it.
21 Hang on.

22 MR. GAUKLER: I think the report will
23 speak for itself. We don't need to take time, Colonel
24 Horstman. The report will speak for itself.

25 LT. COLONEL HORSTMAN: Then I can't answer

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1 the question.

2 MR. GAUKLER: Now with respect to the
3 accident dated September 26, 1990, I believe you said
4 yesterday in your testimony that there was no
5 indication that the pilot sought to avoid anything
6 with respect to this accident?

7 LT. COLONEL HORSTMAN: What number is it?

8 MR. GAUKLER: This is the second one,
9 September 16, 1990.

10 LT. COLONEL HORSTMAN: It says, "No
11 indication that pilot steered away from ground site."

12 MR. GAUKLER: If you turn to page 4 of
13 that accident report --

14 MS. MARCO: I'm sorry, you said,
15 "September" --

16 MR. SILBERG: September 20th.

17 MR. GAUKLER: September 20th, excuse me.

18 Isn't it true there in the paragraph
19 labeled five that this is another case of when the
20 flight members informed the mishap pilot that there
21 was a highway off his nose -- do you see that, the
22 first sentence of the paragraph 5 on page 4?

23 LT. COLONEL HORSTMAN: I do.

24 MR. GAUKLER: And then the next sentence
25 says, "Captain Jones then decided to make a check turn

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1 to the northwest prior to ejection."

2 LT. COLONEL HORSTMAN: It says that.

3 MR. GAUKLER: Then it goes on to say,
4 "After the turn, Dazzle 1," which is another one of
5 the flight members, "confirmed that there were no
6 obstructions off of Dazzle 3's nose," Dazzle 3 being
7 the mishap pilot.

8 LT. COLONEL HORSTMAN: Again, it says
9 that.

10 MR. GAUKLER: Now the highway is a site on
11 the ground, correct?

12 LT. COLONEL HORSTMAN: It's not a site on
13 the ground. It's a highway.

14 MR. GAUKLER: Well, it's a location on the
15 ground.

16 LT. COLONEL HORSTMAN: It's fixed, yes.

17 MR. GAUKLER: Yes. And so isn't this a
18 situation where the pilot did turn away from a
19 specific location on the ground?

20 LT. COLONEL HORSTMAN: Again, we don't
21 know based on the reading of this.

22 MR. GAUKLER: You don't know?

23 LT. COLONEL HORSTMAN: No one in here
24 knows because no one in here was in that airplane.
25 What this says is that the pilot decided to make a

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1 turn. We don't know if he was making a turn, based on
2 this accident report, to avoid that highway or not.
3 And is a highway a populated area or not? We don't
4 know.

5 MR. GAUKLER: Now this was another
6 instance where the members or wingman provided
7 information to the mishap pilot, correct?

8 LT. COLONEL HORSTMAN: That's correct.

9 MR. GAUKLER: And it appears as if he
10 followed that information, correct?

11 LT. COLONEL HORSTMAN: You're drawing a
12 conclusion that I don't draw.

13 MR. GAUKLER: You don't draw that
14 conclusion? Okay.

15 I would like to go on to our next one.
16 Let's go on to No. 4, which is the February 20, 1991
17 accident. Here you say in your Exhibit 223 that,
18 "There was no indication that pilot steered away from
19 a ground site." Do you see that?

20 LT. COLONEL HORSTMAN: I see that.

21 MR. GAUKLER: That's your conclusion?
22 That's your conclusion, Lieutenant Colonel Horstman?

23 LT. COLONEL HORSTMAN: That's what it
24 says.

25 MR. GAUKLER: So I take it that's your

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1 conclusion?

2 LT. COLONEL HORSTMAN: Is this a grammar
3 test? I mean, that's what it states.

4 MR. GAUKLER: This is your testimony. So
5 that's your conclusion, correct?

6 LT. COLONEL HORSTMAN: That is my
7 testimony.

8 MR. GAUKLER: Okay. Now if you turn to --
9 this is the February 20, 1991 accident. If you turn
10 to page -- I don't see page number -- one, two, three,
11 the fourth page of the accident report, and in the
12 middle of the page you see a small (b), "authority for
13 flight," and a small (c), "communications," headings
14 on the page?

15 LT. COLONEL HORSTMAN: Yes.

16 MR. GAUKLER: If you look just above the
17 small (b), "authority for flight," the third-to-the-
18 last sentence of that paragraph, doesn't it say that
19 the mishap pilot, quote, "checked his flight path and
20 determined that there was nothing to harm, no
21 inhabited buildings or -- areas or buildings."? Do
22 you see that?

23 LT. COLONEL HORSTMAN: I see that.

24 MR. GAUKLER: So, therefore, he did not
25 see any structures or buildings in front of him,

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1 correct?

2 LT. COLONEL HORSTMAN: That's correct.

3 MR. GAUKLER: Therefore, there was no need
4 for him to turn away to avoid any buildings or
5 structures, correct?

6 LT. COLONEL HORSTMAN: It wouldn't have
7 mattered because at that altitude he couldn't have
8 avoided anything. He's at 300 feet above the ground.

9 MR. GAUKLER: And he checks his flight
10 path and determined that there was nothing in front of
11 him, right?

12 LT. COLONEL HORSTMAN: No avoidance
13 maneuver.

14 MR. GAUKLER: It said that, right? And
15 then it says he decided to eject after that, right?

16 LT. COLONEL HORSTMAN: Yes, sir.

17 MR. GAUKLER: I would like to go on to the
18 fifth accident report, and this is the one dated May
19 7, 1991. Now in this one you say several things in
20 your testimony in 223. First of all, you say, "He did
21 not maneuver to avoid radar site, as stated in Exhibit
22 100."

23 Now return to page 8 of that report, and
24 if you look in the paragraph above the subheading that
25 (e) "Impact" --

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1 LT. COLONEL HORSTMAN: Yes.

2 MR. GAUKLER: Okay. I believe it's about
3 the fourth sentence from the end, and it's two
4 sentences after the reference of tab 4 in that
5 paragraph. It says, "Captain Norris purposefully
6 stayed with the jet a little longer while its expected
7 flight vector arced through the elephant cage or
8 AN-FLR-9 radar." Do you see that sentence?

9 LT. COLONEL HORSTMAN: I see that
10 sentence.

11 MR. GAUKLER: So doesn't that show he
12 purposely made a decision to continue his arc longer
13 than he would have to avoid the radar site?

14 LT. COLONEL HORSTMAN: The radar site is
15 not a populated area. There are no people that work
16 there.

17 MR. GAUKLER: That's not my question.
18 That's not my question. Did you hear my question?

19 LT. COLONEL HORSTMAN: Re-state it, if you
20 would, please.

21 MR. GAUKLER: You say in your summary in
22 No. 5, "Did not maneuver to avoid radar site, as
23 stated in Applicant Exhibit 100, but merely passed
24 it." And I was saying here, doesn't it show that he
25 made a conscious determination to stay with the jet a

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1 little longer while its expected flight vector arced
2 through the bank to avoid the radar site?

3 LT. COLONEL HORSTMAN: No, they're merely
4 giving a geographical description of where he was
5 doing it, not the intent to avoid.

6 MR. GAUKLER: Not the intent to avoid,
7 when it says he "purposely stayed with the jet a
8 little longer while its expected flight vector arced
9 through the elephant cage"?

10 LT. COLONEL HORSTMAN: We have no idea if
11 his intent was to avoid that or to try to make the
12 lake.

13 MR. GAUKLER: So you don't interpret that
14 as an intent there?

15 LT. COLONEL HORSTMAN: That's correct.

16 MR. TURK: Can we get a definition, if you
17 don't mind? What is an elephant cage? Can that be
18 explained?

19 LT. COLONEL HORSTMAN: An elephant cage is
20 a series of what look like flagpoles arranged in a
21 circumference, a circle, on the ground. They're a
22 hundred feet or so high per pole. They're long-range
23 communication antennas. Inside of those the ground is
24 flat, generally grass. There are people that work
25 near the site, but not at the site. There are a

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1 number of them all over the world. There for national
2 communications.

3 MR. GAUKLER: Now you say, "No indication
4 that pilot steered away from a ground site," correct?

5 LT. COLONEL HORSTMAN: That's what it
6 says.

7 MR. GAUKLER: And now the last sentence in
8 this paragraph we were just looking at says, quote,
9 "Since he could visually confirm that the jet appeared
10 to be gliding toward the picnic area and," quote,
11 "away from inhabited areas," he then decided to eject.
12 So, again, this is a situation where he consciously
13 knew that his plane was going away from inhabited
14 areas, and there was no need to turn. Isn't that
15 correct?

16 LT. COLONEL HORSTMAN: That's correct, and
17 it makes no indication that he turned to avoid.

18 MR. GAUKLER: Well, but there's no need to
19 turn to avoid, correct, because he was already headed
20 away from inhabited areas?

21 LT. COLONEL HORSTMAN: Precisely, and
22 you're inferring that, because of that, if there was,
23 he could avoid, and we're just merely stating that
24 because he didn't avoid, there's no indication that he
25 tried to avoid or had the ability to avoid.

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1 MR. GAUKLER: And there's nothing that
2 says he didn't have the ability to avoid there,
3 correct, in that sentence?

4 LT. COLONEL HORSTMAN: Well, he was at 506
5 feet above the ground, and so his ability is extremely
6 limited. He's already violated the Air Force
7 regulation intentionally. So if you're asking every
8 pilot to intentionally violate an Air Force
9 regulation, ignoring all of that wonderful training
10 they receive, then maybe there would be ability, but
11 the Air Force pilots are trained to eject at 2,000
12 feet.

13 MR. GAUKLER: Now is that ejection at
14 2,000 feet a mandatory regulation, Air Force
15 regulation, as you understand it?

16 LT. COLONEL HORSTMAN: In the F-16-1,
17 which is a flight manual, which has been referenced
18 numerous times, under the title of "Heading," under
19 Section 3, "Emergencies," it states, as a regulation
20 which is directive in nature, "Under controlled flight
21 conditions, eject at least 2,000 feet AGL whenever
22 possible. If below 2,000 feet, attempt to gain
23 altitude, if air speed permits. Do not delay ejection
24 below 2,000 feet AGL for any reason, which may commit
25 you to unsafe ejection."

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1 Yes, sir, that is a regulation.

2 MR. GAUKLER: Mandatory regulation? What
3 page are you reading from there; 3-42? Is that
4 correct?

5 LT. COLONEL HORSTMAN: On mine it's 3-38.

6 MR. GAUKLER: Can we take a look at yours
7 real quick?

8 MR. SOPER: It's okay as far as I'm
9 concerned.

10 (Pause.)

11 MR. GAUKLER: Does it use the word
12 "regulation" anyplace, Lieutenant Colonel Horstman?

13 LT. COLONEL HORSTMAN: If you'll give me
14 a second, I'll answer that.

15 (Pause.)

16 CHAIRMAN FARRAR: Wait a minute. Why are
17 we spending any time on the legal status of this
18 document? It's a manual, as I understand the evidence
19 in the case so far, this is what's given to the
20 pilots, and they're told, "Follow this." Now whether
21 that was originally published in The Federal Register
22 or whether it has the imprimatur of whoever is the
23 Chief of Safety of the Air Force at the time, I don't
24 know that we're going to spend a lot -- advance the
25 ball here by arguing with Colonel Horstman about legal

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1 status of this, unless I'm off.

2 MR. SILBERG: I think it is important to
3 note, if I'm right, that this is not a regulation. It
4 nowhere says that it's a regulation. That word
5 doesn't appear in -1, and in fact pilots have been
6 commended when they ejected below 2,000 feet.

7 Lieutenant Colonel Horstman's continued
8 reference to this as a regulation is just an erroneous
9 statement, and I think that's important to clarify in
10 the record.

11 MR. SOPER: I'd say that the --

12 CHAIRMAN FARRAR: Go ahead.

13 MR. SOPER: Excuse me, Your Honor. The
14 exhibit doesn't refer to it as a regulation, much less
15 repeatedly. It says, "in violation of safety
16 procedures," if I recall. Yes, "violation of safety
17 procedures," and that's what he refers to regularly.
18 I do object to asking the witness to characterize this
19 in a legal manner.

20 MR. SILBERG: Well, he characterized it as
21 a regulation; we didn't.

22 CHAIRMAN FARRAR: Well, then, why don't we
23 tell me what the beginning of the exhibit or the
24 manual says? Somebody read me the first page where --
25 whoever published, tell me who published it and what

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1 they said about it.

2 MR. GAUKLER: We're going to put this on
3 in rebuttal directly.

4 CHAIRMAN FARRAR: All right, then if
5 you're putting it on in rebuttal, why do we need to
6 ask this witness? I don't care what this witness
7 thinks about it. I guess I don't care.

8 Well, no, no. Well, Colonel Horstman,
9 when you were in the Air Force, was this manual
10 something you were familiar with?

11 LT. COLONEL HORSTMAN: Yes, sir, as
12 previously testified, it's a bible for the pilots.

13 CHAIRMAN FARRAR: When you first showed up
14 at a base, who would give it to you?

15 LT. COLONEL HORSTMAN: When you first show
16 up at the F-16 training base, they issue you one. You
17 begin studying it. There's academics. There's flight
18 training. If you do not -- let's just take an
19 accident, for example. There's this whole section on
20 accidents. If you don't comply with what it said, you
21 are considered at fault in many cases.

22 To infer that this is not something that
23 you would obey -- if I had a pilot working for me that
24 didn't obey it, that pilot would no longer fly my
25 airplanes.

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1 JUDGE LAM: Colonel Horstman, regulation
2 or not, isn't it true, we have a record, a well-
3 developed record, indicating the 2,000-foot ejection
4 level has something to do with saving the pilot's
5 life? Below 2,000 feet, you put the pilot's life in
6 jeopardy?

7 LT. COLONEL HORSTMAN: Yes, sir.

8 MR. GAUKLER: Your Honor, I want to mark
9 this as an exhibit now. We'll have Lieutenant Colonel
10 Horstman read something. Then we'll cover it further
11 in rebuttal.

12 MR. TURK: Your Honor, may I make a
13 comment on the preceding argument? Lieutenant Colonel
14 Horstman makes an issue the altitude. If you look at
15 his State Exhibit No. 223, he repeatedly discusses
16 accidents in terms of the elevation. He then has as
17 his first asterisk footnote page a declaratory
18 statement that, because of the 2,000-foot, what he
19 referred to today in his testimony as a regulation, "a
20 pilot experiencing engine failure in Skull Valley will
21 eject at a minimum altitude of 2,000 feet above ground
22 level."

23 Now he has drawn a conclusion based on his
24 interpretation of this document as to whether or not
25 it is a binding document. I think questions along

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1 this line are relevant.

2 CHAIRMAN FARRAR: Well, let's look at the
3 footnote. He says, "the pilot will eject." Now
4 that's his opinion.

5 MR. TURK: Yes.

6 CHAIRMAN FARRAR: And that's--

7 MR. TURK: And there's a reason for that.

8 CHAIRMAN FARRAR: Right, that's an issue
9 in the case. Then he says, "as directed by safety
10 procedures."

11 MR. SILBERG: He refers to it as a
12 regulation.

13 CHAIRMAN FARRAR: Well, here I forget if
14 he volunteered that term first or if --

15 MR. SILBERG: He used it many times.

16 MR. SOPER: He was questioned as to
17 whether it was a regulation, and the question's
18 improper to the extent it implies some sort of legal
19 use of it. In fact, this whole line of questioning I
20 object to because this panel -- and General Jefferson,
21 as recently as yesterday, told us that he wouldn't
22 want any pilot to eject below 2,000 feet, and that's
23 been the consistent testimony.

24 So to attack their own position is, I
25 think, unpermissible, and I don't know why we're

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1 wasting time on this.

2 CHAIRMAN FARRAR: Along that line, I seem
3 to recall much earlier in the case one of the PFS
4 panel saying, "We have a lot of airplanes but we have
5 only one of you." And that's kind of along the same
6 line. But whether that's true or whether that's how
7 things actually happen, if I read this footnote, you
8 can attack the conclusion about whether they will
9 eject, but it says, "is directed by" -- you know, to
10 me, it's a given that these are safety procedures that
11 are drilled into these people's heads. They routinely
12 ignore them, and that's an issue in the case. They
13 ignore them to the extent that they had to produce a
14 video by a guy who ignored them and says, "Don't do
15 what I did. I'm lucky to be alive."

16 So I don't know why at 9:10 on July 3rd an
17 argument about what the legal status of these things
18 is has anything to do with anything. We're trying to
19 deal with what these people can be expected to do, and
20 I doubt that any one of them, that any pilot ever sat
21 there when his boss was saying, "This is the bible,"
22 as we were just told, and the pilot said, "Well, wait
23 a minute. Was it duly published in The Federal
24 Register? Is it in the Code of Federal Regulations?"

25 JUDGE LAM: Now, Mr. Gaukler, how would --

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1 let's assume that Colonel Horstman is wrong; this is
2 not a regulation. How would that advance your case?
3 How would that help us to make a decision here?

4 MR. GAUKLER: First of all, let me just
5 argue -- let me ask one question of Lieutenant Colonel
6 Horstman.

7 CHAIRMAN FARRAR: Go ahead.

8 MR. GAUKLER: Lieutenant Colonel Horstman,
9 at one point you said that some of the accidents or 70
10 percent of the accidents were caused by pilot error
11 or --

12 LT. COLONEL HORSTMAN: Out of the 150 I
13 reviewed, there were 70, yes.

14 MR. GAUKLER: Seventy? And do you
15 classify ejecting below 2,000 as pilot error in those
16 70?

17 LT. COLONEL HORSTMAN: No.

18 MR. GAUKLER: You don't believe ejecting
19 below 2,000 is pilot error?

20 LT. COLONEL HORSTMAN: The accident was
21 not caused by a low ejection. The cause of the
22 accident in 70 of 150 accidents was pilot error.

23 MR. GAUKLER: But you say that -- okay.

24 CHAIRMAN FARRAR: Let me make sure I
25 understand that answer. So the accident was caused by

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1 some sort of pilot error, and then it would be
2 additional pilot error that he also ejected under
3 2,000, but that's not the cause of the accident?

4 LT. COLONEL HORSTMAN: That's correct.

5 MR. GAUKLER: So it's your position that
6 it's additional pilot error to eject below 2,000?

7 LT. COLONEL HORSTMAN: The number that I
8 quoted had to do with the cause of the accident.

9 MR. GAUKLER: I marked out for 246. Do
10 you recognize this as part of the F-16-1?

11 LT. COLONEL HORSTMAN: Yes, sir, and it's
12 applicable to Blocks 25, 30, and 32, which do not fly
13 at Hill Air Force Base. The 388th Fighter Wing
14 doesn't fly those blocks.

15 MR. GAUKLER: Okay. Do you know the main
16 reason why this is not applicable in terms of general
17 guidance to --

18 LT. COLONEL HORSTMAN: Well, it's not
19 issued to the pilots at Hill Air Force Base.

20 MR. GAUKLER: Okay.

21 LT. COLONEL HORSTMAN: So it doesn't
22 really matter.

23 MR. GAUKLER: I'll go on. Your -1, was
24 that issued for Hill Air Force Base? Applicable to
25 Hill Air Force Base?

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1 LT. COLONEL HORSTMAN: This is in F-16C/D
2 Block 40 and 42, which was issued to me at Luke Air
3 Force Base for Hill Air Force Base. It's the proper
4 block of the aircraft that they fly there.

5 MR. GAUKLER: I would like to take a look
6 at that on a break, if I could.

7 CHAIRMAN FARRAR: Mr. Gaukler, this
8 document you handed out, is that just a courtesy copy
9 or do you want that marked as --

10 MR. GAUKLER: I will have it marked as PFS
11 Exhibit 246.

12 CHAIRMAN FARRAR: Two forty-six? Okay.

13 [Whereupon, the above-referred-
14 to document was marked as PFS
15 E x h i b i t 2 4 6 f o r
16 identification.]

17 (Judges confer.)

18 MR. GAUKLER: If you would accident report
19 No. 7, dated August 31, 1992?

20 LT. COLONEL HORSTMAN: Okay.

21 MR. GAUKLER: I'd like to go back briefly
22 to the accident report No. 5, the one before. This is
23 on the same page 8. You said yesterday, with respect
24 to this accident, "I don't see specifically what he
25 was trying to avoid. He doesn't say that, so I'm

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1 going to assume that it was -- I don't know." And
2 doesn't that last sentence show that he knew he was
3 flying away, going away from an inhabited area? So he
4 was trying to avoid an inhabited area?

5 LT. COLONEL HORSTMAN: I believe the words
6 were, "I don't know what he was trying."

7 MR. GAUKLER: Isn't that a situation where
8 you're not going to make any conclusion based on the
9 words in the accident report?

10 LT. COLONEL HORSTMAN: I don't understand
11 the question.

12 MR. GAUKLER: I'll go on. Turning now to
13 the accident report No. 7, now you say here, "No
14 indicating that the pilot saw or attempted to avoid
15 two inhabited dwellings or other ground sites." Do
16 you see that in your Exhibit 223?

17 LT. COLONEL HORSTMAN: That's what it
18 says.

19 MR. GAUKLER: Now if you will turn to that
20 accident report, page 4 of 8, and look at the
21 paragraph above the heading (e), "Impact," look at
22 that paragraph. "Passing approximately 500 feet MSL,
23 mishap pilot abandoned further attempts to start the
24 engine" and, quote, "seeing a populated area dead
25 ahead and what appeared to be an uninhabited area to

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1 the bank left, turned the aircraft left onto a
2 westerly heading." Now doesn't that show that he
3 directly maneuvered the airplane to avoid a populated
4 area, quote, "directly ahead"?

5 LT. COLONEL HORSTMAN: It says that.

6 MR. GAUKLER: You would agree with that
7 then?

8 LT. COLONEL HORSTMAN: I do agree with
9 that.

10 MR. GAUKLER: But you didn't mention that
11 on your summary on 7 on State Exhibit 223, did you?

12 LT. COLONEL HORSTMAN: No, it does not say
13 that on 223.

14 MR. GAUKLER: Going on to accident report
15 No. 8 --

16 CHAIRMAN FARRAR: Before you go on to
17 that, Mr. Gaukler, I guess I've got to ask the next
18 question: If it doesn't say that, why doesn't it say
19 it?

20 LT. COLONEL HORSTMAN: We fully expect the
21 pilot to make an attempt to avoid a populated area.
22 If you read the whole paragraph in context, "Passing
23 approximately 5,000 feet MSL, pilot" -- it's blacked
24 out -- "abandoned further attempts to restart," just
25 as he said. "Turned aircraft left into a westerly

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1 heading, stowed loose items by 900 feet MSL, zoomed
2 the aircraft, ejected at the apex of the zoom."

3 And then when you read the rest of it, he
4 misses by 150 yards two inhabited dwellings. So this
5 is a classic opportunity of a pilot to say, "I have a
6 populated area," which in his mind has reached that
7 threshold of a populated area, "and I'm going to miss
8 it." And he turns away and hits 150 yards away, well
9 inside the confines of the PFS boundaries; he misses
10 a house by 150 yards. So he didn't know they were
11 there. He knew the populated area was there.

12 We fully expect them to avoid a populated
13 area, of which there are none in Skull Valley. In
14 this case, this supports a pilot doing what they're
15 supposed to and still impacting adjacent to a house or
16 two inhabited dwellings.

17 CHAIRMAN FARRAR: So -- go ahead. I
18 interrupted you.

19 LT. COLONEL HORSTMAN: He apparently
20 wasn't concerned about them, didn't try to avoid them.

21 CHAIRMAN FARRAR: So this comes down in
22 one sense to the narrowness of the definition you have
23 employed that, in your mind, populated area means a
24 specific thing and has a specific meaning and can't be
25 expanded to read, "populated area (or any other thing

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1 on the ground that would serve values not to hit)?"

2 LT. COLONEL HORSTMAN: If you would take
3 that one step further, you're now going to ask the
4 United States Air Force to publish a document asking
5 pilots to avoid a certain threshold. Is a single
6 house that threshold? And if it's not, and they crash
7 into that house --

8 CHAIRMAN FARRAR: Okay, let me cut you off
9 because I think we discussed this to some extent
10 yesterday, and I take it your answer would be no
11 different today than it was --

12 LT. COLONEL HORSTMAN: It's not different.

13 CHAIRMAN FARRAR: Okay.

14 JUDGE LAM: But isn't it logical sometimes
15 that expanding that definition is not only
16 permissible, but desirable? Let me give you an
17 example. You are the pilot. You are flying me to
18 Hoover Dam. That's not a populated area. By George,
19 you're going to avoid that dam, because if you hit it,
20 you're going to cause a lot of damage. It's not a
21 populated area.

22 LT. COLONEL HORSTMAN: Well, there's
23 normally, when you fly, probably 500 people on the
24 Hoover Dam. So would that cross the threshold? I
25 don't know. If an airplane hit the Hoover Dam, would

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1 it hurt it? I don't think so.

2 CHAIRMAN FARRAR: But Judge Lam, he is
3 expanding it to mean populated area or things that, if
4 they were damaged, could affect a populated area, if
5 I understand his question.

6 JUDGE LAM: That's exactly right, because
7 populated area means to me we want to avoid hurting a
8 human being.

9 LT. COLONEL HORSTMAN: Okay.

10 JUDGE LAM: Or any facility, the damage of
11 which would lead to that type of fatality or injury,
12 perhaps would be a logical expansion of that
13 definition.

14 LT. COLONEL HORSTMAN: Yes, sir, and under
15 what you just said, there may be pilots that agree
16 with you. And if there's a thousand F-16 pilots,
17 you've got to convince all 1,000 of them to do that.
18 So each pilot gets to make up his own mind as to what
19 a populated area is. The Air Force is never going to
20 define a populated area.

21 So now you're asking these young men and
22 women, who are very well trained, to take that
23 training one step further and die for the cause.
24 Because, as you have seen in many cases, in order to
25 avoid something, they're going to have to die.

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1 We've already heard testimony that says,
2 "You're more valuable than the aircraft." At some
3 point a pilot has to make the decision to jettison the
4 aircraft from his body, and it's going to have
5 consequences.

6 JUDGE LAM: I understand.

7 MR. GAUKLER: Well, Lieutenant Colonel
8 Horstman, first of all, if you knew that PFSF was
9 operating, would you consider the PFSF to be a
10 populated area?

11 LT. COLONEL HORSTMAN: I don't know, and
12 I've thought about that a number of times.

13 MR. GAUKLER: Let me ask you -- so you
14 don't know as of right now the answer?

15 LT. COLONEL HORSTMAN: I don't know.

16 MR. GAUKLER: Okay, let me ask you a
17 different question. If you were flying toward the
18 PFS, PFSF, and knew it was an operating facility, you
19 would seek to avoid it, correct, if you could?

20 LT. COLONEL HORSTMAN: Well, now there's
21 a whole set of circumstances surrounding that. So --

22 MR. GAUKLER: I said you would try to
23 avoid that facility --

24 MR. SOPER: Let him finish his answer,
25 please.

1 CHAIRMAN FARRAR: That's fair.

2 MR. GAUKLER: I'm just trying to rephrase
3 the question.

4 CHAIRMAN FARRAR: Well, right, and we're
5 all under the gun here, and so let's -- no criticism,
6 Mr. Gaukler -- let's make sure we don't talk over each
7 other.

8 MR. GAUKLER: Yes, I apologize.

9 CHAIRMAN FARRAR: That's all right.

10 MR. GAUKLER: Let me phrase my question
11 very carefully, and hopefully try to avoid that answer
12 which I think I knew he was going to give, the way I
13 had phrased my question. That's all I was trying to
14 do.

15 Time and circumstances permitting, you
16 would avoid the PFSF, correct?

17 LT. COLONEL HORSTMAN: That is correct.

18 MR. GAUKLER: And you believe that Air
19 Force pilots would generally avoid the PFSF?

20 LT. COLONEL HORSTMAN: Generally, yes.

21 MR. GAUKLER: And can you think of an Air
22 Force pilot that wouldn't in those circumstances?

23 LT. COLONEL HORSTMAN: That wouldn't do
24 their job --

25 MR. GAUKLER: That would not avoid the

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1 PFSF, time and circumstances permitting?

2 LT. COLONEL HORSTMAN: Given all the time
3 and the circumstances required, I don't know of any
4 that would intentionally hit it.

5 MR. GAUKLER: And in this case, if the
6 pilot had been going toward the PFSF, towards the
7 populated area, and had turned, he would have missed
8 the PFSF, correct?

9 LT. COLONEL HORSTMAN: I cannot speculate
10 on that.

11 MR. GAUKLER: You can't speculate. And
12 isn't it true that in this case the pilot will impact
13 aircraft, land it in a, quote, "wooded area"? And I
14 would turn you to the third page of the accident
15 report at the top, the second sentence, top of the
16 third page.

17 LT. COLONEL HORSTMAN: It says it impacted
18 a wooded area.

19 MR. GAUKLER: Yes. Do you know of any
20 wooded areas in Skull Valley?

21 LT. COLONEL HORSTMAN: Wow, so now if I --

22 MR. GAUKLER: I just asked you a simple
23 question.

24 LT. COLONEL HORSTMAN: No, there's no
25 forests in Skull Valley.

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1 MR. GAUKLER: Okay, thank you. Accident
2 report dated April 21, 1993, that is the accident
3 report that involved Colonel --

4 LT. COLONEL HORSTMAN: What number?

5 MR. GAUKLER: April --

6 LT. COLONEL HORSTMAN: I've just got the
7 numbers.

8 MR. GAUKLER: Accident report No. 9, dated
9 April 21, 1993. Oh, excuse me, I need to turn to No.
10 8. I'm sorry.

11 MR. TURK: December 17?

12 MR. GAUKLER: This is the one dated
13 December 17, 1992. And here you say that the -- your
14 summary on State Exhibit 223 refers to a bird being
15 ingested in the engine, a pilot pointing towards the
16 emergency field, emergency airfield, and after
17 ejection, the still burning aircraft turned about 72
18 degrees further right, and you end the summary saying,
19 "The pilot was unable to control the aircraft."

20 MR. SOPER: Well, just a minute. You
21 omitted part of this. You read -- that's not a
22 correct statement.

23 MR. GAUKLER: Well, I just was summarizing
24 those points you refer to in that last --

25 MR. SOPER: Well, I object to

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1 recharacterizing his answer and then asking him a
2 question on it.

3 CHAIRMAN FARRAR: I guess we've got two
4 choices, Mr. Gaukler. You don't need to read it. You
5 can just refer us to it, and that's what it is. If
6 you read it, you've got to read it precisely
7 accurately.

8 MR. GAUKLER: Okay. Referring to your
9 summary description on the December 17, 1992 accident,
10 you conclude that the pilot was unable to control the
11 aircraft, correct?

12 LT. COLONEL HORSTMAN: Correct.

13 MR. GAUKLER: And if you turn to page 2 of
14 the accident report -- and you also said it yesterday
15 in your oral testimony, that you can't even stretch
16 your imagination far enough to think that this pilot
17 was in control of the airplane. Do you remember that
18 statement?

19 LT. COLONEL HORSTMAN: I do.

20 MR. GAUKLER: Now if we turn to page 2 of
21 the accident report, do you see, in the carryover
22 paragraph or paragraph above the heading (b),
23 "Mission," look in the paragraph above that, about the
24 middle of the paragraph where it says, "The pilot
25 reacted to multiple warning and caution lights in his

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1 cockpit as well as directions from his flight leader."
2 And then the next sentence, "He turned 20 degrees
3 right to avoid a hunting lodge off his nose and
4 to head directly toward the nearest landing field 40
5 miles east southeast."?

6 LT. COLONEL HORSTMAN: I see that.

7 MR. GAUKLER: And so it shows that he was
8 in control and able to maneuver to void that hunting
9 lodge, correct?

10 LT. COLONEL HORSTMAN: Yes, and I'm not
11 sure if he's -- he's doing two things: going to the
12 emergency airfield and avoiding a hunting lodge. So
13 he's doing one or both. I don't know if the
14 maneuverable at that time.

15 MR. GAUKLER: "He turned 20 degrees right
16 to avoid a hunting lodge off his nose." So you don't
17 know if he turned to avoid a hunting lodge?

18 LT. COLONEL HORSTMAN: Also, as you read
19 the remainder of the sentence, "and to head directly
20 towards the nearest landing field."

21 MR. GAUKLER: Well, but you, obviously,
22 concluded that must have been directly going toward
23 the emergency landing field because that's all you
24 mention in your summary 8. You don't mention trying
25 to maneuver to avoid a hunting lodge, do you?

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1 LT. COLONEL HORSTMAN: I do not mention
2 that there.

3 MR. GAUKLER: Now you called this, as I
4 said, under no stretch of the imagination could you
5 consider the pilot to be in control of the aircraft.
6 Now this was one of the accident reports that you
7 reviewed in connection with tab H of PFS's aircraft
8 report?

9 LT. COLONEL HORSTMAN: I believe it's in
10 the body of the accident.

11 MR. GAUKLER: I would like to hand out a
12 courtesy copy of PFS Exhibit X. And you recall this
13 exhibit where you marked up your differences of
14 opinion with respect to PFS's analysis of the accident
15 reports?

16 LT. COLONEL HORSTMAN: I do.

17 MR. GAUKLER: And we talked about this at
18 length in our previous discussion?

19 LT. COLONEL HORSTMAN: Yes, we did.

20 MR. GAUKLER: And the marks reflect your
21 changes, correct?

22 LT. COLONEL HORSTMAN: At that time they
23 did.

24 MR. GAUKLER: Now if you look at the --
25 and I think you told us how carefully you reviewed the

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1 reports prior to making this evaluation, correct?

2 LT. COLONEL HORSTMAN: I did.

3 MR. GAUKLER: Isn't it true, if you look
4 at No. 57 on page 2 of this chart, there is an
5 accident dated December 17, 1992, to be this accident
6 we're talking about here?

7 LT. COLONEL HORSTMAN: That's correct.

8 MR. GAUKLER: And do you see that PFS had
9 characterized this accident as able to avoid the PFSF?

10 LT. COLONEL HORSTMAN: I do.

11 MR. GAUKLER: And you did not make a
12 change to the categorization, did you?

13 LT. COLONEL HORSTMAN: Not at that time.

14 MR. GAUKLER: And so at that time you did
15 not disagree with that categorization?

16 LT. COLONEL HORSTMAN: That's correct.

17 MR. GAUKLER: Going now to accident report
18 No. 9, which is the accident involving Colonel Cosby,
19 whom we heard testify, is that correct?

20 LT. COLONEL HORSTMAN: I don't know if
21 that was testimony or a phone call, sir.

22 MR. GAUKLER: I think it was testimony by
23 phone call.

24 LT. COLONEL HORSTMAN: Okay.

25 MR. GAUKLER: Okay?

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1 LT. COLONEL HORSTMAN: I recall it.

2 MR. GAUKLER: Now you characterized this
3 accident, if you look at page 2 of State Exhibit 223,
4 as, quote, "representing only close-range landing-type
5 maneuver."

6 LT. COLONEL HORSTMAN: That's correct.

7 MR. GAUKLER: And I take it you're
8 referring there to his maneuvers close to the airfield
9 where he was trying to avoid a plane that was taking
10 off on the runway?

11 LT. COLONEL HORSTMAN: The last 30 seconds
12 of the flight, or whatever it was; that was part of
13 it.

14 MR. GAUKLER: Yes. So that's what you
15 mean by -- you're referring to -- this doesn't refer
16 to the residence building, does it? Close-range
17 landing-type maneuver? Because he wasn't landing when
18 he was trying to avoid the apartment house, was he?

19 LT. COLONEL HORSTMAN: Yes, he was.

20 MR. GAUKLER: He was?

21 LT. COLONEL HORSTMAN: He was trying to
22 reach low key.

23 MR. GAUKLER: I thought I understood his
24 testimony to say that he only decided to go back to
25 the airfield after he made his 90-degree right turn to

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1 avoid the apartment house, and then he thought he
2 could make it, and that's when he decided to try to
3 reach it.

4 LT. COLONEL HORSTMAN: When I listened to
5 his conversation, the impression I got was that he was
6 trying to achieve a low key position, which gives you
7 the ability to land the aircraft, and he went beyond
8 that, and then he continued to try to land the
9 aircraft, trying to reach the airfield.

10 MR. GAUKLER: Now you heard his testimony,
11 how he made a 90-degree right turn to avoid the
12 apartment building, and you agree with that; you heard
13 that testimony?

14 LT. COLONEL HORSTMAN: I recall -- I
15 believe that was it.

16 MR. GAUKLER: And do you know about what
17 elevation -- he was taking off at that point in time,
18 wasn't he?

19 LT. COLONEL HORSTMAN: We're going to have
20 to go back to the whole accident. The phone call I
21 remember generally, not specifically.

22 MR. GAUKLER: Okay. Do you know what
23 elevation he was at when he turned, made a 90-degree
24 right turn away from the apartment building?

25 LT. COLONEL HORSTMAN: One second, please.

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1 (Pause.)

2 MR. GAUKLER: Do you recall him saying
3 that after he made his righthand turn, he was somewhat
4 below 2,000 feet?

5 LT. COLONEL HORSTMAN: I really don't
6 recall the specifics of it, I'm sorry.

7 CHAIRMAN FARRAR: As is customary, the
8 pilot's name is blocked out on here. Who's this?

9 LT. COLONEL HORSTMAN: Colonel Cosby. And
10 only in some of them.

11 CHAIRMAN FARRAR: Right, but this is
12 Cosby?

13 LT. COLONEL HORSTMAN: Yes, sir.

14 MR. GAUKLER: Now you said that he did a
15 magnificent job of avoiding things. What did he
16 avoid?

17 LT. COLONEL HORSTMAN: What did he avoid?

18 MR. GAUKLER: Yesterday you said he did a
19 magnificent job of avoiding things, and what were you
20 referring to specifically?

21 LT. COLONEL HORSTMAN: The aircraft on the
22 runway.

23 MR. GAUKLER: Not the apartment house?

24 LT. COLONEL HORSTMAN: I believe he was
25 trying to land the airplane.

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1 MR. GAUKLER: You also said he did a
2 magnificent job of violating the rules. What rules do
3 you think he violated?

4 LT. COLONEL HORSTMAN: Well, the 2,000-
5 foot ejection, for one. He made a mistake trying to
6 -- or missing low key position, because he had enough
7 energy to land. The subsequent simulator sorties,
8 they were able to land this airplane. So if it's a
9 question of whether it's rules or policy or safety
10 guidelines, he violated the safety guidelines, and the
11 common practices for how to bring a rescued airplane
12 back to the base and land it.

13 MR. GAUKLER: I would like to go on to
14 accident report No. 10.

15 CHAIRMAN FARRAR: Let me interrupt for a
16 moment. It's time for a time check. We've been going
17 an hour and we're at No. 10. I've consulted with my
18 colleagues. This is, from all indications, obviously,
19 a very important matter, and while we would have liked
20 to have finished today, given the pace we've been
21 going at in previous days, which we thought was
22 entirely possible, we don't want to be in the position
23 of cutting you off from making your case, from putting
24 on your rebuttal panel, if you need to, and from the
25 State having their chance at cross examination of your

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1 panel and any rebuttal they need.

2 We're getting the State out of here at
3 2:30 today. Their people have been here for a two-
4 and-a-half weeks.

5 You take as much time as you need, and
6 will reconvene at an appropriate time in Salt Lake
7 City.

8 MR. TURK: Speaking for the staff, Your
9 Honor, I don't perceive a time problem here. I
10 don't --

11 CHAIRMAN FARRAR: I don't care, with all
12 due respect, Mr. Turk, I don't care what you think.
13 These people --

14 MR. TURK: I understand.

15 CHAIRMAN FARRAR: They may finish, but
16 what I am telling them is we are now on report No. 10
17 after an hour, and that tells me that's five -- it's
18 simple math to say that's six hours. I want everyone
19 in the room to know what we're going to do and what
20 the consequences are, and everyone at quarter to 10:00
21 today can start planning accordingly. If we don't
22 finish, we're going back to Salt Lake City, but I'm
23 not making these people stay here on the 4th of July,
24 when we had a plan for getting through it.

25 MR. GAUKLER: Your Honor, I don't plan to

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1 go through all the accident reports. I think, as I
2 indicated in my initial questions, I think after the
3 first 17 we get into different categories which the
4 differences between what Colonel Horstman says and
5 what we say is a matter of argument and not facts.
6 It's more philosophical differences.

7 So I intend to go through some more
8 between accident reports 10 and 18, maybe one or two
9 after that. So I'm at least halfway through, if not
10 more, with the accident reports.

11 JUDGE LAM: So your emphasis is on the 17?

12 MR. GAUKLER: Yes, my emphasis is on the
13 17. There will be a couple kind of follow-up
14 questions on the other ones, but the emphasis is on
15 the 17. After 17, there's going to be very little
16 questions.

17 CHAIRMAN FARRAR: Okay.

18 MR. TURK: Your Honor, I would note I
19 speak for the staff --

20 CHAIRMAN FARRAR: And, Mr. Turk, I didn't
21 mean to unnecessarily abruptly cut you off or rudely
22 cut you off. I meant to cut you off, but not rudely.
23 So I hope you didn't take it that way.

24 So go ahead.

25 MR. TURK: I would simply note that the

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1 staff does not intend to pursue a long line of
2 questions on the accident reports, and that's the
3 basis for my statement that I didn't see a time
4 problem.

5 CHAIRMAN FARRAR: Okay, thank you.

6 MR. GAUKLER: The February 2nd, 1994
7 accident report No. 11, here you say, the second
8 sentence in your summary, "Pilot directed aircraft
9 towards a small ridge line and ejected. No indication
10 that pilot steered away from particular ground site."

11 I would like to have you look at page 3 of
12 that accident report. Do you see just above the
13 paragraph that begins, just above the paragraph
14 labeled "5, Impact," and it's one, two, three, four,
15 five, six lines up? My page 3.

16 LT. COLONEL HORSTMAN: I have that.

17 MR. GAUKLER: Okay.

18 MR. SOPER: I'm sorry, what number is
19 this?

20 MR. GAUKLER: This is No. 10. Oh, excuse
21 me, 11.

22 LT. COLONEL HORSTMAN: I don't know what
23 number we're on.

24 MR. GAUKLER: Ah, excuse me. I got mixed
25 up. This is 10.

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1 MR. TURK: The last set of questions I
2 thought was No. 10. So No. 11 --

3 MR. GAUKLER: Let's go on. I made a
4 mistake, Your Honor. I referred to the wrong one.
5 Let's go on to No. 11.

6 CHAIRMAN FARRAR: February 2nd, 1994?

7 MR. GAUKLER: Yes. Now in No. 10, real
8 quick, that was the instance where the pilot did turn
9 away from a populated area and ejected, correct?

10 LT. COLONEL HORSTMAN: No. 10 again?

11 MR. GAUKLER: Yes.

12 LT. COLONEL HORSTMAN: "The pilot turned
13 west away from populated area."

14 MR. GAUKLER: Yes. And here, for example,
15 if you were flying in Skull Valley and you had an
16 engine failure, and you came trying to go toward
17 Michael, if he turned west to avoid a populated area,
18 you would avoid the PFSF, wouldn't you?

19 LT. COLONEL HORSTMAN: Okay, where am I
20 exactly now?

21 MR. GAUKLER: Assume that you're flying,
22 had engine failure.

23 LT. COLONEL HORSTMAN: Okay, so now we're
24 trying to take an accident that happened somewhere
25 else and pick a heading off of it --

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1 MR. GAUKLER: Yes, assume that you are in
2 your yellow band on Exhibit 186, which you've looked
3 at. Do you have Exhibit 186 there with you?

4 LT. COLONEL HORSTMAN: I'm familiar with
5 it.

6 MR. GAUKLER: I have a copy for you.

7 LT. COLONEL HORSTMAN: Okay.

8 MR. GAUKLER: And if you're in your yellow
9 band on 186, and you turn west to avoid populated
10 areas, you would avoid the PFSF, correct?

11 LT. COLONEL HORSTMAN: There are no
12 populated areas to avoid. So moving 4,000 miles from
13 one accident and picking a heading off of it -- this
14 accident report also goes on to state that, just as
15 the mishap aircraft did an uncommanded pitch up. So
16 the aircraft is getting ready to go out of control,
17 and now I'm trying to take a separate geographical
18 location without knowing the weather there, putting it
19 in Utah, and assume there's a populated area somewhere
20 in Skull Valley and I'm going to turn west? I can't
21 do that.

22 MR. GAUKLER: Well, that's what he did in
23 this instance, right? He turned west, right?

24 LT. COLONEL HORSTMAN: This instance did
25 not happen over the Skull Valley.

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1 MR. GAUKLER: In No. 11, February 2nd,
2 1994, you say, "The pilot directed the aircraft toward
3 a small ridge line and ejected. No indication that
4 pilot steered away from particular ground site."

5 Now isn't it true that on the first page
6 of the accident report, under "History of Flight," the
7 third-to-the-last sentence, "After several
8 unsuccessful air start attempts, Captain McMillan
9 directed the aircraft toward an uninhabited, wooded
10 area and safely ejected."?

11 LT. COLONEL HORSTMAN: It says that.

12 MR. GAUKLER: So it shows he was
13 consciously directing the aircraft toward an
14 uninhabited area?

15 LT. COLONEL HORSTMAN: No, it doesn't show
16 that. What if there's nothing for 50 miles but
17 uninhabited area?

18 MR. GAUKLER: Okay.

19 LT. COLONEL HORSTMAN: It doesn't show any
20 avoidance.

21 MR. GAUKLER: I would like to skip 12 for
22 now. Let's go on to 13. Now 13 was a situation where
23 the pilot cleared the flight path away from inhabited
24 farms, correct?

25 LT. COLONEL HORSTMAN: That's correct.

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1 MR. GAUKLER: And on page 2, it
2 specifically says, at kind of the carryover paragraph,
3 "He visually cleared his flight path away from
4 inhabited farm sites, correcting slightly to the right
5 towards a clear field area."

6 LT. COLONEL HORSTMAN: It says that.

7 MR. GAUKLER: "The mishap pilot ejected at
8 approximately 1,600 feet above ground level,
9 approximately two minutes after first noticing the
10 engine problem."

11 So this is a case where he saw, he
12 specifically was able to see farm sites at
13 approximately 2,000 feet? He ejected at 1,600 feet.

14 LT. COLONEL HORSTMAN: Give me one second
15 to answer.

16 (Pause.)

17 Can you ask that one more time? I'm
18 sorry.

19 MR. GAUKLER: My point was that, at
20 approximately 2,000 feet AGL, he was able to see and
21 direct his airplane away from farm sites on the
22 ground.

23 LT. COLONEL HORSTMAN: At approximately
24 2,000 feet, after descending below the weather, when
25 he could see the ground, he could see that and he

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1 began a maneuvering, couldn't complete the maneuver
2 until he was at 1,600 feet, when he ejected.

3 MR. GAUKLER: Do you know when it was when
4 he quit the maneuver to avoid the farm site? It
5 doesn't say that, does it?

6 LT. COLONEL HORSTMAN: No. I'm assuming
7 that when he finished the maneuver, he ejected.

8 MR. GAUKLER: You're assuming, okay. And,
9 also, you saw, I think on page 13 or 14 it talks about
10 the overcast conditions at approximately 2,500 to
11 6,000 feet or 2,900 to 3,500 feet. In other words,
12 the clouds were in the range of 2,500 to 3,000 feet
13 AGL.

14 LT. COLONEL HORSTMAN: I see that.

15 MR. GAUKLER: So when he broke through the
16 clouds, he probably would have been at approximately
17 2,500 feet AGL?

18 LT. COLONEL HORSTMAN: Approximately.

19 MR. GAUKLER: That's when he would have
20 seen the farm site and began to maneuver to avoid it,
21 approximately?

22 LT. COLONEL HORSTMAN: It takes a little
23 while when you see the ground, after going through the
24 clouds, to orient yourself, figure out what's in front
25 of you, make some decisions, and to maneuver the

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1 aircraft. In this case he was able to finish that
2 maneuver at 1,600 feet.

3 MR. GAUKLER: So you're comfortable with
4 approximately 2,000?

5 LT. COLONEL HORSTMAN: I am.

6 MR. GAUKLER: Now this is one of the
7 cases, because he ejected at 1,600 feet, this is one
8 of the cases that you characterized yesterday in your
9 testimony as, quote, "violating the regulation." But,
10 in fact, wasn't he specifically commended? Wasn't
11 this pilot commended for his actions in this case?

12 LT. COLONEL HORSTMAN: We've heard a few
13 cases where he's been commended.

14 MR. GAUKLER: Turn to page 16. If you
15 look at the third paragraph, the -1, "Recommends
16 ejection from a stricken aircraft and controlled
17 flight at 2,000 feet AGL above. Because of the cloud
18 layer, Colonel Dartis delayed his ejection until
19 approximately 1,600 feet AGL in his attempt to find an
20 uninhabited spot for the impending crash. Colonel
21 Dartis should be commended for his well-thought-out
22 action."

23 MR. SOPER: And complete the sentence,
24 please.

25 MR. GAUKLER: I'm going to. I'm going to.

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1 "However, this factor may have contributed
2 to his own back injury." So he was commended, was he
3 not?

4 LT. COLONEL HORSTMAN: In the opinion of
5 the officer who wrote this, he was commended.

6 MR. GAUKLER: Thank you.

7 Off the record.

8 (Whereupon, the foregoing matter went off
9 the record at 9:58 a.m. and went back on the record at
10 9:58 a.m.)

11 CHAIRMAN FARRAR: Mr. Gaukler, this might
12 be a good time for --

13 MR. GAUKLER: I would like to go about 15
14 minutes. I think I may be done in about 15 minutes.

15 CHAIRMAN FARRAR: Well, this is one of
16 those instances where what we would like to do
17 mentally may not comport with what people need to do
18 physically.

19 (Laughter.)

20 We don't want to share too much
21 information with the Board.

22 (Laughter.)

23 It's two minutes of. Let's be back at
24 five after.

25 (Whereupon, the foregoing matter went off

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1 the record at 9:59 a.m. and went back on the record at
2 10:08 a.m.)

3 CHAIRMAN FARRAR: Back on the record.

4 Ms. Marco, can you find your co-counsel or
5 can we proceed without him?

6 (Pause.)

7 All right, thank you, Ms. Marco.

8 Go ahead, Mr. Gaukler.

9 MR. GAUKLER: Yes, thank you, Your Honor.

10 I would like to go to accident report No.
11 15, dated May 15, 1995. I believe yesterday you said
12 that, in your oral testimony, that he ejects at 2,000
13 feet, so he's doing all the right things, but he hits
14 a ranch. Now, in fact, doesn't the report say he hit
15 ranch land?

16 LT. COLONEL HORSTMAN: Yes, it does.

17 MR. GAUKLER: Okay, and not a ranch or any
18 ranch structure, correct? No ranch structure,
19 correct?

20 LT. COLONEL HORSTMAN: That's correct.

21 MR. GAUKLER: And do you have any idea how
22 large this ranch was?

23 LT. COLONEL HORSTMAN: Let me do some
24 research here.

25 (Pause.)

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1 MR. GAUKLER: If you can't find it, that's
2 okay. Let's go on.

3 LT. COLONEL HORSTMAN: Yes, there's no
4 reference to the size in the accident report.

5 MR. GAUKLER: Fine. In any event, on page
6 2, it specifically says, does it not, in the second
7 sentence of the last paragraph, "The IP took control
8 of the aircraft and turned slightly to point toward
9 unpopulated terrain."?

10 LT. COLONEL HORSTMAN: It does say that,
11 and, again, knowing that area around Deming, New
12 Mexico, there's nothing out there.

13 MR. GAUKLER: So to the extent he was near
14 any ranch houses, he pointed toward unpopulated
15 terrain, correct?

16 LT. COLONEL HORSTMAN: Well, I can't
17 assume that from this. It doesn't state that.

18 MR. GAUKLER: I would like to go to No.
19 16, the August 24, 1998. Now this one, yesterday you
20 said he was just trying to make the ocean, and your
21 summary also on Exhibit 223 says, "After engine failed
22 and restart attempted, pilot" --

23 LT. COLONEL HORSTMAN: I'm not caught up
24 with you yet.

25 MR. GAUKLER: Oh, I'm sorry.

1 LT. COLONEL HORSTMAN: Which number?

2 MR. SILBERG: 24 August 1998.

3 LT. COLONEL HORSTMAN: Thank you. Okay.

4 MR. GAUKLER: Do you have it? Okay, thank

5 you.

6 Yesterday you said that he was just trying
7 to make the ocean, and you similarly said in Exhibit
8 223, "After engine failed and restart attempted, pilot
9 turned out towards the ocean, ejecting well below the
10 minimum to guarantee safe ejection."

11 Now doesn't the report say why he turned
12 towards ocean? I'll direct you to page 2, and
13 paragraph (a), 2(a), towards the end. First of all,
14 do you see where it says, "he delayed jettisoning his
15 external fuel tanks which were then empty due to his
16 proximity to populated areas."?

17 LT. COLONEL HORSTMAN: I see that.

18 MR. GAUKLER: That means he's close to
19 populated areas?

20 LT. COLONEL HORSTMAN: I assume so.

21 MR. GAUKLER: And he purposely delayed
22 jettisoning tanks to avoid hitting populated areas
23 with them, correct?

24 LT. COLONEL HORSTMAN: That is correct.

25 MR. GAUKLER: And then it says, skip a

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1 sentence, "As it became apparent Raptor 1 did not have
2 enough altitude to reach Kanguang," which I take it is
3 another airport --

4 LT. COLONEL HORSTMAN: Good pronunciation.

5 MR. GAUKLER: I just guessed. "He turned
6 his aircraft toward the ocean and successfully ejected
7 once the aircraft was clear of any populated areas."
8 Do you see that?

9 LT. COLONEL HORSTMAN: I see that.

10 MR. GAUKLER: So isn't it true he turned
11 towards the ocean to avoid the populated areas over
12 which he was in close proximity --

13 LT. COLONEL HORSTMAN: That's not what it
14 says. It says he turned toward the ocean and then he
15 successfully ejected once it was clear of the
16 populated areas. If he didn't have enough energy, and
17 the aircraft didn't make the ocean, that implies he
18 aimed at them.

19 MR. GAUKLER: But didn't he go towards the
20 ocean to avoid populated areas?

21 LT. COLONEL HORSTMAN: It does not say
22 that. It says he turned towards the ocean. It
23 doesn't give me a reason. Can I assume, then, that's
24 he automatically avoiding populated areas? That's an
25 inference I can't draw.

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1 MR. GAUKLER: You heard Colonel Cosby talk
2 about the example of the pilot in his case where he
3 had engine failure, and he went out towards the ocean,
4 so he would be away from any population centers, so
5 that when he ditched his aircraft, it wouldn't harm
6 any population center? Do you remember that?

7 LT. COLONEL HORSTMAN: That's a
8 mischaracterization. What he said was, because he
9 couldn't land, he turned north to remain over the
10 water.

11 MR. GAUKLER: So he purposely remained
12 over the water --

13 LT. COLONEL HORSTMAN: That's correct.

14 MR. GAUKLER: -- to avoid populated areas,
15 correct?

16 LT. COLONEL HORSTMAN: Yes, he did.

17 MR. GAUKLER: And wasn't this pilot doing
18 the same thing, trying to get over the water to avoid
19 populated areas?

20 LT. COLONEL HORSTMAN: In that case, yes,
21 he was.

22 MR. GAUKLER: This case.

23 LT. COLONEL HORSTMAN: You don't know
24 that. It doesn't say that.

25 MR. GAUKLER: Okay. I would like to go on

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1 to accident report No. 17, dated April 3, 1990. In
2 this one you say in the parenthetical at the end of
3 your description in 223, "Pilot did not turn towards
4 bailout area as stated in PFS Exhibit 100."

5 LT. COLONEL HORSTMAN: That's correct.

6 MR. GAUKLER: And you said the same thing
7 in your testimony yesterday?

8 LT. COLONEL HORSTMAN: That's correct.

9 MR. GAUKLER: Now if you look on page A1,
10 signed off by the Board Investigation President,
11 there's a summary paragraph signed off by the Board of
12 Investigation President, do you see about halfway in
13 that summary, "MP" -- mishap pilot -- "turned toward
14 the control bailout area. When MP" -- do you see
15 that?

16 LT. COLONEL HORSTMAN: I see that it says
17 that, and when you read the expanded version, there's
18 no indication of any turns.

19 MR. GAUKLER: And so you're disagreeing
20 with what the president's conclusion of the
21 accident --

22 LT. COLONEL HORSTMAN: I disagree with
23 that statement, based on the information that's
24 published in the accident report.

25 MR. GAUKLER: Have you ever been a

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1 permanent Board President of an accident board?

2 LT. COLONEL HORSTMAN: I have not.

3 MR. GAUKLER: I would like to go on to
4 Exhibit No. 19. This is one of your reports that you
5 claimed the engines, aircraft was not controllable.
6 And I'm not going to get into the details of the
7 report, but, again, this was one of the reports that
8 you reviewed when you reviewed the accident reports in
9 tab H, correct?

10 LT. COLONEL HORSTMAN: I believe it was in
11 there. If it is, I'll take your word for it.

12 MR. GAUKLER: And isn't it true that if
13 you look at what is PFS Exhibit X, January 13, 1991,
14 it's No. 22 on PFS Exhibit X --

15 LT. COLONEL HORSTMAN: I see that.

16 MR. GAUKLER: And that would be the same
17 accident, correct?

18 LT. COLONEL HORSTMAN: I hope so.

19 MR. GAUKLER: You would believe so,
20 correct?

21 LT. COLONEL HORSTMAN: I believe so.

22 MR. GAUKLER: Okay. And there you see
23 that PFS had classified this accident as "able to
24 void"?

25 LT. COLONEL HORSTMAN: I see that.

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1 MR. GAUKLER: And after your careful
2 review of the accident report at that time, you agreed
3 with PFS's conclusion, correct?

4 LT. COLONEL HORSTMAN: At that time I did.

5 MR. GAUKLER: Your Honors, with respect to
6 accidents No. 20 and -- wait a second.

7 (Pause.)

8 I do want to look at accident No. 19,
9 okay, which is the January 13, 1991 accident. First
10 of all, you say that there was "No indication that the
11 pilot turned toward base, as stated in PFS Exhibit
12 100."? Do you see that?

13 LT. COLONEL HORSTMAN: I see that.

14 MR. GAUKLER: Now if you look on page 3 of
15 the accident report, top of the page, you're going to
16 see the one, two, three, four, five, six, seventh
17 line, "Polio 5 initially did not see. Polio 6,
18 however, instructed pilot to suck 100 percent oxygen
19 and turn aircraft to a heading of north toward Al
20 Kharj Air Base." Do you see that?

21 LT. COLONEL HORSTMAN: It says that.

22 MR. GAUKLER: And you see that Polio 5
23 visually acquired Polio 6 and rejoined." Okay? So
24 Polio 5 instructed the mishap aircraft to go towards
25 that air base, correct?

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1 LT. COLONEL HORSTMAN: Hang on one second.
2 I want to read the whole thing.

3 (Pause.)

4 Okay, I see that. I don't understand the
5 question.

6 MR. GAUKLER: Well, you see that, right?
7 He was instructed to head towards the air base?

8 LT. COLONEL HORSTMAN: He was instructed,
9 and if you read before, it said, "Had difficulty
10 seeing aircraft instruments." I don't see any
11 indication that he made that turn.

12 MR. GAUKLER: You don't see any
13 indication? Do you know if Polio 5 was his superior
14 officer that instructed him to turn towards the air
15 base?

16 LT. COLONEL HORSTMAN: I don't think it
17 gives the squadron positions in here. It might. I
18 could go look.

19 Typically, in the numbering, 5 would be an
20 element leader; 6 would not be. If he's a superior
21 officer, that has absolutely nothing to do with it.

22 MR. GAUKLER: So 5 would have been the
23 flight leader, the way you understand the numbering
24 system?

25 LT. COLONEL HORSTMAN: If it's a typical

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1 flight, yes, it would be.

2 MR. GAUKLER: So the flight leader, if you
3 would assume that that was typical flight numbering,
4 the flight leader would have told him to go towards
5 the air base, correct?

6 LT. COLONEL HORSTMAN: He received an
7 instruction. We have no idea if he complied with it.
8 We have no idea if he had the capacity to comply
9 because he couldn't see his flight instruments.

10 MR. GAUKLER: Is there anything that says
11 he didn't comply with that instruction?

12 LT. COLONEL HORSTMAN: Au contraire,
13 anything that says he did comply with it. There's no
14 indication that he does.

15 MR. GAUKLER: I just asked if there was
16 anything that said he didn't comply?

17 CHAIRMAN FARRAR: Well, you both have your
18 position; no one is going to change. Let's move on.

19 MR. GAUKLER: Okay, very good. Fair
20 enough.

21 Let me double-check a couple of things,
22 Your Honor. I think I'm done.

23 (Pause.)

24 JUDGE LAM: Colonel Horstman, while we are
25 waiting for Mr. Gaukler, do you recall when you

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1 reviewed PFS Exhibit X and made the changes?

2 LT. COLONEL HORSTMAN: I might need
3 counsel's help in doing the dates. I initially
4 received, oh, in late 1999 a series of accident
5 reports. Then later, after the first deposition, I
6 received the remainder of the accident reports. I
7 reviewed all of them before I -- we did the markup,
8 and I've reviewed them since then in much greater
9 detail.

10 JUDGE LAM: So you have now a different
11 position than when you were reviewing PFS Exhibit X?

12 LT. COLONEL HORSTMAN: Yes, sir, I do.
13 Yes, sir, I do.

14 CHAIRMAN FARRAR: Didn't you explain once
15 before when we went through this that that was because
16 you thought at the deposition you were governed by
17 their ground rules.

18 LT. COLONEL HORSTMAN: Yes, sir. If you
19 look at, Your Honor, their ground rules, I went and
20 did another analysis of Skull Valley conditions, as I
21 indicated in my previous testimony, and there are -- I
22 can come up with the exact number. I believe there's
23 113 of the accidents that are Skull Valley conditions,
24 because I don't intentionally exclude altitudes, air
25 speed, weather, the fact that a member of a flight

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1 that has an emergency is over a range air space
2 doesn't mean that it's a range event, so 113, I
3 believe, of the 129 that we reviewed would then be
4 Skull Valley conditions, because I wasn't trying to
5 exclude data from that data bucket. I was trying to
6 be inclusive.

7 CHAIRMAN FARRAR: And we discussed all
8 this at some length at one of the --

9 LT. COLONEL HORSTMAN: Yes, sir.

10 CHAIRMAN FARRAR: -- sessions at the
11 Sheraton, if I remember.

12 LT. COLONEL HORSTMAN: Yes, sir.

13 CHAIRMAN FARRAR: Okay.

14 MR. GAUKLER: I just wanted to ask one
15 follow-up question on that. The "able to avoid",
16 where the pilot was "able to avoid" did not depend on
17 definition of Skull Valley conditions or anything like
18 that. Correct?

19 LT. COLONEL HORSTMAN: Are they related?
20 Is that what you're asking?

21 MR. GAUKLER: The determination of a pilot
22 being "able to avoid", did not depend on whether --
23 which category you put the flight in Skull Valley
24 conditions, or Skull Valley-type event, or Sevier B-
25 type event, did it?

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1 LT. COLONEL HORSTMAN: No, sir.

2 MR. GAUKLER: So that didn't affect that
3 classification at all then.

4 LT. COLONEL HORSTMAN: That's correct.

5 MR. GAUKLER: Your Honor, I think I have
6 a couple of questions. First of all, Your Honor, I
7 want to point out one thing. I'm not going to cover
8 -- there's three accidents reports in here that he
9 says -- two or three other ones where he says the
10 plane was out-of-control, not controllable. Those
11 three he did, unlike the other two I went through
12 where I pointed out he had not challenged them before.
13 Those three he did challenge previously, and we've
14 addressed those three extensively in our pre-filed
15 testimony, and there's no need for us to go through
16 that orally with him, or with our people. I think our
17 positions are on the record with respect to those
18 three.

19 I'd like to go back real quick to --

20 CHAIRMAN FARRAR: Do you have a shorthand
21 reference to those three you just said?

22 MR. GAUKLER: They're in the -- we have a
23 section in our pre-filed testimony where we addressed
24 the specific accident reports that Lieutenant Colonel
25 Horstman took issue with.

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1 CHAIRMAN FARRAR: That would list the
2 three?

3 MR. GAUKLER: I can tell you very quickly
4 the exact pages. The accident report number 53, which
5 is the February 19, 1993 accident report, we addressed
6 in question and answer 111 of the pre-filed testimony.
7 Accident report number 58, we address in question and
8 answer 112. Accident report number 46, I'll get that
9 one for you later. Oh, excuse me. Accident report 46
10 he did not challenge.

11 Lieutenant Colonel Horstman, if you look
12 at accident report number 46, you challenged that as
13 the aircraft was not controllable. Correct?

14 MR. TURK: September 3, 1990?

15 MR. GAUKLER: Yes, September 3, 1990.
16 Correct?

17 LT. COLONEL HORSTMAN: Hang on. I have
18 that.

19 MR. GAUKLER: And if you look at PFS
20 Exhibit X, that was another one of the accidents you
21 reviewed. And after your careful review at that time,
22 you looked at number 16 on X. It shows you did not
23 take issue with the conclusion of our experts that the
24 pilot was in control and was "able to avoid".

25 LT. COLONEL HORSTMAN: I didn't take

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1 exception at that time.

2 MR. GAUKLER: Going back -- I'd like to go
3 back to one accident we're talking about, flying over
4 the ocean, which was this accident report number 16.
5 That was the one where you say you had no indication
6 that he flew towards the ocean to avoid populated
7 areas. Correct?

8 LT. COLONEL HORSTMAN: Okay. Correct.

9 MR. GAUKLER: And you also criticized him
10 again for ejecting below the minimum recommended 2,000
11 feet AGL. Correct?

12 LT. COLONEL HORSTMAN: I don't remember if
13 it was criticism or discussion. I commented on it.

14 MR. GAUKLER: Now isn't it true again that
15 this was a situation where the pilot was commended by
16 the Board for his actions?

17 LT. COLONEL HORSTMAN: I can look it up.

18 MR. GAUKLER: Page 17 would you look to,
19 Paragraph E. "The pilot's actions were commendable in
20 attempting to recover the aircraft and prevent injury
21 or damages to individuals or property. The pilot
22 delayed jettisoning the empty fuel tanks, an action
23 that would reduce aerodynamic drag on the aircraft and
24 allow a greater glide distance because he was over a
25 populated area. His actions to point the aircraft

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1 towards the water and delay his ejection until the
2 aircraft was clear of any populated area ensured no
3 one would be injured, but in doing so, he placed
4 himself at risk of injury or death." Again, he was
5 commended. Right?

6 LT. COLONEL HORSTMAN: That's what it
7 says.

8 MR. GAUKLER: And also doesn't it
9 specifically say here that he took the action he did
10 to avoid hitting a populated area, saying he was
11 clear. He delayed ejection until the aircraft was
12 "clear of any populated area."

13 LT. COLONEL HORSTMAN: That is what it
14 says. And, as you said, placed himself at risk of
15 injury or death, so the question comes back to whether
16 we should eject above or below 2,000 feet. And a
17 statement I'd like to read is, "In the event the pilot
18 cannot" --

19 MR. GAUKLER: Excuse me. Your counsel can
20 do that on his own time. How long is it?

21 LT. COLONEL HORSTMAN: It's one sentence.

22 MR. GAUKLER: Read it.

23 LT. COLONEL HORSTMAN: "In the event the
24 pilot cannot restart the engine or maneuver for a
25 landing, he will eject at a minimum of 2,000 feet AGL,

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1 in accordance with published directives."

2 MR. GAUKLER: Where are you reading from?

3 LT. COLONEL HORSTMAN: I'm reading a memo
4 from Colonel Ron Fly, a memorandum concerning Private
5 Fuel Storage on October 21, 1999.

6 MR. GAUKLER: Okay.

7 LT. COLONEL HORSTMAN: I agree with him.

8 MR. GAUKLER: The date is October?

9 LT. COLONEL HORSTMAN: October 21, 1999.

10 MR. SILBERG: May we see that memo,
11 please?

12 MR. GAUKLER: Your Honors, the witness is
13 reading from Tab E, I believe, of the Aircraft Report.
14 The memorandum that he was referring to is in a tab to
15 the Aircraft Report. I believe it's Tab E, my best
16 recollection.

17 CHAIRMAN FARRAR: Thank you, Mr. Gaukler.

18 MR. GAUKLER: I believe yesterday you said
19 that you couldn't count on any assistance from third
20 parties in the Skull Valley.

21 LT. COLONEL HORSTMAN: It happens at
22 times, but you can't assume that it's ever going to be
23 available.

24 MR. GAUKLER: And we've seen instances
25 where wingmen have provided assistance. Correct?

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1 LT. COLONEL HORSTMAN: Oh, yes, sir. We
2 have.

3 MR. GAUKLER: I thought yesterday you said
4 it would never occur. Is that incorrect then?

5 MR. SOPER: Well, can we have his exact
6 testimony, if he's expected to comment on it?

7 MR. GAUKLER: Page 13-402.

8 CHAIRMAN FARRAR: Colonel Horstman, do you
9 have a copy of yesterday's transcript in front of you?

10 LT. COLONEL HORSTMAN: No, I do not.

11 MR. GAUKLER: It says in his accident
12 condition he has stated in there, "He could not see
13 the ground. It was overcast, and again, his third
14 party help, and I do not believe that would ever occur
15 in Skull Valley. I believe it might occur near Salt
16 Lake City, but I do not believe it would ever get that
17 kind of information for Skull Valley."

18 LT. COLONEL HORSTMAN: I see that.

19 MR. GAUKLER: You didn't say third party
20 help would never occur in Skull Valley?

21 LT. COLONEL HORSTMAN: Third party help is
22 almost impossible when you're trying to assume they're
23 going to be able to help him avoid a specific target,
24 a specific point on the earth. Salt Lake City, as a
25 populated area, would be relatively easy because the

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1 radar controllers, and the wingmen, and the flight
2 leaders would all be able to easily identify and
3 locate. And yet, in Skull Valley, while there might
4 be third party assistance available, I don't believe
5 it would be able to render any assistance.

6 MR. GAUKLER: But you've seen instances
7 where wingmen provided assistance in the accident.

8 LT. COLONEL HORSTMAN: Yes, we've seen a
9 number of instances.

10 MR. GAUKLER: No further questions, Your
11 Honor.

12 CHAIRMAN FARRAR: Never mind. Rog, we
13 don't need it. Never mind.

14 MR. GAUKLER: Oh. We do want to look at
15 his copy of the Dash-One at a break.

16 CHAIRMAN FARRAR: I'm not sure I
17 understand what you just said, Mr. Gaukler. Did you
18 conclude?

19 MR. GAUKLER: I have no further questions.

20 CHAIRMAN FARRAR: But then you reserved
21 something.

22 MR. GAUKLER: No, I didn't. I just want
23 to look at his copy of the Dash-One.

24 CHAIRMAN FARRAR: Look at his copy. Okay.

25 MR. GAUKLER: Which I will do at the next

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1 break. I presume it's okay.

2 CHAIRMAN FARRAR: All right. It's 10:37.
3 We've been at this two hours, so -- and we have less
4 than four hours left, including the lunch break.

5 MR. SILBERG: Not including the lunch
6 break.

7 CHAIRMAN FARRAR: Whatever that means.

8 MR. SILBERG: I would propose we skip the
9 lunch break.

10 CHAIRMAN FARRAR: Let's see what we need
11 to do. Does the State have its peanut butter and
12 jelly sandwiches ready for the ride to -- go ahead,
13 Ms. Marco.

14 MS. MARCO: Okay. Hello. Good morning.

15 LT. COLONEL HORSTMAN: Good morning.

16 MS. MARCO: Turning to State Exhibit 223,
17 I understand the fifth column is titled, "Shows
18 Ability to Avoid Ground Sites, such as the PFSF." Is
19 this -- please explain the differences between what
20 this column is to include, and the column that we saw
21 in Table One of Exhibit X of that PFS exhibit that you
22 marked up, the "able to avoid" column.

23 MR. SOPER: I object to the form of the
24 question, because I'm not sure if -- that there's
25 foundation for him to answer the purpose for Table

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1 One.

2 MS. MARCO: Well, he marked, or he
3 reviewed that table, Table One, at his deposition.
4 And my question is, is his understanding of Column
5 Five in State Exhibit 223 the same as his
6 understanding of the "able to avoid" column in PFS
7 Table One, Exhibit X.

8 LT. COLONEL HORSTMAN: No, they are
9 different.

10 MS. MARCO: And please explain how you
11 viewed those differences.

12 LT. COLONEL HORSTMAN: "Able to avoid" was
13 a category provided to us by PFS. There are a number
14 of things that it includes. Fundamentally, using
15 their definition, it's whether the pilot would have
16 had time and been able to avoid a fixed site on the
17 ground, such as PFSF, after an emergency began.
18 That's the fundamental core of this, and there's a lot
19 of other -- weather goes into it, speed of the
20 aircraft, the altitude, whether it was engine, et
21 cetera, so there's a number of other categories there.
22 Basically, if the pilot has some of the things
23 required to avoid a ground site.

24 In the case of number 223, Column Five,
25 we're showing whether or not the pilot has the ability

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1 to avoid a specific ground site, such as the PFSF, and
2 further, whether they can do that above 2,000 feet,
3 which is 3.2 nautical miles from the site.

4 MS. MARCO: Okay. So that fifth column
5 also includes the altitude of ejection.

6 LT. COLONEL HORSTMAN: That's right. And
7 as we further stated, both Colonel Fly and I have said
8 pilots will eject at 2,000 feet.

9 MS. MARCO: So it's fair to say that in
10 that column you equate ejections below 2,000 feet as
11 not showing an ability to avoid a ground site.

12 LT. COLONEL HORSTMAN: That's one of the
13 factors.

14 MS. MARCO: But that would be a kick-out
15 factor for that column.

16 LT. COLONEL HORSTMAN: It might be. It's
17 not necessarily, but it is a factor. For example, if
18 the aircraft is out of control, and the pilot ejects
19 at 100 feet, it wouldn't have been a factor, because
20 the aircraft was already out of control.

21 MS. MARCO: Well, if you look at your
22 first example on there, accident number one, if the
23 ejection altitude in that mishap was over 2,000 feet,
24 would you re-categorize this as showing an "ability to
25 avoid"?

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1 LT. COLONEL HORSTMAN: Yes, ma'am, we
2 would have.

3 MS. MARCO: And the same for number nine,
4 as well?

5 LT. COLONEL HORSTMAN: Yes, ma'am.

6 MS. MARCO: Isn't it true that attempting
7 to land on an airfield requires guiding an aircraft to
8 a relatively small area in the form of an airstrip?

9 LT. COLONEL HORSTMAN: Yes.

10 MS. MARCO: And isn't it true that
11 avoiding a ground target is the inverse of that?

12 LT. COLONEL HORSTMAN: The inverse?

13 MS. MARCO: Well, as long as you point the
14 aircraft away from the target, you're going to be all
15 right. Isn't that true?

16 LT. COLONEL HORSTMAN: Well, be all right
17 and not impact it, I would say if you pointed away,
18 obviously you would miss it. Keeping in mind that
19 there are literally volumes of different ways to
20 orient yourself towards an airport and runway. All
21 kinds of very expensive devices to attract you to the
22 end of the runway so that you can land, so if it's the
23 inverse, I could avoid a runway very easily by just
24 ensuring that I'm using all of my navigation aides,
25 lots of precision navigation aides, to miss that

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1 runway. But none of those precision navigation aides
2 exist in the case of places other than runways, for
3 example, navigational aides, so I don't see it as an
4 inverse. The fact that they can find a runway doesn't
5 mean they can -- you can assume that they can find
6 something, and then take further action to avoid it.

7 MS. MARCO: We'd also like to see the
8 Dash-One at a later time. But other than that, I
9 don't have anything further.

10 CHAIRMAN FARRAR: And is the issue with
11 the Dash-One that he has a different version of it
12 than you all have?

13 MR. GAUKLER: Yes.

14 CHAIRMAN FARRAR: Okay. And, Ms. Marco,
15 you said you were done?

16 MR. TURK: With that exception.

17 MS. MARCO: Yes.

18 CHAIRMAN FARRAR: You've just moved to the
19 top of the Board's list. Thank you. It's now 10:47.

20 JUDGE KLINE: Colonel Horstman, I wanted
21 to pursue with you a question raised by Mr. Turk, and
22 earlier by Judge Lam, having to do with putting the
23 airplane in the mountains in an emergency situation.
24 And if I refer you to the specific circumstances in
25 Skull Valley, my recollection from the record is that

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1 the pilots only fly south in Skull Valley. Isn't that
2 correct? That is to say that most of the transits
3 anywhere are south.

4 LT. COLONEL HORSTMAN: Most of them are
5 south.

6 JUDGE KLINE: That's good enough. Yeah.
7 Okay. So that any time the Air Force permits anybody
8 to fly in Skull Valley, the pilot has some awareness
9 of where the mountains are. Is that correct? He
10 knows where the Stansbury Mountains are.

11 LT. COLONEL HORSTMAN: I agree with you
12 there.

13 JUDGE KLINE: It would seem vital to me.

14 LT. COLONEL HORSTMAN: It would seem vital
15 to me also.

16 JUDGE KLINE: All right. So what I ask
17 you to do then is hit the delete button on everything
18 you've heard so far, use of the accident reports,
19 cloud cover, everything else and presume a generic
20 situation where the pilot says when you reach the
21 final extremity, and I don't care how you got there,
22 but when you've made your decision to eject, you make
23 a quarter turn to the left and then you eject, and
24 dump the airplane in the mountains. And doesn't that
25 reduce the risk to the PFS site as a generic matter,

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1 without reference to any precedent factual situation?

2 LT. COLONEL HORSTMAN: He's not going to
3 dump his aircraft in the mountains though.

4 JUDGE KLINE: Why not? I mean, under the
5 circumstances, that he's in his final extremity, no
6 longer capable to save the aircraft. I know he
7 doesn't do it when he's normal, but he already knows
8 it's going to crash somewhere.

9 LT. COLONEL HORSTMAN: Okay. So the pilot
10 knows it's going to crash. Why is he just turning to
11 aim at the mountains?

12 JUDGE KLINE: Because it generically
13 avoids the PFS site. If the issue is to reduce risk
14 to the PFS site, don't -- if you did that, would you
15 not gain an added margin of risk reduction to the PFS
16 site, no matter where you were.

17 LT. COLONEL HORSTMAN: But a pilot is not
18 going to do that.

19 JUDGE KLINE: Why not?

20 LT. COLONEL HORSTMAN: Because that's
21 putting him in jeopardy.

22 JUDGE KLINE: No. I mean, he bails out
23 over flat land.

24 LT. COLONEL HORSTMAN: Oh, so now we're --

25 JUDGE KLINE: All he does is as a final --

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1 as a last instantaneous act, before he pulls the
2 ejection handle, he steers the airplane a quarter turn
3 to the left, then ejects.

4 LT. COLONEL HORSTMAN: Okay. A quarter
5 turn to the left would be 90 degrees?

6 JUDGE KLINE: No, I mean just a slight
7 turn, a slight course --

8 LT. COLONEL HORSTMAN: A slight one.

9 JUDGE KLINE: He doesn't -- I mean, any *
10 hit a mountain, can't he? And it wouldn't matter
11 where.

12 LT. COLONEL HORSTMAN: Yes, sir. And in
13 order to do that, he would have to turn over 90
14 degrees, so this instantaneous act that you're
15 discussing is, in fact, an act that takes a few
16 seconds to do.

17 JUDGE KLINE: Okay.

18 LT. COLONEL HORSTMAN: You don't have the
19 G available and the air speed to make that turn.

20 JUDGE KLINE: Right.

21 LT. COLONEL HORSTMAN: And your descent
22 rate is going to increase dramatically when you begin
23 to turn, further risking injury. And so, I can see
24 absolutely no reason why any pilot flying down Skull
25 Valley would ever turn his aircraft to aim at the

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1 mountains. I can see none.

2 JUDGE KLINE: Even in the final extremity.

3 LT. COLONEL HORSTMAN: We have a whole
4 body of accidents that show that that's not logical.

5 JUDGE KLINE: Okay. Thank you.

6 (Judges confer.)

7 MR. SOPER: Would I have an opportunity to
8 follow-up on questions, Your Honor? Are we to that
9 point?

10 CHAIRMAN FARRAR: Yeah. We were just
11 discussing other possible questions.

12 MR. SOPER: Oh, I didn't mean to
13 interrupt.

14 CHAIRMAN FARRAR: Yeah. I think that -- I
15 think at least for now, that concludes the Board's
16 questions, so you're right, Mr. Soper. It's your turn
17 for redirect.

18 MR. SOPER: Thank you, Your Honor.

19 REDIRECT EXAMINATION

20 MR. SOPER: Following up on Judge Kline's
21 question, in the event that you flew close to the
22 mountains as PFS has suggested, along the east side,
23 and then you turned towards them, would you not, in
24 fact, pilot and aircraft, land up in the mountains?

25 LT. COLONEL HORSTMAN: Yes, sir.

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1 MR. SOPER: And if you headed towards the
2 emergency airfield, that being Michael's Army Airfield
3 in this case, as you attempted to restart your engine,
4 you might, in fact, be too far away to reach the
5 mountains at some later point, might you?

6 LT. COLONEL HORSTMAN: Yes, sir. And you
7 would reach the mountains. You have to eject sooner
8 because they rise up to about 11,000 feet, so you have
9 less opportunity.

10 MR. SOPER: And that turn would then, if
11 you were pointed at Michael's, be more than a 90
12 degree turn. You would have to turn 90 plus degrees,
13 would you not?

14 LT. COLONEL HORSTMAN: You would.

15 MR. SOPER: And if you don't make the
16 mountains, there are other things in the valley, such
17 as the Goshute Indian Village, you'd have to find out
18 where that is.

19 LT. COLONEL HORSTMAN: Yes, and again, try
20 -- now we're much lower in our last phase of before we
21 jump out at the ground, try to avoid yet another site.

22 MR. SOPER: And there are ranches and
23 other objects there, so you just couldn't blindly say
24 I'm going to head towards the mountains and let it go,
25 and if it hits these other sites, disregard them.

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1 You'd have to consider where the aircraft would impact
2 in any event.

3 LT. COLONEL HORSTMAN: Yes, sir.

4 MR. SOPER: And when you're making a
5 decision as to whether you can steer away from
6 populated areas, as the training would instruct you to
7 do, the populated areas would be in terms of what you
8 can see from 3.2 miles away, 3.2 miles or greater, 3
9 miles, 4 miles, 5 miles at 2,000 feet or more,
10 whatever you can determine to be a populated area from
11 that distance. Correct?

12 LT. COLONEL HORSTMAN: That's correct.

13 MR. SOPER: And I believe you noted in
14 your Table 223, that at least one report shows that
15 populated areas were not visible until the aircraft
16 actually got much closer to them than when you can
17 first see something general, like a runway.

18 LT. COLONEL HORSTMAN: That's correct.

19 MR. SOPER: So I think following up on
20 Judge Lam's question, as to whether or not the
21 definition of populated area might be expanded to
22 include something more specific, like a home, depends
23 on whether from three or four, whatever distance,
24 miles away the pilot could identify that and conclude
25 from that distance that it was, in fact, a populated

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1 area. Would that be right?

2 LT. COLONEL HORSTMAN: I think that's
3 fair.

4 MR. SOPER: And the notion of simply
5 turning away from a particular site that you might be
6 able to see from 3.2 miles away or further, also
7 includes the notion that the site that you turn
8 towards must be more desirable than what you're
9 turning away from. In other words, you wouldn't elect
10 one structure over another, necessarily. You would
11 not choose the Goshute Indian Village to land at, as
12 opposed to the PFS site.

13 LT. COLONEL HORSTMAN: That's correct.

14 MR. SOPER: I'm handing out a document to
15 be marked, Your Honor. This is a document that I
16 think the Applicant's counsel indicated it was at Tab
17 H, but I'm not sure it's in the current version.

18 CHAIRMAN FARRAR: What do you want this
19 marked as, Mr. Soper?

20 MR. SOPER: Could that be marked as State
21 224?

22 CHAIRMAN FARRAR: All right.

23 MR. GAUKLER: Your Honor, that is already
24 Tab E to PFS Exhibit N, which is the Aircraft Crash
25 Report.

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1 CHAIRMAN FARRAR: Tab E to PFS Exhibit N.
2 All right.
3 MR. SOPER: It's already in the record
4 then. Would that be the case?
5 MR. GAUKLER: Yes, it is.
6 CHAIRMAN FARRAR: So we'll -- rather than
7 -- shall we unmark this, Mr. Soper?
8 MR. SOPER: Yes.
9 CHAIRMAN FARRAR: Just consider it as a
10 courtesy copy of Tab E?
11 MR. SOPER: Yes, please.
12 CHAIRMAN FARRAR: Okay.
13 MR. TURK: Do you by any chance have an
14 extra copy?
15 MR. SOPER: I just wanted to make it clear
16 what Lieutenant Colonel Horstman is reading from, and
17 Lieutenant Horstman, what's been passed out, sir, did
18 you get a copy of that?
19 LT. COLONEL HORSTMAN: Yes.
20 MR. SOPER: And is that, in fact, the
21 document that you were referring to earlier when you
22 read sentence?
23 LT. COLONEL HORSTMAN: Yes, it is.
24 MR. SOPER: And would that be from the
25 second page, Paragraph 3?

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1 LT. COLONEL HORSTMAN: Yes.

2 MR. SOPER: "In the event the pilot cannot
3 restart the engine or maneuver for a landing, he will
4 eject at a minimum altitude of 2,000 foot AGL, in
5 accordance with published directives." Did I read
6 that correctly, sir?

7 LT. COLONEL HORSTMAN: You did.

8 MR. SOPER: You recognize the signature of
9 Colonel Fly on that document?

10 LT. COLONEL HORSTMAN: I do.

11 MR. SOPER: And you happen to agree with
12 that statement yourself?

13 LT. COLONEL HORSTMAN: I do.

14 MR. SOPER: I just wanted to reference
15 your testimony yesterday in response to a question
16 from Mr. Gaukler, where he indicated that in the event
17 that a pilot were not able to zoom higher than 5,000
18 feet due to cloud level, or cloud coverage, the pilot
19 would simply start his glide at that point, and not
20 zoom into the clouds. Do you recall that?

21 LT. COLONEL HORSTMAN: I do.

22 MR. SOPER: And I believe Mr. Gaukler
23 asked you if the pilot would have the time and
24 circumstances to avoid PFS at that point. Do you
25 recall that?

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1 LT. COLONEL HORSTMAN: I do.

2 MR. SOPER: And I believe you answered in
3 the affirmative, that he would?

4 LT. COLONEL HORSTMAN: That's correct.

5 MR. SOPER: Did you mean by that, that he
6 would necessarily accomplish avoiding the PFS, or
7 simply may have the opportunity?

8 LT. COLONEL HORSTMAN: We don't know that
9 he has -- he has the opportunity, he has the time, and
10 if he has all the circumstances, he might be able to.
11 We can't conclude that he would.

12 MR. SOPER: I'm not sure Mr. Gaukler's
13 question included a full set of circumstances, and
14 that's why I'm answering, you'd have to know more
15 before you could answer that.

16 LT. COLONEL HORSTMAN: Oh, absolutely.
17 You'd have to know a lot more. You know, you would
18 have to know where the site was, for example, and that
19 wasn't one of the listed set of circumstances.

20 MR. SOPER: If I could call your
21 attention, sir, to the Staff Exhibit 65 that was
22 introduced yesterday. Do you have that with you?

23 LT. COLONEL HORSTMAN: Is it this?

24 MR. SOPER: Yes.

25 LT. COLONEL HORSTMAN: I do.

1 MR. SOPER: Could you turn to page 171 of
2 that exhibit. At the top of the page covering most of
3 the first half of the page, there appears to be a
4 picture of the F-16 cockpit. Is that correct?

5 LT. COLONEL HORSTMAN: That's correct.

6 MR. SOPER: In your experience of flying
7 F-16s, does this give a reasonably accurate portrayal
8 from the pilot's seat of how that would appear?

9 LT. COLONEL HORSTMAN: Well, it's a
10 portrayal, and parts of it are accurate. It's taken
11 with, obviously, a wide angle lens. I can't determine
12 whether the canopy is up or not, and I don't know the
13 aircraft reference. And I say that, because it
14 appears to be on the ground, and I don't know how much
15 nitrogen is in the nose strut. I don't know if the
16 aircraft nose is pointed down or up, or any of the
17 other indications like that, so there's no reference
18 towards what would be presumed as level flight,
19 because the aircraft is on the ground.

20 MR. SOPER: I see it's obvious that the
21 dashboard portion, so to speak, raises above the sides
22 of the aircraft. And obviously, you can't see through
23 it as to whatever is in front of it. However, it
24 looks to me like the pilots had -- our eyes, if we
25 were to be the pilot looking at this picture, are

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1 quite a ways away from this. Does that appear to you
2 to be the normal distance of how far a pilot would be
3 from the -- the face would be from the dashboard?

4 LT. COLONEL HORSTMAN: Well, you are, as
5 I said, 20 inches yesterday. I don't know the exact
6 distance. It's difficult to tell with a wide angle
7 photograph, so you're 20 inches away, was what I
8 stated yesterday.

9 MR. SOPER: You can see the controls to
10 the pilot's right and left from this photograph, as
11 though they would be in front of the pilot. Is that,
12 in fact, how those controls are oriented?

13 LT. COLONEL HORSTMAN: They're --
14 essentially the left-hand or the throttle, that is
15 where your arm rest would be if you were the driver of
16 a car. The stick in the right hand, if you were the
17 passenger in the front seat of a car. If you put your
18 arm down on the arm rest, that's where it would be.

19 MR. SOPER: So you view this to be
20 illustrative for entertainment purposes, but not an
21 accurate portrayal of what a pilot would actually see?

22 MR. TURK: Objection. He's leading the
23 witness.

24 CHAIRMAN FARRAR: I think we've followed
25 the rule here that since pre-filed direct testimony is

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1 the ultimate in leading the witness, that we will deny
2 that kind of objection.

3 LT. COLONEL HORSTMAN: It's informative if
4 you're going to buy an F-16. One of the other thing
5 that it looks like, gives the pilot the ability as, if
6 you were to look -- imagine you're in an automobile
7 and you look at where your rearview mirror is on the
8 left-hand side of the automobile, there's this area in
9 this photograph that it looks like you can see the
10 ground from the canopy rail to the vertical part of
11 the dash, and we've heard discussion that where you
12 could navigate from that. And I guess, factually that
13 might be true, and you could do the same thing in a
14 car by looking below the rearview mirror at the white
15 stripe between your lane and the next lane and
16 navigate by that. I don't drive that. I don't fly
17 that way.

18 The heads-up display is 20 degrees wide,
19 so from where you're pointing in the middle, you have
20 10 degrees either side, plus what appears to be
21 another 10 degrees before the canopy begins to slope
22 at approximately a 45 degree angle down, so you've got
23 20 degrees from where you're pointed, where your
24 vision is obscured in the downward visibility by the
25 dash or the wing span.

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1 MR. SOPER: I don't want to dwell on this,
2 but it would be your testimony that this view is
3 somewhat distorted from what a pilot actually sees?

4 LT. COLONEL HORSTMAN: Yes.

5 MR. SOPER: That's all I have, Your Honor.

6 CHAIRMAN FARRAR: Thank you, Mr. Soper.

7 It's now 11:05. Mr. Gaukler, is there anything in the
8 Staff's or the Board's, or Mr. Soper's abbreviated
9 questioning that would want you to have further cross?

10 MR. GAUKLER: I have three questions.

11 CHAIRMAN FARRAR: All right.

12 RE CROSS EXAMINATION

13 MR. GAUKLER: First of all, referring to
14 Staff Exhibit 65, that you can see out the sides of
15 the F-16. You don't have to look just through the
16 HUD. Correct?

17 LT. COLONEL HORSTMAN: Yes.

18 MR. GAUKLER: And secondly, you were
19 saying something like you would not look under the --
20 look out the front window under the mirror or
21 something like that when you drove, sideview mirror.
22 But you would look -- you would check your mirror to
23 see if there's anything behind you before you turned.
24 Right?

25 LT. COLONEL HORSTMAN: In an automobile?

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1 MR. GAUKLER: Yeah.

2 LT. COLONEL HORSTMAN: I do.

3 MR. GAUKLER: And one last question --

4 CHAIRMAN FARRAR: Did you finish that
5 answer? Repeat the answer.

6 LT. COLONEL HORSTMAN: I look in my
7 rearview mirror.

8 CHAIRMAN FARRAR: Okay.

9 MR. GAUKLER: And I just wanted to make
10 sure I understood the last, the fifth column on State
11 Exhibit 223. The intent of that column generally is
12 to go towards the Second Factor, R-2, whether a pilot
13 in control of the plane would, in fact, avoid a site?

14 LT. COLONEL HORSTMAN: I have no idea what
15 the R factors are.

16 MR. GAUKLER: All right. I'm sorry. I
17 got -- the purpose of that column is to -- in your
18 evaluation, whether a pilot would, in fact, avoid a
19 site, as opposed to being able to avoid a site?

20 LT. COLONEL HORSTMAN: We're not
21 predicting here. We're determining whether or not in
22 that accident it showed the ability to avoid a ground
23 site, such as PFS.

24 MR. GAUKLER: Okay. So in other words,
25 does the accident report demonstrate that he would

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1 have avoided a site on the ground? I think we --

2 LT. COLONEL HORSTMAN: No.

3 MR. GAUKLER: Say it again then.

4 LT. COLONEL HORSTMAN: Whether it shows
5 the ability to avoid a ground site, such as PFSF.

6 MR. GAUKLER: Okay. Now you said
7 something about you have to consider the Goshute
8 Village in answer to one of Judge Kline's questions.
9 Correct? Or of counsel's follow-up questions to Judge
10 Kline's questions. You'd have to consider whether if
11 you tried to avoid the PFSF, you might hit the Goshute
12 Village.

13 LT. COLONEL HORSTMAN: That was his
14 question.

15 MR. GAUKLER: Yeah. So you'd know where
16 the Goshute Village is in Skull Valley.

17 LT. COLONEL HORSTMAN: Generically, yes.
18 Not specifically.

19 MR. GAUKLER: No further questions.

20 CHAIRMAN FARRAR: Thank you, Mr. Gaukler.
21 It's now 10 after 11. Does the Staff have any further
22 cross triggered by the Board's question, Mr. Soper's
23 abbreviated examination, or Mr. Gaukler's abbreviated
24 examination?

25 MR. TURK: I have one question, Your

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1 Honor.

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3 MR. TURK: With respect to your testimony
4 about 3.2 miles, or 4 miles, or 5 miles visibility, in
5 your testimony a few minutes ago you discussed that
6 factor. Do you recall talking about that?

7 LT. COLONEL HORSTMAN: Not specifically,
8 no.

9 MR. TURK: You were talking about the
10 ability to see a populated area ahead of you.

11 LT. COLONEL HORSTMAN: Ahh.

12 MR. TURK: And you indicated that once you
13 reached an elevation of 2,000 feet, or you were
14 descending down to 2,000 feet, at that point you
15 wouldn't be able to see something directly in front of
16 the airplane. This is the 3.2 mile.

17 LT. COLONEL HORSTMAN: No, that wasn't --
18 that's not what I intended. The question that I was
19 trying to answer was in defining a populated area, one
20 of the requirements to avoid it is to be able to see
21 it, so you can see things at different distances. You
22 can see the Stansbury Mountains from much farther away
23 than you can see a road intersection, much smaller
24 away than you can see a point target, a ranch house in
25 the middle of nowhere, so it's the ability to locate

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1 it visually.

2 MR. TURK: But in referring to this
3 business of 3.2 miles, specifically what I understand
4 that you were saying was that if you're looking
5 straight ahead, and the nose is obscuring your view to
6 some extent, then you wouldn't be able to see what's
7 3.2 miles ahead of you.

8 LT. COLONEL HORSTMAN: Well, we know that
9 to be a fact, but that's not what my answer was
10 addressing. It was addressing whether or not you
11 would consider something a populated area, and your
12 ability to avoid it. You'd have to be able to locate
13 it in order to call it a populated area.

14 MR. TURK: The only question I'm asking is
15 referring to that specific distance of 3.2 miles,
16 that's based on your assumption that the nose is
17 obscuring your view so that you can't see what's head
18 of you on the ground --

19 LT. COLONEL HORSTMAN: No, it's based on
20 the previous testimony of the PFS witnesses, who said
21 that at 2,000 feet, if you eject, the aircraft will
22 impact 3.2 miles away.

23 MR. TURK: Okay. Thank you.

24 CHAIRMAN FARRAR: Mr. Soper.

25 REDIRECT EXAMINATION

1 MR. SOPER: I take it that's a linear
2 relationship, and if you make your decision at 4,000
3 feet AGL, you would then be 6.44 miles away.

4 LT. COLONEL HORSTMAN: Whatever the -- if
5 the math is correct, then yes.

6 MR. SOPER: Those numbers are actually
7 from the F-16 flight manuals, as I recall. Is that
8 right?

9 LT. COLONEL HORSTMAN: Yes.

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

11 CHAIRMAN FARRAR: All right. We've
12 achieved a relatively rapid convergence. It's almost
13 11:15. Let's review the bidding. We've completed the
14 Applicant's rebuttal testimony with the PFS panel.
15 The Staff had no rebuttal witnesses. The State has
16 completed its rebuttal of the original case, and it's
17 surrebuttal of the Applicant's panel. Am I right so
18 far? So now, Mr. Gaukler, the ball would be in your
19 court.

20 MR. GAUKLER: Yes. We have some
21 surrebuttal.

22 CHAIRMAN FARRAR: Okay. Colonel Horstman,
23 I don't know if the surrebuttal will prompt you
24 getting in that chair again.

25 LT. COLONEL HORSTMAN: We can hope not.

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1 CHAIRMAN FARRAR: I want to extend to you
2 the Board's appreciation of your testimony, and
3 particularly, as we look forward to tomorrow, pass on
4 the same compliments to you, I did to the other panel,
5 that it's -- we are privileged to debate issues here
6 in a hearing room. We're in a state legislature, and
7 tomorrow would be a good day to remember that one of
8 the reasons we get to do that is because of the
9 service people like you have given this country.

10 LT. COLONEL HORSTMAN: It's an honor, sir.

11 CHAIRMAN FARRAR: Let's take a 15 minute
12 break, unless you're -- are you about ready, Mr.
13 Gaukler.

14 MR. GAUKLER: Well, I want to look at the
15 Dash-One.

16 CHAIRMAN FARRAR: Yeah, I wanted to get
17 that out of the way so that we can make sure that
18 doesn't come back to haunt us. And we can make it
19 shorter, if you want.

20 MR. GAUKLER: Fifteen minutes is fine.

21 CHAIRMAN FARRAR: It's 16 after. Let's be
22 back at half past.

23 (Off the record 11:17:23 - 11:35:37 a.m.)

24 CHAIRMAN FARRAR: All right. We're back
25 on the record. We had a slightly longer break than

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1 anticipated to let the parties complete their
2 preparation and their review of the Dash-One report,
3 so it's now 11:35. What did you all find out about the
4 consistency of the various versions of the Dash-One?

5 MR. SOPER: It appears to me that -- do
6 you want me to answer?

7 CHAIRMAN FARRAR: Yes.

8 MR. SOPER: It appears to me that the
9 version of the Dash-One that they've been using does
10 not apply to the F-16s flown at Hill.

11 MR. SILBERG: I don't know that that's
12 true. I don't know if Mr. Soper has compared the two
13 versions.

14 MR. SOPER: Well, Colonel Horstman could
15 probably explain it better. Just on its face, it's
16 not the kind of aircraft that they fly there.

17 CHAIRMAN FARRAR: Well, what is the issue
18 here? Were you comparing the entire manual, or just
19 the portion that talks about uninhabited areas?

20 MR. GAUKLER: We were comparing the
21 portion that we had used now in terms of exhibits, or
22 discussion. That's what we were doing.

23 CHAIRMAN FARRAR: Then you'd rather I not
24 ask any more questions, and let us just go -- I'm
25 confused, since we weren't let in on -- we didn't have

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1 the two versions in front of us. I'm not sure I knew
2 what the issue was. I thought it was something kind
3 of ministerial you all were going to resolve, just to
4 make sure the wording was right, but now I sense it's
5 more than a --

6 MR. GAUKLER: I think it's ministerial, is
7 what I think it is.

8 LT. COLONEL HORSTMAN: Would you like an
9 explanation of the ministerial?

10 CHAIRMAN FARRAR: Very briefly.

11 LT. COLONEL HORSTMAN: The F-16 is
12 produced in different models, and different blocks.
13 Each of those is assigned its own flight operations
14 manual, technical.

15 CHAIRMAN FARRAR: Okay.

16 LT. COLONEL HORSTMAN: The manual that
17 they have been using is the F-16C/D model, which is
18 the most recent version. We're using Block 25, 30 and
19 32, completely different engines, or completely
20 different mission than the block 40 and 42 that they
21 use at Hill Air Force Base. Completely different
22 avionics, not completely, but many, many, many parts
23 are different.

24 CHAIRMAN FARRAR: For purposes of the
25 hearing we've been conducting, are any of these -- is

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1 that difference significant? I mean, it may be
2 different for you as a pilot deciding what checklist
3 to follow when you're out on the field.

4 LT. COLONEL HORSTMAN: I don't know. I'd
5 have to go through and evaluate all of that. We
6 haven't done that.

7 CHAIRMAN FARRAR: But that's not an issue
8 for us. The issue for us is emergency procedures, and
9 so that --

10 LT. COLONEL HORSTMAN: They are different
11 in the airplanes because there are different engines.

12 CHAIRMAN FARRAR: All right. Does anyone
13 else want to be heard?

14 MR. TURK: Yes, Your Honor. We have not
15 obtained a copy from the State yet. I would ask that
16 we be allowed to make a copy. The relevance is with
17 respect to the hearing before, the ejection procedure.
18 I haven't heard that there are differences between
19 these two Dash-Ones with respect to ejections. We
20 don't know if there are or not, because we haven't
21 seen it, so we would ask the State to get us a copy so
22 we can complete this line as quickly as possible, or
23 see if there's any additional line on it that needs to
24 be pursued. And regardless of whether it's a
25 different engine block, there may be no relevance to

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1 having different versions. And we don't know that
2 until we can see it.

3 CHAIRMAN FARRAR: Refresh -- go ahead,
4 Mr. --

5 MR. TURK: With respect to the issues
6 before you.

7 CHAIRMAN FARRAR: Right. Refresh me on how
8 this manual -- who and how offered it in evidence in
9 the first place.

10 MR. GAUKLER: Excuse me, Your Honor?

11 CHAIRMAN FARRAR: Who -- by whom and how
12 was this manual introduced into evidence in the first
13 place?

14 MR. GAUKLER: This was not introduced into
15 evidence. The manual was not introduced in evidence,
16 as such. Certain portions of it have been, certain
17 pages from the manual have been, and there's certain
18 pages that are referenced at various points. I think
19 Colonel Fly will want to say something in terms of
20 what Lieutenant Colonel Horstman just said in terms of
21 the differences. And I think with that on the record,
22 if there's anything of significance. I don't think
23 there is, and the parties have to look at -- I would
24 say the parties look at it among themselves, and see
25 if there is anything of significance.

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1 CHAIRMAN FARRAR: Okay. But you have --
2 your side has previously introduced excerpts. Is
3 that what you're telling me?

4 MR. GAUKLER: And I think their side has
5 introduced excerpts, as well.

6 CHAIRMAN FARRAR: And what we're now
7 finding out is these were excerpts from different
8 versions, which --

9 MR. GAUKLER: Apparently so, but --

10 CHAIRMAN FARRAR: -- may or may not be
11 relevant to the purposes of our hearing. Okay. Let's
12 -- as far as I'm concerned, we've heard enough about
13 this, given the time frame, heard enough about it for
14 today.

15 MR. GAUKLER: May I ask Colonel Fly just
16 one --

17 CHAIRMAN FARRAR: Yeah, but I mean in
18 terms of arguments right this second, let's not waste
19 any more time on it. It'll either be resolved by your
20 next couple of questions, or it will be resolved by
21 counsel after the fact. Go ahead, Mr. Gaukler. And,
22 gentlemen, you're still under oath.

23 MR. SOPER: Before we start, we lent our
24 flight manual. We need that back for the examination.

25 DIRECT EXAMINATION

1 MR. GAUKLER: Let me ask. Colonel Fly,
2 what's the differences between the manuals, and would
3 there be any significance here or not?

4 COLONEL FLY: For the issues we're
5 discussing, the differences in the manuals are really
6 negligible. As far as the difference in the engine,
7 the Block-30 engine is the same engine that's in the
8 Block-40 airplane, so when you see in the text GE-100
9 engine, that's the same in the Block-30 as it is in
10 the Block-40, contrary to what you just heard.

11 I have flown the Block-5, the Block-10,
12 the Block-25, the Block-30, the Block-32, and the
13 Block-40 aircraft. Some, and many of the words and
14 concepts are the same in terms of basic systems,
15 operation and things like that. Typically, the
16 wording on the ejection doesn't change from one to the
17 other. Typically, the preface word talks about the
18 meaning of "shall", the meaning of "will", the scope.
19 That does not change, so most of it does not change.
20 There are some differences from blocks of airplanes,
21 but most of it -- now let me make a break. The AB
22 models or the Block-5s, 15s, the 25 is the first of
23 the Block-Cs, and there are some structural
24 differences there. But for our intents and purposes,
25 and all we were trying to do, Your Honor, was find the

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1 corresponding paragraphs so that you could rest
2 assured that what we were saying was the same, whether
3 it was from the Block-30 or the Block-40.

4 JUDGE LAM: Two essential elements that --
5 before, as Colonel Fly -- related to 2,000 feet
6 ejection level, and avoiding populated area. Is that
7 your testimony, that these elements have not been
8 observed to change from block to block engines?

9 COLONEL FLY: Your Honor, I would agree
10 that that context, that thought has carried through
11 from the Block-5 when I first flew it in 1981, up
12 until the Block-40. The specific words may have been
13 changed a little bit, but certainly not the concept.

14 CHAIRMAN FARRAR: Well, what about --
15 there's like three words we're concerned about, if
16 you're going to talk specific words. We're concerned
17 about 2,000 feet. Has that changed?

18 COLONEL FLY: The minimum recommended
19 altitude for a controlled bailout has been 2,000 feet,
20 as far back as I can remember, Your Honor.

21 CHAIRMAN FARRAR: Okay. And how about the
22 phrase, which I don't have right in front of me, avoid
23 -- was it avoid populated areas?

24 COLONEL FLY: That thought has been
25 consistent. Whether the specific phrasing has been

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1 the same since I first started to fly in 1974, I can't
2 tell you. But certainly, the thought, you don't hit
3 things on the ground if --

4 CHAIRMAN FARRAR: Well, hold on. Hold on.
5 I don't want to know about thoughts, because we've had
6 a lot of discussion here about whether the words
7 "avoid populated areas" embrace -- mean just that, or
8 mean something more, that each of us would fill in
9 what we think it means depending on our value system,
10 or whether it's something the Air Force has
11 deliberately avoided defining, because they don't want
12 to be in the business of saying, you know, whose life
13 is worth more, so this is one where we want to know
14 what are the words, not that the thought is conveyed,
15 because there's a lot of argument about what the
16 thought is intended to mean. So what are the words?

17 COLONEL FLY: I think they were trying to
18 find the exact words in the Block-40, as well as the
19 Block-30. I mean, we've got a copy of what the Block-
20 30 says, Your Honor.

21 CHAIRMAN FARRAR: The Block-30 that we
22 were just given today says, "Direct the aircraft away
23 from populated areas." And I think -- so what does
24 the other one say?

25 COLONEL FLY: Sir, Mr. Barnett has it.

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1 CHAIRMAN FARRAR: Huh?

2 COLONEL FLY: Mr. Barnett has that. I
3 think he's trying to get a copy of the exact wording
4 for you right now.

5 MR. TURK: Your Honor, it would be best if
6 we took just a few minutes off the record.

7 CHAIRMAN FARRAR: This is not brain
8 surgery.

9 MR. TURK: No.

10 CHAIRMAN FARRAR: It's five words on a
11 page, and we're five weeks into a hearing, and no one
12 can come up with it for me.

13 MR. TURK: We don't have the document.

14 CHAIRMAN FARRAR: Then don't be talking.
15 Sorry, I was rude to you again.

16 MR. TURK: Your Honor, my only point is
17 the State just gave it to PFS a minute before we re-
18 entered the room from break. They have not yet given
19 it to us. If we could have a few minutes just to find
20 it and look it, to answer what you're asking.

21 CHAIRMAN FARRAR: I'm sorry. The one I
22 was reading from was PF -- okay, I'm sorry. It was a
23 PFS exhibit that was handed to us today. What have
24 the witnesses been -- the witnesses have been talking
25 for five weeks about what this manual says, and no one

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1 in the room is able to tell me what it says.

2 MR. SOPER: I'm not sure we appreciated
3 that they had the wrong manual. It would be like
4 having the wrong version of NUREG-800. If they have
5 it, they have the manual, and it never crossed our
6 mind it was the wrong one.

7 CHAIRMAN FARRAR: Well, what's this PFS
8 Exhibit 246 that I have in front of me?

9 MR. SOPER: That's the wrong one.

10 CHAIRMAN FARRAR: So what I just read is
11 the one from the wrong one. All right. Let's read
12 from the right one, which came to us by way -- that's
13 the one Colonel Horstman had in front of him when he
14 was testifying.

15 MR. SOPER: Yes.

16 CHAIRMAN FARRAR: All right. Somebody
17 just hand it to me.

18 MR. SOPER: They have our's. I'm sorry.

19 COLONEL FLY: Your Honor, I followed our
20 text while he was reading. It was word-for-word the
21 same. I'm just trying to find it so I can read it to
22 you again. When Colonel Horstman was testifying, he
23 read that part --

24 CHAIRMAN FARRAR: I just want the -- I
25 want the manual Colonel Horstman had in front of him

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1 today. Just hand it to me.

2 COLONEL FLY: Okay, Your Honor.

3 CHAIRMAN FARRAR: No, hand me the manual.

4 COLONEL FLY: Oh, I'm sorry. I
5 misunderstood.

6 MR. GAUKLER: Thank you, Mr. Gaukler. And
7 again, Mr. Turk, let me repeat my apology, that you
8 happened to speak when I was frustrated about other
9 matters.

10 MR. TURK: I understand, Your Honor. May
11 I note, I understand the Board's objective is to
12 complete the hearing in as expeditious a manner as
13 possible. I certainly don't want to interfere with
14 that objective.

15 CHAIRMAN FARRAR: All right. This says,
16 "Direct the aircraft away from populated areas", which
17 I think is exactly what we just said. And that took
18 10 minutes. We now have in the room -- Mr. Soper,
19 your side now has its manual back in front of it.

20 MR. SOPER: As far as I know.

21 CHAIRMAN FARRAR: All right. Go ahead,
22 Mr. Gaukler.

23 MR. GAUKLER: I just want to state for the
24 record, we provided a copy of the emergency procedures
25 from the manual that we had as part of discovery, just

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1 for the record.

2 CHAIRMAN FARRAR: All I'm trying to do is
3 make sure that at this late date, we have the right
4 information in front of us. It's not a criticism of
5 anything that's been done before the last 10 minutes.

6 Mr. Gaukler, just so everyone can be
7 thinking, it's now 11:50. What are your plans?

8 MR. GAUKLER: Mr. Barnett is going to
9 start off with some cross, general cross, and then we
10 have some --

11 MR. BARNETT: Surrebuttal.

12 MR. GAUKLER: Surrebuttal, I mean. And
13 then we have some additional surrebuttal with respect
14 to the accident reports, and clean-up. I don't think
15 it's going to be that long.

16 CHAIRMAN FARRAR: Well, I took rough
17 estimates 13 weeks ago. How long are you talking
18 about? I've got people who are eating. I've got
19 people who have to eat, people have to get a plane,
20 and people who will have to have their turn to do
21 cross examination after the panel is completed.

22 MR. GAUKLER: I would guess about 40
23 minutes.

24 CHAIRMAN FARRAR: Then they'll have cross,
25 and they'll have cross. And then the State would have

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1 the opportunity, as would the Staff, to put somebody
2 else on. All right. Forty minutes it is. But let me
3 know if you need longer, because I'm not going to have
4 you talk up all the time, and then tell Mr. Soper he
5 has no time. If you need a lot of time, let us know.
6 We'll go to 5:30, and we'll reconvene in Salt Lake
7 City, so go ahead.

8 DIRECT EXAMINATION

9 MR. BARNETT: Colonel Fly, yesterday
10 Lieutenant Colonel Horstman presented a video of a F-
11 16 simulator in which he purports to show whether an
12 F-16 pilot would be able to see a site on the ground
13 as he flew through Skull Valley. One case he
14 presented is a pilot flying down the valley at 4,000
15 feet AGL, at 425 knots. In your view, what is the
16 closest distance in front of the aircraft the pilot
17 could see through the heads-up display, the HUD, if he
18 were flying level through the valley at 4,000 feet and
19 425 knots?

20 COLONEL FLY: If you remember the fuselage
21 reference line, which is also referred to as the Gun
22 Cross, or the bore-sight cross, was about 1 degree
23 above the horizon. And that would equate, in this
24 particular case with the flight path marker on the
25 horizon line to approximately 1 degree angle of

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1 attack. If you consider that the -- based on the
2 video tapes, and also, as I recollect, you can see
3 about 11 degrees down before you start to be obscured
4 directly in front of the airplane, at about 11
5 degrees. Then you should have about a 10 degree look-
6 angle down. Your visibility then in the front of the
7 airplane should be about 10 degrees, and you'd just do
8 the trigonometry from -- or try to do your
9 computations from there. And you should be able to
10 see at about a little over -- about 22,000 feet out in
11 front of the airplane.

12 MR. BARNETT: And is that -- that's a
13 little over four miles?

14 COLONEL FLY: Yes, it is.

15 MR. BARNETT: If you were looking out the
16 canopy on either side of the HUD, could you see an
17 angle, a greater angle below the aircraft?

18 COLONEL FLY: Yes, you can. The radome,
19 if you remember the pictures and everything, is
20 pointed and sweeps back at a fairly steep angle. And
21 also, the glare sheet from the -- glare shield, excuse
22 me, was referred to as the dashboard previously in
23 other testimony, does angle down. So as you come off
24 of center of directly in front of you and start
25 looking down, you can start to pick up significant

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1 increases in visibility downward.

2 MR. BARNETT: Now hypothetically, if you
3 had a -- if you were flying in Skull Valley and you
4 had an engine failure, and you presumed a zoom
5 maneuver, as has been previously described, and you
6 pushed the nose of the aircraft over, and you began a
7 glide at an airspeed of 200 knots, what is the closest
8 distance in front of the aircraft you'd be able to see
9 through the HUD?

10 MR. SOPER: Excuse me. At what point? I
11 object to the form of the question.

12 MR. BARNETT: Well, I think he can answer
13 the question.

14 CHAIRMAN FARRAR: Well, Mr. Soper, you
15 said at what point?

16 MR. SOPER: Yes. In other words --

17 MR. BARNETT: I'll --

18 MR. SOPER: -- pushed the airplane over,
19 and then he asked him -- and then he starts a glide.
20 I take it it's --

21 MR. BARNETT: It's a glide at an airspeed
22 of 200 knots, and I think he can explain what
23 relevance that has to what he can see.

24 MR. TURK: At what altitude?

25 MR. BARNETT: I'll get to that.

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1 COLONEL FLY: As you start to glide the --
2 in the case of the zoom maneuver with the engine out,
3 the F-16-1, both versions, Your Honor, tells you to
4 fly about 200 knots, which equates to a 7 degrees
5 angle of attack, which is your max range glide speed
6 without an engine. So if you -- I believe yo heard
7 testimony yesterday, and my experience, although I
8 never flew with a flamed-out engine, was that when
9 simulated it, it took approximately a 6 degree nose
10 low attitude to hold that airspeed. I'm sorry, 6
11 degree descent rate to hold that attitude, so if you
12 were to go up from 7 degrees angle of attack, that
13 would put that fuselage reference line that we
14 discussed previously, again, about 1 degree above the
15 horizon line in your heads-up display, but you would
16 now be in approximately a 6 degree descent. So the
17 picture would look the same, if you will, from the
18 cockpit in terms of your ability to look down. So
19 again, if you were at 4,000 feet, you're at
20 approximately that same 2,200 feet or four and a half
21 miles. If you descended down and holding everything
22 constant except for your altitude down to about 2,000
23 feet, you would wind up with a little over 11,000 feet
24 would be where you could start to see in front of the
25 -- directly in front of the nose of the airplane.

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1 MR. BARNETT: Now in that case, Colonel
2 Fly, could you see the flight path marker of the
3 aircraft?

4 COLONEL FLY: Yes. You should be able to
5 see the flight path marker. The flight path marker
6 would be approximately 6 degrees below the horizon
7 line, so it should be roughly 5 degrees above the nose
8 of the airplane directly in front of it, where it
9 would obscure your view.

10 MR. BARNETT: And what does the flight
11 path marker show?

12 COLONEL FLY: The flight path marker shows
13 where the aircraft is headed. If nothing else
14 changes, that's where it will go. In a case like
15 this, the flight path marker would be showing you the
16 ground impact point.

17 MR. BARNETT: And what would that mean if
18 you were flying in Skull Valley, and you had an engine
19 failure, and ended up in this glide, that would
20 otherwise cause you to hit the PFSF?

21 COLONEL FLY: Well, what that means is
22 that you should be able to see where the impact point
23 of the airplane is, and it should be -- if it's
24 sitting on top of a facility, then it's going to hit
25 that facility. If it's not sitting on top of the

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1 facility, it won't.

2 MR. BARNETT: Now, Colonel Fly, Lieutenant
3 Colonel Horstman yesterday also presented a case in
4 the video in which the aircraft was flying down Skull
5 Valley at 200 knots, at 2,000 feet in level flight.
6 And in the video, if you recall, you saw that the nose
7 of the aircraft was higher than the horizon by about,
8 I think, Lieutenant Colonel Horstman said it was 11
9 degrees.

10 COLONEL FLY: Yes.

11 MR. BARNETT: Is that view that you saw in
12 the video representative of what you would see if you
13 were gliding at a steady 200 knots without an engine?

14 COLONEL FLY: No. The difference is, is
15 that you're able to maintain your level flight,
16 because of the power of the engine, your thrust. So
17 the descent then, your 6 degrees descent rate to hold
18 your airspeed would lower the nose correspondingly.

19 MR. BARNETT: Yesterday, Lieutenant
20 Colonel Horstman also presented the video of Colonel
21 Bernard's accident, and Colonel Bernard's discussion
22 with that.

23 CHAIRMAN FARRAR: Mr. Barnett, before you
24 get into that, I've been worried here that I might
25 have made the State nervous a minute ago. I said

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1 something about 5:30. What I meant to say was if you
2 need to go to 5:30, we will quit at 2:30, and we will
3 reconvene in Salt Lake City. And that has nothing to
4 do with your examination, but I realized I probably
5 had just made them nervous about that, so we will --
6 we are stopping at 2:30. And what I meant was, if
7 you need more time, we will reconvene. Go ahead. And
8 that has nothing to do with your last --

9 MR. BARNETT: Oh, I understand, Your
10 Honor.

11 Colonel Fly, yesterday Lieutenant Colonel
12 Horstman presented the video of Colonel Bernard's
13 accident, and Colonel Bernard's discussion of it. And
14 you saw the activity that was taking place in the
15 video, in the actual video of his flight, and you
16 heard the calls on the radio. Colonel Bernard said
17 that he was distracted from dealing with his engine
18 problem because he was in a high-task loading
19 situation. Are those activities and those radio calls
20 anything like what you would have in Skull Valley?

21 COLONEL FLY: No, they're not. Colonel
22 Bernard, at the time, was engaged in a major exercise
23 up in Cold Lake, Canada, similar to the Red Flag
24 exercise that they have out at Las Vegas. He cited
25 six different types of airplanes that were

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1 participating in this exercise in his video tape. He
2 had also, to try to put it in context, he was in the
3 battle area. He talked about he had just delivered
4 his ordinance. He had gotten regrouped with his
5 wingmen. They were going back to provide fighter
6 escort for some other airplanes, some other guys that
7 were ingressing to the target area, to hit that other
8 flight's respective target, so he was in the middle of
9 a war, transitioning from coming off of target, having
10 dropped my bomb - hopefully he dropped his bombs on
11 his target - to going back to some point that's not
12 very specific. He just talks about going back to
13 provide escort for the strikers, follow-on strikers,
14 so now he's transitioned from dropping bombs, to being
15 an air-to-air guide, to protect this follow-on flight
16 bombers, when he starts to engage with the F-5 and
17 everything else. So this is a radically different
18 scenario in terms of level activity, what you will be
19 doing, how many other airplanes around and everything
20 else, than what would be happening in Skull Valley.

21 MR. BARNETT: Now, Colonel Fly, yesterday
22 Lieutenant Colonel Horstman stated that if he were
23 flying in Skull Valley, that training his radar and
24 his air-to-air missile sensors on his wingman during
25 a g-awareness turn would be similar to what Colonel

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1 Bernard was doing when he was trying to shoot down
2 other aircraft in the mock battle. Is that correct?

3 COLONEL FLY: I don't believe that to be
4 true. If you -- I went back and looked at the video
5 tape last night, and as near as I can reconstruct from
6 looking at the tape, at the time Colonel Bernard was
7 nose low at about minus 3 degrees, around 450 knots,
8 I don't have the specific altitudes written down. I'm
9 sorry I didn't write that down, and he started a 6
10 plus g, and it's hard to tell because of the sun
11 angle. When it comes through the HUD, sometimes the
12 sun can obscure the camera's ability to record the HUD
13 without necessarily obscuring the pilot's ability to
14 see what's in the HUD. But he started a 6g plus
15 aggressive pitch-up, acquired the F-5 with his radar,
16 got his missile on it, shot the F-5. And at the time
17 this was over, he climbed from about 5,200 feet to
18 about 6,500 feet. He started at about 450 knots or
19 so, and he wound up at about 155 knots, so that's a
20 whole lot different from starting line of rest nine to
21 twelve thousand feet, starting a 4-5g nose low
22 military power turn, like we do in Skull Valley for --
23 with just two or four airplane, than for a g-
24 awareness exercise.

25 The one thing that is the same is the

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1 switch action that would be required by the pilot
2 either doing the g-awareness, or the pilot shooting
3 the F-5, to command the radar to a selected mode, and
4 then to uncage the missile so it would self-track, and
5 work properly, and finally, to shoot it, so three of
6 the switch actions would be the same, but the
7 operating environment was significantly different.

8 MR. BARNETT: Now, Colonel Fly, Lieutenant
9 Colonel Horstman said that Colonel Bernard's accident
10 would not have been, or shouldn't -- if hypothetically
11 had been part of your database that you used to assess
12 the hazard in Skull Valley, that Colonel Bernard's
13 accident would not have been an "able to avoid"
14 accident, because Colonel Bernard was not focused on
15 avoiding anything.

16 In your view, if this accident had been in
17 the data set that you had looked at, would you have
18 classified it as "able to avoid"?

19 COLONEL FLY: I think we would have looked
20 at it significantly -- well, again, if you look at
21 what happened in terms of the sequence, Colonel
22 Bernard lost his engine before he ever went up to
23 shoot that F-5, so he's got effectively a no-thrust
24 engine before he starts this 6g pull-up, to shoot the
25 F-5. And then he descends back down into the low

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1 altitude structure, and then he reacts to a break call
2 from his wingman. In a break, when we -- in the
3 fighter business, when somebody calls a break turn, it
4 means you are either under attack, or attack is
5 imminent, so it's a very hard turn. It's as hard as
6 you can generate, based on your airspeed, and altitude
7 and power setting. So he gave it the best turn that
8 he could, but he had very little airspeed, so there
9 wasn't much to give. So all that pitch-up with the
10 6gs, the maneuver, the break turn, all these things
11 cost Colonel Bernard a significant amount of energy in
12 terms of airspeed, so that -- I believe he was
13 airborne for over a minute after the engine failed.
14 I don't remember the exact time. But all that
15 maneuvering significantly decreased his airborne time.
16 Had he been in Skull Valley, all that time would have
17 been available, because the airspeed would have been
18 there for the normal zoom climb, and the descent and
19 everything else. He, also, would not have been
20 reacting to break calls. He wouldn't have been
21 worried about F-5s he was trying to shoot down, or
22 anything else. So we would have categorized that as
23 having time to avoid something like the proposed PFS.

24 CHAIRMAN FARRAR: How is break spelled,
25 and what's it --

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1 COLONEL FLY: B-R-E-A-K.

2 CHAIRMAN FARRAR: Meaning break-off the
3 maneuver or --

4 COLONEL FLY: It means break -- if
5 somebody says break right, that means give me the most
6 aggressive, the hardest turn you can to the right,
7 because somebody is shooting at you, and you're trying
8 to defeat the attack. It's, in essence, a last-ditch
9 maneuver.

10 MR. BARNETT: Colonel Fly, Lieutenant
11 Colonel Horstman stated that the video, the Colonel
12 Bernard video shows that training is not effective in
13 preventing pilots from making mistakes. Does that
14 video show that a pilot who suffered an engine failure
15 at Skull Valley would fail to avoid the PFSF if he
16 needed to do so?

17 COLONEL FLY: No, I don't believe it does.
18 And I would go back to my previous answers, because of
19 the dynamic situation in which Colonel Bernard was
20 involved is so different from Skull Valley, and the
21 typical flying that's done there.

22 MR. BARNETT: And finally, regarding the
23 video, what happened to Colonel Bernard's aircraft
24 after he ejected?

25 COLONEL FLY: Shortly thereafter, it hit

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1 basically right where it was aimed.

2 CHAIRMAN FARRAR: Before you leave the
3 video, I don't get the immediately preceding answer,
4 or I don't get what you were trying to -- or where it
5 was headed. My impression was whatever happened, was
6 important enough, and happened frequently enough that
7 the Air Force put out a training video and said don't
8 let this happen to you. Yet, I understood the tenor
9 of the question and answer to be that this was this
10 incident that only rarely happened. Maybe I
11 misunderstood the question and answer, but it seems to
12 me when you put out a training video, you put out
13 training videos about things you're concerned about
14 because they're happening too much. If they only
15 happen once you pull the guy into your office and say
16 don't let it happen again.

17 COLONEL FLY: I'm not sure that sir I have
18 a comment or two and then perhaps General Cole would
19 like to comment.

20 CHAIRMAN FARRAR: He was going to get his
21 turn given his prior duties.

22 COLONEL FLY: Yes, sir. I don't mean to
23 dismiss it lightly but here is a case where the
24 message I took from Colonel Bernard's thing was
25 probably as soon as he realized his afterburner was

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1 not working correctly he should have done something
2 different. He shoot an F-5, then do a break turn.

3 At that point when he realized I'm flying
4 a single engine airplane or zero redundant engineer
5 plane as Judge Lam refers to it, he should have said
6 this is enough, knock it off and terminated any and
7 all mock war and gone to work with his problem.

8 CHAIRMAN FARRAR: But didn't his message
9 and maybe we have to watch the video again apply
10 equally well to all these people, how many there were
11 in these 59 reports who ejected too low? In other
12 words they all ejected too low for some reason they
13 thought was really good and sufficient to them at the
14 time. I thought that video would have been directed
15 to all of those people. Not directed to all of them
16 but directed to the next person who might made the
17 same mistake if he doesn't see the video.

18 COLONEL FLY: I guess I will agree with
19 that, Your Honor, in the sense that when you start to
20 have problems, pay attention to your problems. Don't
21 pay attention to what's happening in terms of your
22 mock war. You can go to work on that. That would
23 preclude these types of things. General Cole.

24 GENERAL COLE: May I, Your Honor?

25 CHAIRMAN FARRAR: Certainly.

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1 GENERAL COLE: Yes, sir. Colonel Fly was
2 exactly right. That was directed to the entire force.
3 The lesson there was pay attention to what's happening
4 and recall of course that F-16 pilots and Air Force
5 pilots across the board fly their airplanes through a
6 wide spectrum of operations. It's linked to the
7 situational awareness and don't let your human factor
8 focus get you in trouble.

9 CHAIRMAN FARRAR: This may be a good time
10 to ask you the same question I asked Colonel Horstman
11 yesterday. Am I right or wrong in thinking after
12 hearing all of this that the very strengths that you
13 value in a pilot and whether that's confidence,
14 cockiness, arrogance, immodesty, they think the reason
15 they're good is they think they're good but when they
16 get an emergency they forget that they're not that
17 good and that here is something that's beyond their
18 control and maybe they're not good enough to get that
19 engine restarted?

20 GENERAL COLE: Yes, Your Honor. I think
21 that is accurate but they are very good. They are
22 very well trained. It's a tough business for tough
23 people, men and women that do it. Emergencies stress
24 you, press you. One of the measures of merit and
25 excellence is how well you deal with that. There's a

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1 whole spectrum of policy, procedure, guidance and then
2 it transitions into the area of judgement and actions
3 and then back again to the situational awareness and
4 focus and prioritizing your tasks.

5 Yes they are good. Emergencies stress
6 you. But you can't get out in front of your
7 headlights. You have to do what's doable, assess it
8 properly and perform accurately. I can elaborate more
9 if you wish.

10 CHAIRMAN FARRAR: But over and over, it's
11 whatever they can do with their plane when it's
12 working and however confident they may be that seems
13 to have a spill over when their plane's not working
14 and they can't accept that it's not.

15 As I read these reports that's a lesson I
16 think I could draw from them. They can't accept that
17 their plane isn't working and they ignore their
18 training as good as their training is. It's been
19 called the best in the world. But they ignore it.
20 Why is that happening?

21 GENERAL COLE: Sir, may I reply to that
22 one?

23 CHAIRMAN FARRAR: Yes.

24 GENERAL COLE: Part of that training is
25 when your aircraft is in some decremented state is to

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1 recognize how badly the capability is degraded and
2 then what procedurally and technique wise do you have
3 available to dealing with it. That's a tough step to
4 make regardless of where you are flying. They're
5 trained to do that.

6 I wouldn't write it off to being
7 overconfident. I would write it off to being how far
8 can I go when I transition from that area of technical
9 orders, flight manuals, commander's guidance,
10 procedures which are written and ending with that area
11 of judgement. Because when you get into that area of
12 judgement the pilot depending on experience and some
13 are better than others as much as they would like not
14 to admit it can handle a situation better than others.
15 So I wouldn't write it off to overconfidence. They
16 have to be able to deal with that. That's part of the
17 territory.

18 CHAIRMAN FARRAR: Okay. Go ahead, Mr.
19 Barnett.

20 MR. BARNETT: Colonel Fly, if you recall
21 on Monday, you talked about if you were flying in
22 Skull Valley above an undercast with clouds preventing
23 you literally from seeing the ground, that you could
24 use your turnpoints and navigational instruments to
25 maintain situational awareness and your location

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1 relative to the PFSF if you were flying in Skull
2 Valley. Now Lt. Colonel Horstman stated that if you
3 lost your engine in Skull Valley you would set your
4 turnpoint and your aircraft instruments to Michael
5 Army Air Field and turn toward the airfield. Do you
6 believe if you were flying north of the PFSF in Skull
7 Valley and had an engine problem you would
8 automatically reset your turnpoint and turn
9 immediately toward the air field?

10 COLONEL FLY: I'm not sure necessarily
11 resetting that turnpoint would be my number one
12 priority. I would do things like maintain aircraft
13 control and those types of things, figure out what's
14 wrong, zoom if necessary, etc. When the decision was
15 made to go to Michael if I thought I could get there
16 and that was the thing that I was going to do, then I
17 would probably reset mine if I could get to it. But
18 you have a general awareness as to where Michael would
19 be anyway just like you do of the things you're used
20 to flying in your local area.

21 MR. BARNETT: That leads to my next
22 question. If you did set your turnpoint to Michael
23 and turn toward the field, would that prevent you from
24 knowing where you were relative to the PSFS?

25 COLONEL FLY: I think you would still

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1 again putting it into context that this is my local
2 flying area, you would still be able to have a general
3 idea of where the PFSF was based on your position from
4 Michael.

5 MR. BARNETT: Now hypothetically if you
6 had an engine failure and you figured based on your
7 assessment of the failure that you could not make it
8 to Michael would you turn toward the field anyway?

9 COLONEL FLY: I guess I would have to put
10 that in the category of hypotheticals in exactly what
11 was going on. Depending on where I was when I was
12 doing whether I thought I could go to Michael I might
13 try to buy to stake for the lower terrain instead of
14 turning toward higher terrain to give myself more time
15 aloft to see if maybe I could fix before I got down to
16 where I needed to eject.

17 MR. BARNETT: Now, Colonel Fly, yesterday
18 Lt. Colonel Horstman talked about in the event of an
19 engine failure conducting a zoom maneuver from say he
20 was starting from 4,000 feet AGL going up to 8,000
21 feet AGL and then he stated that the clouds you might
22 have in the area going up to 8,000 feet would be
23 relevant for determining the effects of weather on
24 what the pilot could see. Do you know how much cloud
25 cover there is first of all below 4,000 feet AGL?

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1 COLONEL FLY: I'm looking for that. I
2 computed that last night but in my hurry to look at
3 the final pages for the Dash-1 I don't have the
4 numbers with me right this second so I'll have to get
5 those a little later. I apologize.

6 MR. BARNETT: These are my last questions
7 so if you could do that.

8 COLONEL FLY: Okay.

9 MR. BARNETT: I'm sorry, Colonel Fly. I
10 do have one more question in addition to this. So let
11 me get that one out of the way. Earlier today we had
12 some discussion of whether or not if you had an
13 emergency in Skull Valley whether another flight
14 member could provide you with any assistance. If you
15 were in Skull Valley say for example 10 miles north of
16 the PFSF site and you had an engine failure, is it
17 possible that another flight member could provide you
18 with assistance in locating the PFSF or reminding you
19 where it is?

20 COLONEL FLY: Yes, I think that's
21 possible. I think there were some documented cases
22 where similar things happened where people pointed
23 things out or else pointed them towards a clear area
24 or you saw the case for Atlantic City where the
25 wingman went down to clear below. So I would expect

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1 if the wingman or the other airplane knew of
2 potential hazards and I was pointed to them and it
3 looked like bailout was imminent that he would call
4 that out to me or point me to clearly lit area if I
5 didn't do that myself whether it was a PFSF or the
6 Indian village or any facility that it looked like I
7 could potentially be a hazard to

8 MR. GAUKLER: I have some questions.

9 CHAIRMAN FARRAR: Go ahead, Mr. Gaukler.

10 DIRECT EXAMINATION

11 MR. GAUKLER: General Cole, do you have a
12 copy of what we handed out earlier today as PFS
13 Exhibit 246 with these excerpts from the Dash-1?

14 GENERAL COLE: I do.

15 MR. GAUKLER: There's been a lot of
16 discussion about pilots who eject below 2,000 feet.
17 First of all, do you consider it pilot error if
18 somebody ejects below 2,000 feet?

19 GENERAL COLE: It's not necessary pilot
20 error at all. I would call your attention, Your
21 Honor, to this exhibit because it frames what I'm
22 going to say.

23 CHAIRMAN FARRAR: This is PFS Exhibit 246,
24 the manual?

25 GENERAL COLE: Yes sir.

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1 CHAIRMAN FARRAR: Okay.

2 GENERAL COLE: Beyond the cover page, the
3 first page next is double i and it says "in scope this
4 manual provides the best possible operating
5 instructions on most conditions." I would underline
6 most conditions. "Multiple emergencies, adverse
7 weather and terrain and etc. may require modification
8 of these procedures." That's broad policy guidance in
9 the operational manual.

10 An important point on the next page iv, it
11 says "use of words shall, will, would and may" in the
12 first sentence is important. "The word 'shall' or
13 'will' is used to indicate a mandatory requirements as
14 in you must do and do it that way."

15 MR. SOPER: May I just interrupt? Excuse
16 me, General. I have an objection here. The memo from
17 Colonel Fly which we talked about which is in the
18 record adopted as part of this panel's sworn testimony
19 plus the Colonel's report over and over I've marked
20 the pages stated that the pilot will eject at 2,000
21 feet. I think it's a violation of evidentiary
22 principles to allow witnesses to testify contrary to
23 their sworn statements in evidence knowingly. That's
24 my objection.

25 MR. GAUKLER: Your Honor, I've asked him

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1 a question whether ejecting below 2,000 feet is pilot
2 error not whether 2,000 feet is the recommended
3 minimum ejection altitude.

4 MR. SOPER: I'm not objecting to the
5 question. I'm objecting to the testimony which goes
6 beyond that. It states where the pilot --

7 CHAIRMAN FARRAR: The answer and I don't
8 have all the transcript in front of me obviously seems
9 to get perilously close to impeaching their whole
10 case.

11 MR. GAUKLER: I'd like the witness to be
12 able to complete the answer. I think he's going to
13 expand.

14 CHAIRMAN FARRAR: Mr. Turk, don't be
15 afraid to speak up. I won't shout at you.

16 MR. TURK: Your Honor, I'm not sure if
17 it's impeaching their own case or clarifying testimony
18 or what. But whatever it is is what it is and be able
19 to judge whether they've done something that harms
20 their case or hurts their case depending on whatever
21 is said.

22 CHAIRMAN FARRAR: I think if I understand
23 Mr. Sober's objection if it's changing their case it's
24 kind of late to change their case because then maybe
25 the other side would want to change their case.

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1 MR. GAUKLER: Your Honor, we just had
2 three instances where Lt. Colonel Horstman just
3 changed his analysis of three accidents. He evaluated
4 them one way before and he just wanted on the record
5 yesterday that he evaluated two or three accidents
6 differently.

7 CHAIRMAN FARRAR: Well, that's one way of
8 looking at it but I seem to remember that at the
9 Sheraton some weeks ago we had a long discussion about
10 what the ground rules were that he thought he was
11 operating under the deposition and why he had a
12 different view now. Everyone's had a month to think
13 about it. Right now we're going to have people and
14 we're going to have two hours to think about what Mr.
15 Sober claims is a significant change in position and
16 that concerns me in terms of closing the record in the
17 case.

18 MR. GAUKLER: I asked him a specific
19 question whether he considered ejecting below 2,000
20 feet pilot error. That's how the State's witness has
21 characterized ejecting below 2,000 feet.

22 CHAIRMAN FARRAR: And he did not answer
23 yes or no. So I guess the best thing rather than talk
24 about this in a vacuum as much as I hate to do it
25 we'll play back the answer.

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1 CHAIRMAN FARRAR: The question is the
2 pilot error question and they want to hear the answer.

3 COURT REPORTER: I don't know if this
4 helps. My notes indicated that he stated "not
5 necessarily pilot error at all." That's his exact
6 quote.

7 CHAIRMAN FARRAR: No. I thought he went
8 on and said something more. I don't want to hear what
9 everyone thinks I want to hear it.

10 (Last question and answer played back.)

11 (MR. GAUKLER: There's been a lot of
12 discussion about pilots who eject below 2,000 feet.
13 First of all, do you consider it pilot error if
14 somebody ejects below 2,000 feet?

15 GENERAL COLE: It's not necessary pilot
16 error at all. I would call your attention, Your
17 Honor, to this exhibit because it frames what I'm
18 going to say.

19 CHAIRMAN FARRAR: This is PFS Exhibit 246,
20 the manual?

21 GENERAL COLE: Yes sir.

22 CHAIRMAN FARRAR: Okay.

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24 first page next is double i and it says "in scope this
25 manual provides the best possible operating

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1 instructions on most conditions." I would underline
2 most conditions. "Multiple emergencies, adverse
3 weather and terrain and etc. may require modification
4 of these procedures." That's broad policy guidance in
5 the operational manual.

6 An important point on the next page iv, it
7 says "use of words shall, will, would and may" in the
8 first sentence is important. "The word 'shall' or
9 'will' is used to indicate a mandatory requirements as
10 in you must do and do it that way.")

11 CHAIRMAN FARRAR: Mr. Soper, do you want
12 to restate your objection?

13 MR. SOPER: My objection, Your Honor, is
14 that the General's testimony contradicts the sworn
15 testimony by the full panel in that they adopt the PFS
16 crash report which contains among other things Colonel
17 Fly's memo that says "he will eject at a minimum
18 altitude of 2,000 feet AGL in accordance with
19 published directives." And a number of other pages
20 which I'd be happy to read.

21 But suffice it to say, it contradicts the
22 direct testimony that all three panel members have
23 adopted under their prefiled testimony as their sworn
24 testimony and I believe that's impermissible to
25 impeach themselves. Also it creates a new issue that

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1 the State has not been aware of that they are now
2 saying that the 2,000 feet ejection altitude is
3 somehow not a directive as they've indicated
4 previously.

5 CHAIRMAN FARRAR: Before, Mr. Gaulker, you
6 respond as I read the manual that the General was
7 referring to the words "will!" and "should" and "may"
8 the warning about ejection doesn't use any of those
9 words. It says "eject."

10 MR. GAUKLER: I think the General is going
11 to address that but before I do that I will say that
12 the analysis assumes that a pilot will eject at 2,000
13 feet. I was addressing the particular assertion
14 that's been made throughout that pilots make errors
15 because they've ejected below 2,000 feet. We're not
16 going to come in and say we can take credit in our
17 analysis that pilots may eject at 1,000 feet or
18 something like that. That's not purpose of this
19 testimony.

20 CHAIRMAN FARRAR: But the Air Force put
21 out a video saying don't do what I did. We give you,
22 now I'm paraphrasing I'll have to watch the 12 minutes
23 again, don't do what I did, eject at 2,000 feet like
24 we told you to.

25 General Cole said some weeks ago when I

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1 asked about the price of airplane he told his boys and
2 I guess they were all boys then I have a lot of
3 airplanes but I have only one of you. Now it's like
4 why did Colonel Ivey (PH) after putting Colonel went
5 through what he went through why did they put him
6 through making a video which can't be fun to tell all
7 your friends how you screwed up why would they put out
8 a video if they didn't mean it.

9 MR. GAUKLER: Your Honor, you read some
10 things from some of the accident reports where they
11 committed policy and they did eject from up to 2,000
12 feet. So I put it in the context of is this pilot
13 error.

14 CHAIRMAN FARRAR: Here's what we'll do
15 since we're not going to solve this now. Just go
16 ahead and continue with your questions. Mr. Soper, we
17 will take your objection and all that it conjures up
18 under advisement.

19 CHAIRMAN FARRAR: Hold on, Mr. Gaukler.

20 (Judges confer.)

21 CHAIRMAN FARRAR: Go ahead, Mr. Gaukler.

22 MR. GAUKLER: Go ahead, General Cole.

23 GENERAL COLE: All right. Thank you, Your
24 Honor. You cited my next point, the words on page
25 342, that "undercontrolled flight conditions, eject at

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1 least 2,000 feet above ground level whenever
2 possible." Also contained in there of course is the
3 direct aircraft away from populated areas. That is
4 also guidance in the book.

5 We've obviously seen instances where
6 pilots for whatever their reasons have chosen to eject
7 below 2,000 feet and we've examined them in great
8 detail. My successor as Chief of Safety of the Air
9 Force, General Godseed used the term "recommended
10 minimum ejection altitude" which basically doesn't
11 include the "shall" or "will." That item has already
12 been introduced by the State as evidenced the March
13 1996 ALSAFECOM memo.

14 To make sure we were on track with this,
15 I called the Acting Chief of Safety and he added that
16 to further refine this policy if a pilot does eject
17 less than 2,000 feet and that's a departure from the
18 guidance they wanted cited in the 51503 accident
19 report as to what compelling reason moved that pilot
20 to do so.

21 So the correct answer is 2,000 feet AGL is
22 the minimum ejection altitude. It doesn't have
23 "shall" or "will" in front of it. You should do that.
24 All things being equal, you should do that. But as
25 we've seen there is some compelling instances when you

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1 don't and you're going to have to explain that to
2 somebody if you do.

3 MR. GAUKLER: Is it fair to say then,
4 General Cole, that --

5 CHAIRMAN FARRAR: It also does not have
6 the words "may" in it.

7 GENERAL COLE: Yes sir.

8 CHAIRMAN FARRAR: So when we look at this
9 section that says use of the words "shall" and "would"
10 and "should" and "may" in a sense it's irrelevant.
11 None of those words are used.

12 GENERAL COLE: Yes sir.

13 CHAIRMAN FARRAR: So you can't draw any
14 conclusion about that. I mean you can have your
15 opinion about what the bulleted paragraph means but we
16 don't learn anything about what it means because
17 there's the absence of the words "shall" and "would"
18 and "should" and "may."

19 GENERAL COLE: Yes sir. And the minimum
20 ejection altitude is 2,000 feet AGL. That's accurate.

21 MR. GAUKLER: Thus, it's fair to say,
22 General Cole, that 2,000 feet minimum ejection
23 altitude is what the Air Force expects people to do.
24 Correct?

25 GENERAL COLE: That's accurate.

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1 MR. GAUKLER: And by the same token it
2 doesn't say that it never can happen. Correct?

3 GENERAL COLE: That's also accurate.

4 MR. GAUKLER: It doesn't say you're going
5 to be punished if you do eject below 2,000 feet.

6 GENERAL COLE: If you have a compelling
7 reason why you did and it's not necessarily in the
8 category of pilot error or grounds for punishment.

9 CHAIRMAN FARRAR: But the same bullet also
10 says in it "do not delay ejection below 2,000 feet AGL
11 for any reason which may commit you to unsafe
12 ejection." Is that correct?

13 GENERAL COLE: Yes, Your Honor. That's
14 correct.

15 CHAIRMAN FARRAR: Can I take that as
16 having its ordinary meaning?

17 GENERAL COLE: Yes sir, you can. I would
18 submit however that unsafe ejection the context would
19 be for the pilot. But I would also submit, sir, that
20 if you are at 2,000 feet and you're pointed at
21 something that you don't want to hit it would be the
22 prudent thing to perhaps make a left or right turn and
23 then eject and then perhaps you go at 1,600 feet and
24 that would be good judgement. It's on the end of that
25 spectrum of pilot, policy, guidance, tech orders,

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1 directives, and into the realm of pilot judgement.

2 CHAIRMAN FARRAR: If I were just an
3 ordinary person reading that paragraph I would read
4 the word "unsafe" as applying to the pilot because
5 later in a different section we have the business
6 about avoiding populated areas. So are you telling me
7 that the word "unsafe" ejection that the adjective
8 "unsafe" applies to something other than the pilot?

9 GENERAL COLE: No sir. That does apply to
10 the pilot.

11 CHAIRMAN FARRAR: Only?

12 GENERAL COLE: My personal opinion is an
13 "unsafe ejection" might put something else at risk
14 besides just the pilot. That gets into the area of
15 tough judgement calls.

16 CHAIRMAN FARRAR: Okay.

17 JUDGE LAM: And, General Cole, I think the
18 way I read this also "unsafe ejection" may imply the
19 pilot would have something to say about that. So if
20 he deemed that ejecting at 1,500 feet not being unsafe
21 perhaps he had that option to do so.

22 GENERAL COLE: Yes, Your Honor.

23 MR. GAUKLER: Colonel Fly.

24 COLONEL FLY: Yes.

25 MR. GAUKLER: You heard reference to your

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1 October 21, 1999 memorandum. You heard Lt. Colonel
2 Horstman read the sentence in that follows: "for
3 ejection the minimum altitude of 2,000 feet AGL in
4 accordance with published directives."

5 COLONEL FLY: Yes.

6 MR. GAUKLER: Do you see any consistency
7 with what you said there and what General Cole has
8 just described?

9 COLONEL FLY: No I don't but could I ask
10 to see the memo just so I could read it in context?

11 MR. GAUKLER: Yes.

12 COLONEL FLY: The intent of this memo when
13 it was written in that statement was to say this is
14 the normal procedure, this is what you can reasonably
15 expect pilots to do. The guidance is you can
16 reasonably expect them to eject at 2,000 feet because
17 that's the recommended ejection altitude. However I
18 would also say we train pilots. We don't train
19 robots.

20 If the case is as Ms. Marco was asking
21 this morning by delaying ejection 200 feet you can
22 avoid hitting somebody on the ground would you do that
23 and said commander would you reasonably expect to
24 chastise somebody for that. I don't believe that's a
25 reasonable course of action for a commander to take.

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1 That would show a case of good judgement if that's the
2 only thing that happened wrong there. But generally
3 speaking I would expect that you would tell people to
4 eject at 2,000 feet just as we said earlier.

5 MR. GAUKLER: About three more questions
6 I think. There's the question that Mr. Barnett had.
7 We may need to take a short break for that. I don't
8 know. There is also, General Cole, the assertion made
9 by Lt. Colonel Horstman that 70 of the 150 accident
10 reports that he had reviewed were caused by pilot
11 error. Would you agree with that assertion?

12 GENERAL COLE: I think not when we have
13 roughly half of the class A mishaps that were caused
14 by engine failures. You have the other half
15 remaining.

16 MR. GAUKLER: I think we agree that most
17 in the engine category would not be caused by pilot
18 error.

19 GENERAL COLE: That's correct.

20 MR. GAUKLER: And is it true that if the
21 accident board concludes that an accident was caused
22 by a pilot error it would be reflected in the accident
23 reports that we've been reviewing?

24 GENERAL COLE: That's correct. In the Air
25 Force Instruction 51503 reports they document the

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1 pilot's performance and there's also an option to put
2 in a statement of opinion as far as cause by board
3 president.

4 MR. GAUKLER: Colonel Fly, there was some
5 discussion in terms of at 2,000 feet you would be
6 approximately 2,000 feet altitude AGL three miles from
7 the PFSF when you decided to eject or say at 4,000
8 feet you'd be at some greater distance maybe 5 or 6
9 miles. Based on your understanding of the nature of
10 PFSF, would you see any problem with the pilot being
11 able to recognize PFSF at that distance or greater
12 distance particularly since you would be flying there
13 on a regular basis presumably?

14 MR. SOPER: I object to the form of the
15 question. I totally lost it. Objection not only goes
16 to form but I think it mischaracterizes the previous
17 testimony as being three miles all the way up to 2,000
18 feet.

19 MR. GAUKLER: Approximately three miles
20 away at 2,000.

21 CHAIRMAN FARRAR: Mr. Gaukler, can you
22 restate either as a hypothetical or maybe in less
23 compound fashion?

24 MR. GAUKLER: First of all, what do you
25 recall the testimony being in terms of how far the

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1 plane would travel at 2,000 feet AGL if the pilot
2 ejected at that point? Approximately 3.2 miles, is
3 that correct?

4 COLONEL FLY: I thought that was right.
5 Three and a half, three and a quarter. I can
6 recalculate it real quickly.

7 MR. GAUKLER: That's your recollection,
8 correct?

9 COLONEL FLY: Yes. Something like that.

10 MR. GAUKLER: Assuming that's correct, do
11 you see any problem with the pilot being able to
12 recognize PFSF at three miles, five miles, six miles
13 distance for example?

14 COLONEL FLY: No, I don't with the
15 dominant weather conditions in Utah and the excellent
16 visibility that has been submitted as part of the
17 proposal. Well over 90 percent of the time, you have
18 seven miles plus visibility. A structure such as PFSF
19 should show up. I'm not a photogramist so I can't
20 give you an exact number.

21 But under the typical conditions that you
22 find in Skull Valley and other places in the west it's
23 not uncommon to see ranch houses at five miles, single
24 buildings. So I would think that something with 90,
25 95 feet of vertical development and the pads covering

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1 I think 99 acres or 1500 by 1200 feet somewhere in
2 that neighborhood I would think that it would be
3 pretty simple to see something that size with the
4 predominant weather conditions in excess of five
5 miles.

6 MR. GAUKLER: Your Honor, I think that's
7 all I have. We had that one question which we were
8 going to take a short break for. I may want to take
9 a short break just to confer with my colleagues to
10 make sure I have nothing else but I do not think I do.

11 CHAIRMAN FARRAR: How long do you need?

12 MR. GAUKLER: About five minutes.

13 CHAIRMAN FARRAR: It's 12:46 p.m. Let's
14 be back at 12:55 p.m. Everyone can take what may be
15 their last bathroom break until the end. So we will
16 be back at 12:55 p.m. Off the record.

17 (Whereupon, the foregoing matter went off
18 the record at 12:47 p.m. and went back on
19 the record at 12:56 p.m.)

20 CHAIRMAN FARRAR: On the record. Mr.
21 Barnett.

22 MR. BARNETT: I'll take the last here,
23 Your Honor.

24 CHAIRMAN FARRAR: It's now 12:56 p.m. and
25 we're moving right along. Go ahead, Mr. Barnett.

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1 MR. BARNETT: Colonel Fly, do you recall
2 that yesterday Lt. Colonel Horstman talked about a
3 hypothetical situation where he would be flying at
4 4,000 feet above ground and if he suffered an engine
5 failure he would zoom up to approximately 8,000 feet
6 above ground. He said the clouds up to an altitude of
7 8,000 feet would be relevant for determining the
8 effect of weather of whether a pilot could see a site
9 on the ground. Do you know how much cloud coverage
10 there is in the Skull Valley area below 4,000 feet
11 AGL?

12 COLONEL FLY: Yes, using that same data
13 sheet that we used on Monday, I counted 18 occurrences
14 of weather below 4,000 feet. That means that it's 90
15 out of 108 there's no weather which is approximately
16 83 percent of the time.

17 MR. BARNETT: And when you say "no
18 weather" you mean no clouds?

19 COLONEL FLY: There were no clouds.

20 MR. BARNETT: Now what about 8,000 feet?
21 Did you do the same thing for that?

22 COLONEL FLY: Yes, I counted 38
23 occurrences of clouds reported at or below 8,000 for
24 approximately 65 percent of the time, no clouds.

25 MR. BARNETT: That's all I have, Your

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1 Honor.

2 CHAIRMAN FARRAR: Thank you, Mr. Barnett.
3 Does that concludes the Applicant's direct examination
4 of its rebuttal witnesses?

5 MR. GAUKLER: Yes, it does. I would like
6 to do two things. One I move for the admission of PFS
7 Exhibit 246. Second I missed one of the accident
8 reports from State Exhibit 223 where the State said it
9 was controllable and PFS set forth opposition in the
10 question and answer of the pretrial testimony that is
11 number 20 on State Exhibit 223. I've set forth
12 opposition on that report at question 106.

13 CHAIRMAN FARRAR: All right. Thank you.
14 Any objection to the admission of PFS Exhibit 246?

15 MS. MARCO: No objection from the Staff.

16 MR. SOPER: Well, the State objects in
17 that this is the version is for blocks 25, 30 and 32
18 which is our understanding are not the planes that fly
19 at Hill Air Force Base. Other than that we have no
20 objection that it appropriates what it purports to be.
21 It's the manual that indicates what it is on the
22 front.

23 MR. GAUKLER: I checked the words we
24 referred to in General Cole's statement. They were
25 the same. We can further check and make sure we're

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1 consistent. So that's probably how it's going to work
2 out. Just hold off.

3 CHAIRMAN FARRAR: All right. What we will
4 do is recognizing all the background and history
5 that's been discussed this morning we will admit this
6 document. If over the State's objection that it's the
7 wrong one if that proves to be significant later in
8 the case we will deal with that in separate collateral
9 proceeding to straighten things out.

10 (The document referred to having
11 previously been marked for identification
12 as PFS Exhibit 246, was received into
13 evidence.)

14 MR. TURK: Your Honor, could we suggest
15 that since the State is among the three parties that
16 is the only one that has a manual, perhaps over the
17 lunch break we can just copy those pages. Issue that
18 as an additional exhibit and then there is no question
19 about what the document would show for blocks a and b.

20 CHAIRMAN FARRAR: Right but this is
21 document that the panel has been testifying from so it
22 has some value from that point of view.

23 MR. GAUKLER: I would suggest that the
24 State make a copy and from that we can just make sure
25 there is no problem with this document or anything

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1 else that may have been introduced. Make a copy of
2 the entire Dash-one for us. We will just confirm
3 there is no problems across the board.

4 CHAIRMAN FARRAR: Or why don't we do the
5 same thing pages and have a stipulation that the State
6 will submit after the close of the proceeding.

7 MR. SOPER: We'll be happy to do that,
8 Your Honor, furnish a copy of it.

9 CHAIRMAN FARRAR: Furnish a copy of the
10 other one, their version that they've been working
11 with will be in the record and your version will be in
12 the record. Can I have everyone's agreement that they
13 will submit that and then it will be considered part
14 of the evidence in the case?

15 MR. SOPER: The State agrees.

16 MR. GAUKLER: You'll make us a copy of the
17 whole document?

18 MR. SOPER: Yes, I guess we would just
19 submit the whole thing rather than select pages. I
20 hate to burden the record with it.

21 CHAIRMAN FARRAR: Could we have agreement
22 that this will be worked out and we will have in front
23 of us what the State has been working from?

24 MR. GAUKLER: And we'll make sure that
25 things are consistent.

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1 CHAIRMAN FARRAR: I don't care if they're
2 consistent. All I want is I want both of them in the
3 record.

4 MR. TURK: I would say that there's no
5 need to have the entire Dash-one manual. It's a thick
6 manual. We're only looking at these pages that are
7 corresponding pages from the AB block version.

8 CHAIRMAN FARRAR: Right. Let's do that.
9 Thank you.

10 COLONEL FLY: Your Honor, just a point of
11 clarification. They are all C and D models. It's
12 just different blocks within the CD frame.

13 MR. TURK: Then I misspoke about the
14 State's representation of what the correct one is.

15 CHAIRMAN FARRAR: All right. Did that
16 complete housekeeping matters, Mr. Gaukler?

17 MR. GAUKLER: Yes.

18 CHAIRMAN FARRAR: Does Staff have any
19 cross examination?

20 MR. TURK: Very limited on the question of
21 visibility.

22 CHAIRMAN FARRAR: Go ahead.

23 MR. TURK: This question will go to
24 Colonel Fly. Do you have a copy of Staff Exhibit 65
25 in front of you?

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1 COLONEL FLY: No, I don't. Sorry.

2 CHAIRMAN FARRAR: Mr. Turk, while we're
3 getting that let me ask Mr. Sober how much time after
4 the Staff finishes will you need for cross of this
5 panel?

6 MR. SOPER: Fifteen minutes.

7 CHAIRMAN FARRAR: And then do you plan to
8 put on Lt. Colonel Horstman for further converging or
9 rebuttal?

10 MR. SOPER: I'm not sure we've decided yet
11 but maybe not.

12 CHAIRMAN FARRAR: Mr. Turk, how long do
13 you think you'll need?

14 MR. TURK: Three minutes.

15 CHAIRMAN FARRAR: Excellent. Thank you.

16 CROSS EXAMINATION

17 MR. TURK: If you have that could you turn
18 to page 171 which is the page that has the photograph
19 of the heads-up display with the city view behind it?

20 COLONEL FLY: I have it.

21 MR. TURK: Could you provide your opinion
22 as to whether the photograph at the top of page 171 is
23 consistent with your recollection of what a pilot
24 might view if he were approaching that designation
25 looking through and around the heads-up display?

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1 COLONEL FLY: I'm sorry. Did you say do
2 or view?

3 MR. TURK: View. In other words, do you
4 think that's a fairly accurate representation of what
5 a pilot would see?

6 COLONEL FLY: I believe that's a pretty
7 accurate representation of what I would expect to see
8 and if you'll spot me there because I haven't been in
9 an airplane in a little over four years.

10 MR. TURK: And in fact the pilot would
11 even have a broader range of vision than what is shown
12 there because he could look to each side and around
13 him and throughout the horizontal plane to see greater
14 distances to the side?

15 COLONEL FLY: Yes.

16 MR. TURK: What actions could a pilot do
17 to increase his visibility of the ground before him if
18 for instances the nose was in position to block his
19 view of what's directly in front of him? What other
20 actions could a pilot take?

21 COLONEL FLY: If he wanted to look
22 directly in front of him things he could do he could
23 turn one way or the other to offset the nose, he could
24 roll up on a wing and typically what I would do that
25 to look underneath me I would put the nose up a couple

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1 of degrees, roll the airplane in a 90 degrees in bank
2 and step on the top rudder to keep the nose from
3 falling too fast, take a look and then roll back out.

4 MR. TURK: Could there be less intensive
5 measures like just roll a little bit in order to
6 increase visibility?

7 COLONEL FLY: Yes. You can just going
8 into a bank and as one wing goes down that will
9 increase that will increase your downward visibility,
10 the angle down there how much you can get underneath
11 you more closely directing underneath you. There has
12 to be a better way to say this.

13 MR. TURK: If the pilot was faced with
14 engine failure and engine failure had occurred, he was
15 descending and in that emergency condition could he
16 also increase his visibility by either turning the
17 nose to one side or the other or banking slightly?

18 COLONEL FLY: Yes, he could do that.

19 MR. TURK: Thank you. That's all I have,
20 Your Honor.

21 CHAIRMAN FARRAR: Either of the last two
22 things you described, how time consuming and/or
23 distracting are those two maneuvers in an emergency
24 situation?

25 COLONEL FLY: I personally would not

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1 consider those time consuming or necessarily
2 distractive if I needed to know what was beneath me I
3 would take a look.

4 JUDGE KLINE: Is this something pilots
5 routinely do? I mean when they have an emergency do
6 they start doing rolls and start looking at the ground
7 and that sort of thing? I mean, what they do in fact.

8 COLONEL FLY: Well, no. I think pilots
9 attempt to gain a good understanding of where they are
10 and what's around them, Your Honor. If I was going to
11 jettison ordinance, I might roll up or say jettison
12 tanks because they have a different ballistic profile
13 then other things. I might roll up really quickly
14 just to make sure there was nothing below me before I
15 let those go.

16 In the case of the flame out landing as I
17 attempted to illustrate, I would expect to be able to
18 see where the airplane was going to hit. So if all I
19 was worried about was the airplane impact point if I'm
20 coming in this descending glide, I would hopefully, I
21 should be able to see the predicted impact point as
22 well as the area short of it.

23 JUDGE LAM: It may be a good practice
24 before you do the ejection too, Colonel Fly, just to
25 know where you are going. Isn't it?

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1 COLONEL FLY: Your Honor, I would say that
2 I would consider that I might do that. I would
3 hopefully be monitoring this whole thing as the
4 situation progresses. So hopefully I would be aware
5 enough of where I am and what's underneath me that it
6 would not be necessary at the last moment prior to
7 ejection.

8 CHAIRMAN FARRAR: Things are looking
9 better than they were an hour and a half ago. It's
10 1:08 p.m. and projections are we're going to make it.
11 I commend everybody. I will not indicate or concede
12 how much of what I did was real and how much was
13 feigned. But thank you for your cooperation in
14 getting us to this point. Mr. Soper, you may proceed.
15 Are you prepared or do you need a short break?

16 MR. SOPER: No. Thank you, Your Honor.
17 I'll go ahead.

18 CROSS EXAMINATION

19 BY MR. SOPER:

20 Q Colonel Fly, you say you could see a ranch
21 house from five miles away.

22 A I believe what I said is I have seen ranch
23 houses from five miles.

24 Q Is a ranch house the same size as an
25 ordinary size that we think of as being in our

1 neighborhood?

2 A All I know is they're just ranch houses.
3 They're out there. I'm not sure of they're footprint.

4 Q Are you talking about the fields and
5 fenced in areas, maybe a grazing area or cattle area
6 or just the house when you said that?

7 A I have seen ranch houses at five miles.

8 Q Okay. That's a dwelling house where
9 people live.

10 A That's certainly what it appeared to be
11 from the air.

12 Q I'm just thinking of a distance of five
13 miles and what a house would look like from five miles
14 away if I were standing on the ground. It wouldn't be
15 any bigger then when I would see a house five miles
16 away. When you're in an airplane and you see a house
17 five miles away, it would be just as small. Wouldn't
18 it?

19 A I would offer that a structure at five
20 miles will appear the same whether your on the ground
21 or in an airplane.

22 Q That seems to me in my own every day
23 experience, that's a pretty tiny house at five miles
24 away. Is it not?

25 A I was asked a question. I mean, I didn't

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1 say it was huge. I have seen ranch houses at five
2 miles, yes.

3 Q Is it just a spot on the horizon at that
4 point?

5 A It's distinguishable. I mean, I'm not
6 exactly sure. It's been a few years since I've done
7 this but I can remember looking out and saying there's
8 that ranch house.

9 Q I suppose you could see the PFS site from
10 five miles away then.

11 A I testified that I would expect to be able
12 to see the PFSF.

13 Q And the Goshute Village.

14 A I would expect to be able to see
15 structures at five miles in the current or the
16 dominant viability in Skull Valley.

17 Q You could see the Tekoi Rocket Range at
18 five miles too I take it.

19 A I would expect that. I've seen structures
20 at five miles, yes.

21 Q So then if you were to make your decision
22 to eject at that point, you would have to aim and
23 choose among them at that distance. Is that right?

24 A I'm not sure I understand the question.

25 Q Well, if you're five miles away from these

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1 structures and you eject, you would want to try to
2 avoid more than just the PFS site. Would you not?

3 A At the time of ejection, I would want to
4 avoid the aircraft impacting a structure on the
5 ground. I would aim the airplane in an open area.

6 Q So you'd hunt for an area where you didn't
7 see any of these structures that we pointed out. You
8 would pick something other than all these areas that
9 we've named.

10 MR. SILBERG: Excuse me. Are we assuming
11 that the Tekoi Facility is one of these structures?
12 That's not an operational facility.

13 MR. SOPER: Why does that matter?

14 MR. SILBERG: Because there's nobody and
15 nothing there.

16 BY MR. SOPER:

17 Q Does a pilot if anybody's home in a house
18 does make any difference? Do you try to avoid it,
19 Colonel Fly?

20 A Which question would you like me to
21 respond to?

22 Q Just mine.

23 A There are two open questions.

24 CHAIRMAN FARRAR: The objection to the
25 previous, first one is overruled. So you may answer

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1 that one and then the second one in whichever order
2 you'd like.

3 BY MR. SOPER:

4 Q I'll ask it again. If you see a ranch, do
5 you wonder if there's anybody home before you try to
6 avoid it?

7 A No. I would attempt to avoid a structure
8 on the ground.

9 Q Okay. So the Tekoi Rocket Range, if that
10 happens to be operating that day, does that make any
11 difference to a pilot?

12 A I don't know why it would. If it's a
13 facility on the ground, it appears to him as a
14 facility on the ground.

15 Q All right. That's fine. On the Colonel
16 Bernard training video, the first part of that video
17 shows air-to-air combat training. Is that right?

18 A Well, yes. It's Colonel Bernard after he
19 has come off the target and as he described it he was
20 going back to rendezvous with other strikers to
21 provide air support.

22 Q This is training. It's not a real war.
23 Right? It's a mock set up to train.

24 A Yes. There's nobody actually shooting.
25 The airplanes are not shooting each other.

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1 Q The correct thing for a pilot to do I
2 think you said upon realizing that he's suffered an
3 engine failure is to call a "knock it off." Is that
4 right?

5 A I would agree. He should have terminated
6 and knocked it off all aggressive maneuver once he
7 realized he had an engine problem.

8 Q And when you say "knock it off" that is
9 the phrase that pilots would use to end the training
10 mission due to an emergency. Is that right?

11 A Yes.

12 Q Then as a result, all the other pilots
13 would simply stand down so to speak.

14 A Yes. If the phrase "knock it off" is
15 transmitted in a major exercise like that, it would be
16 retransmitted on any other frequencies that other
17 aircraft are using that are part of the battle if you
18 will because they're not all necessarily on the same
19 frequency. So the ground controllers and those that
20 do have, there was an AWACS also that have all the
21 different frequencies up once they've heard it, they
22 would rebroadcast the "knock it off" transmission to
23 the other flights. Everybody should acknowledge it
24 and they should cease the war basically.

25 Q But Colonel Bernard didn't do that right

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1 away like he should have in this particular case. Is
2 that true?

3 A No. He did not.

4 Q At some point however the training mission
5 was disengaged. He no longer was doing any shooting
6 down aircraft or any of the training mission. He
7 became simply a pilot without an engine. Isn't that
8 right?

9 A I'm not sure that I understand the
10 question.

11 Q Let me ask it again. At some point the
12 training exercise as far as the combat training was
13 over for Colonel Bernard. Right?

14 A Yes. I'm sorry. I misunderstood. He did
15 in fact at some point cease worrying about the war and
16 started worrying about his airplane.

17 Q Okay. Now, from that point on, his
18 circumstances would not be any different from any
19 other pilot who's experienced an engine failure and
20 finds himself at that altitude without an engine.
21 Wouldn't that be correct?

22 A Yes.

23 Q Is there anything about having just been
24 in a training exercise that would render the pilot
25 incapable there after of dealing with an engine

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1 emergency? Would that be too much for a pilot to
2 handle?

3 A At the point in time after he's done all
4 that other aggressive maneuvering and he says wait a
5 minute I have a real problem here, I need to take care
6 of my engine, it would be the same if you took any
7 other pilot and said okay at this moment in time here
8 are your conditions.

9 Q You noticed in the Bernard video that
10 there were clouds, not completely overcast, in and
11 out. Is that right?

12 A Yes. There were clouds.

13 Q I think that you indicated that you would
14 classify this accident had you done so under the rules
15 that you did the other accidents as an "able to avoid"
16 accident. Is that correct?

17 A Yes. If you had taken Colonel Bernard and
18 put him in a typical Skull Valley position and he had
19 the same engine problem, he would have wound up with
20 much more time to analyze the situation and to act
21 accordingly.

22 Q What about the weather? Wouldn't that
23 have affected him if he had that weather in Skull
24 Valley?

25 A If he would have had the same weather

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1 conditions in Skull Valley, it would have had the same
2 impact in terms of what he could or could not see with
3 respect to the ground, yes.

4 Q And at some points you couldn't see the
5 ground at all. Is that right?

6 A At some points you could not see the
7 ground. That's correct.

8 MR. SOPER: That's all we have, Your
9 Honor. Thank you. I have a house keeping item.

10 CHAIRMAN FARRAR: Go ahead

11 MR. GAUKLER: And we have a follow up
12 question. Go ahead with your house keeping.

13 MR. SOPER: Excuse me. Do you want to do
14 that first?

15 CHAIRMAN FARRAR: No. Let's do the
16 housekeeping.

17 MR. SOPER: We've offered State 222 which
18 is the aerial photo. I'd like to re-offer that at
19 this time. In addition, we've offered State 151, 152,
20 153, 154, and 157. If not, we offer them now.

21 MR. SOPER: Could you summarize what those
22 are please?

23 MR. SOPER: Should I do that, Your Honor?

24 CHAIRMAN FARRAR: Yes. First let's --

25 MR. GAUKLER: I thought we were going to

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1 hold this off until a conference call.

2 CHAIRMAN FARRAR: Yes. Are these old
3 exhibits?

4 MR. SOPER: Yes. All except for the
5 aerial photo. It's the only current one.

6 CHAIRMAN FARRAR: Why don't we hold the
7 old ones? Otherwise we'll have to remember what they
8 are and whether there are objections. It will take.
9 Just quickly tell me what they were.

10 MR. SOPER: Well, I think the one that had
11 been an issue is an article from Air Force Flying
12 Magazine.

13 CHAIRMAN FARRAR: Right. I remember.

14 MR. SOPER: I would just like to suggest
15 that since that's an official publication of the Air
16 Force Department of Safety. The objection was that
17 maybe there were some parts of the article that
18 weren't relevant in that there is a reference to other
19 types of planes. I would say that now that we have
20 Staff Exhibit 65 which has all kinds of airplanes and
21 all kinds of different pages of different subject
22 matter that we ought to be able to sort out an
23 official Air Force article as to anything that's not
24 relevant if that's the objection because I'm not
25 worried about burdening the record because we would

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1 just be scratching out with a marker my understanding
2 is a paragraph here or there and the record is going
3 to be the same length.

4 CHAIRMAN FARRAR: Since you've made the
5 objection, the argument against it, why don't you just
6 make the ruling?

7 MR. SOPER: As a result, that exhibit is
8 hereby admitted.

9 (Laughter.)

10 CHAIRMAN FARRAR: Let's do this. Let's
11 hold the housekeeping on all those. If we have time
12 when we finish, we'll try to deal with them or at
13 least see which are the controversial ones. But
14 rather than try to get all of our thinking up to
15 speed, let's deal with other issues. Mr. Gaukler, you
16 said you had a question or two.

17 MR. GAUKLER: Yes. I have a question.

18 CHAIRMAN FARRAR: Go ahead. Wait a
19 minute.

20 (Judges confer.)

21 CHAIRMAN FARRAR: Before you do that, Mr.
22 Gaukler, Judge Lam has a question.

23 JUDGE LAM: General Jefferson, General
24 Cole and Colonel Fly, the record before us in addition
25 to what you gentlemen have testified also indicates

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1 there's this element for us to consider. We had a
2 well trained Air Force pilot who happened to just lose
3 his engine. You're dealing with a pilot who perhaps
4 is preoccupied with restarting the engine and saving
5 the aircraft. Crashing a \$40 million F-16 perhaps
6 would be very damaging to his career if not a career
7 ending move.

8 So we're now dealing with the scenario
9 that the pilot is preoccupied with restarting because
10 if he's restarting the engine and he is successful the
11 crisis is over. With that preoccupation there may be
12 a tendency for him to spend precious time in that
13 particular maneuver. Then by the time he realized he
14 would not be successful, he had very little time to do
15 his ejection to save his own life.

16 With that scenario then avoiding a ground
17 target would not be a priority for him. Now, I would
18 like to hear your expert opinion on this scenario.
19 Where is the strength and the weaknesses in this
20 argument?

21 GENERAL JEFFERSON: Well, he's a well
22 trained pilot. Maybe Ron should start this with the
23 F-16 background. But he's a well trained pilot as you
24 postulated. He has an engine problem that he's
25 preoccupied with.

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1 JUDGE LAM: And justifiably so.

2 GENERAL JEFFERSON: Yes. Part of his
3 training though and we heard from Colonel Cosby (PH)
4 earlier though was that these pilots are very adept at
5 multi-tasking. They can keep two or three things
6 going at the same time. One of which is aircraft
7 control. One of them is starting the engine or trying
8 to start it. One is keeping track of what is going on
9 around him and what his altitude is and what's in
10 front of him, those things.

11 So he will not go down and suddenly say I
12 have to eject, what altitude am I at and is there
13 anything out there in front. He'll be doing all this
14 simultaneously as he's working on his problem. That's
15 the way I would see it happening.

16 CHAIRMAN FARRAR: Before the others
17 answer, is that what Colonel Bernard did?

18 GENERAL JEFFERSON: Once he focused on the
19 engine, yes. He was watching. He said I see the
20 clouds coming up, I was thinking I was going to get
21 out before that. But then he went on down into it.
22 He knew he was over not the tundra but north Canada
23 woods and there was not anything down there to be
24 concerned about as far as dropping the airplane.

25 CHAIRMAN FARRAR: Well, even if he had

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1 seen something down there that he was concerned about,
2 he ejected at how many feet?

3 GENERAL JEFFERSON: It was pretty low, 150
4 I think or something like that.

5 JUDGE LAM: General Cole, do you have any
6 comments?

7 GENERAL COLE: Yes, Judge Lam. I concur
8 with General Jefferson's assessment. The multi-
9 tasking is something you're trained to do. Aircraft
10 knowledge is something you're trained to do.
11 Something else you have to learn to do is learn your
12 own limits. There's no purpose here to critique the
13 Bernard tape. But that was shown as a teaching device
14 for a lot of reasons as far as task saturation,
15 distraction, know your altitude.

16 You'll recall that Colonel Bernard said at
17 1000 feet I was going in the clouds, that's the time
18 I should have decided to eject. You may recall that.
19 So all those teaching devices are there to save other
20 pilots. I agree with that.

21 One thing I'd like to follow, sir, is your
22 comment about is ejection a career ending move. Not
23 so, sir. You could conceivably be subject to some
24 criticism if you made procedural errors in handling an
25 emergency or your decision process. But that's why

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1 you have accident investigation boards. So my
2 personal and professional view is that's not something
3 that's hanging over the pilot's head.

4 JUDGE LAM: That's good to hear. So the
5 Air Force is perhaps more forgiving than I postulated.

6 (Laughter.)

7 JUDGE LAM: Colonel Fly?

8 COLONEL FLY: Your Honor, I would
9 basically agree with that. It is multi-tasking. It
10 is also shifting of emphasis. Early on in the
11 emergency maybe you're worried about the zoom
12 maneuver, the this, the that. As the relight either
13 happens or does not happen as you start to approach
14 the ground, you start thinking more and more about the
15 possibility of ejecting and less and less about trying
16 to get the engine restarted.

17 So it's a changing sense as well I would
18 offer. In the terms of Colonel Bernard, maybe he was
19 just a little late getting out of the war mode and
20 starting to really work his engine problem instead of
21 worrying about break calls and aggressors and all
22 these other things that were going on. Once he
23 realized he had what he initially thought was just an
24 after-burner problem, he probably at that point should
25 have terminated any thoughts of continuing the mock

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1 war and figuring out what's wrong with my engine and
2 let's fix this or let's not fix this and eject.

3 JUDGE LAM: Thank you for your comments
4 gentlemen.

5 JUDGE KLINE: Judge Lam's question is sort
6 of the opposite side of the coin than the question I
7 was asking Colonel Horstman. It had as it's premise
8 that in the actual Skull Valley situation the
9 mountains are there as an always available reference
10 point. That is you always know they're there
11 somewhere.

12 Therefore, if in the final extremity when
13 all options are exhausted, you know the aircraft is
14 doomed, and opportunity for analysis has been
15 exhausted, can't you gain an additional margin of
16 safety generically by just saying all right as my last
17 available act I'll dump the thing in the mountains?
18 Therefore, you don't need any precision guidance.
19 It's too late for that anyway.

20 So I'm asking the question that Dr. Lam
21 asked but in the context of the final extremity. We
22 need your assessment not only if it's available but is
23 this something that pilots would think of? Is this
24 something that we could in any way rely on? So I'll
25 just let you tackle that one.

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1 COLONEL FLY: Your Honor, I would think
2 that at that last moment the pilot is going to do
3 whatever he can to avoid whatever. If that means that
4 pointing it at the mountain is his best option, that's
5 exactly what he would do.

6 JUDGE KLINE: Well, I didn't imply that he
7 has to hit the mountain.

8 COLONEL FLY: No.

9 JUDGE KLINE: That he just uses them as a
10 steer point.

11 COLONEL FLY: As a steer point.

12 JUDGE KLINE: Easily available steer point
13 that he knows is out there somewhere.

14 COLONEL FLY: Yes, sir.

15 JUDGE KLINE: And that he knows is
16 opposite from the PFS site.

17 COLONEL FLY: That's right. That all goes
18 into that situation of awareness that we've talked
19 about.

20 JUDGE KLINE: Yes.

21 COLONEL FLY: You're going to use whatever
22 is available for you to try to avoid hitting anything.

23 JUDGE KLINE: We can presume that even
24 when time for analysis is lost that there's at least
25 some last remaining thing somebody can do. Would you

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1 agree to that? Is it likely or are we just talking
2 hypothetically?

3 COLONEL FLY: Well, Your Honor, I would
4 perhaps offer that we saw many cases where these guys
5 were staying with the airplane below that 2000 feet
6 for exactly that reason, to try to give it that one
7 last shot. I'm not going to get this engine started.
8 Let me make sure I don't hurt somebody.

9 JUDGE KLINE: When say just making a very
10 small left turn, is this a big time consuming thing
11 for which we'd hesitate to have him do?

12 COLONEL FLY: No, Your Honor. In most
13 cases a small turn is just a --

14 JUDGE KLINE: I mean, it wouldn't have to
15 be 90 degrees. Would it?

16 COLONEL FLY: No.

17 JUDGE KLINE: If our goal is not to hit
18 the mountains, just use them as a steering reference.

19 COLONEL FLY: Right.

20 JUDGE KLINE: Okay. Thank you.

21 CHAIRMAN FARRAR: As we talk about this
22 concept among ourselves of hitting the mountain, I had
23 in mind I'm headed to the PFS site. I'm a couple
24 miles short of it. I'm in trouble. So I head for the
25 Stansbury. The last thing I do is head for the

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1 Stansbury Mountains. Now I'm going to miss the PFS
2 site. So that sounds like a good thing. But then I
3 might hit the Pony Express store with the lunch crowd
4 in the Indian Village. Right?

5 COLONEL FLY: Yes, sir. Assuming that I
6 have no idea of where the airplane is going that would
7 be true. In the case of the predominant weather out
8 there, you have a pretty good idea of where the
9 airplane is going. I believe that with the dominant
10 visibility and the weather patterns out there you're
11 going to know as you approach that ejection point
12 what's out in front of you.

13 CHAIRMAN FARRAR: What I'm thinking is
14 just taking Judge Kline's question a step further.
15 Sometimes heading for the mountain, it allows me to
16 avoid one thing. In other words, if I'm headed right
17 for the PFS site and I make the little bit of a left
18 turn that you talked about, now I know for sure that
19 with very little effort I've missed the PFS site. But
20 now I might get the Pony Express store. We don't have
21 just one facility in the valley.

22 GENERAL JEFFERSON: I think we've seen
23 that a lot in the accident reports where the pilots
24 split the difference. There's three miles or
25 something between the site and the village. There's

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1 plenty of desert out there to aim at. If you go back
2 to your proposition that it's headed right at the
3 site, it could easily turn to the west which there's
4 much less out there than there is to the east.

5 CHAIRMAN FARRAR: Okay. Mr. Gaukler, it
6 was your turn when we started asking our questions.

7 MR. GAUKLER: I just have a couple of
8 follow up questions.

9 REDIRECT EXAMINATION

10 BY MR. GAUKLER:

11 Q First of all we were talking about a pilot
12 taking time and trying to restart his engine. Would
13 the actual procedures of steps that a pilot would take
14 in attempt to restart the engine take up all the
15 available time that may be between the time of the
16 accident initiates and before he reached the ejection
17 point?

18 A The short answer is no. There's
19 conceivably a case where you could do that, but that
20 would be at a very low energy state. With typical
21 flight conditions in Skull Valley, you will run
22 through the initial series of steps and then somewhere
23 in that glide downhill, you're waiting for the engine
24 to spool up. You've done what you can do and now
25 you're waiting for the engine to hopefully relight,

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1 see signs of life, and come back to help.

2 Q There's some period of time once you go
3 through the procedures before the engine restarts.
4 Right?

5 A Yes. And even once you get initial
6 indications as I believe we talked out in Salt Lake
7 City about, the engine is not like a car engine which
8 is on, you hit the gas and you have 100 percent. It
9 takes a while for it to spool up.

10 Q So there's some lapse of time between the
11 time you get done with the restart procedures before
12 you would reach the ejection point at least as a
13 typical matter.

14 A Yes.

15 Q There was some reference both in the
16 Board's questions and the questions from Mr. Soper
17 with respect to Captain Bernard's situation. I think
18 you said something to the effect that Captain
19 Bernard's situation would be no different than
20 somebody in Skull Valley under the precise same
21 conditions, i.e., the same altitude, the speed, et
22 cetera. But assuming that Captain Bernard was flying
23 in Skull Valley, would you expect him to be in the
24 conditions that you saw in the video?

25 A No. Absolutely not.

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1 Q Why would that be?

2 A Well, as I told Mr. Barnett, the whole
3 scenario is different. Typically you're transitioning
4 with two or four airplanes. It's the entryway to the
5 range. You're doing the administrative things and the
6 G awareness that we've all discussed and talked about
7 previously as you transit Skull Valley. He was in the
8 middle of a big war with at least six different types
9 of airplanes. It's a simulated war.

10 Q Simulated war, yes. I take it he really
11 didn't start focusing on his problem until he was
12 somewhere relatively low in altitude. Correct?

13 A Yes. That's correct.

14 Q Finally, you had some questions about
15 multiple facilities or structures in Skull Valley; the
16 Tekoi Rocket Facility, the Goshute Ranch, PFS. There
17 was the suggestion that there would be some problem in
18 trying to avoid any or all these facilities. In other
19 words, if you try to avoid one, you might hit another.
20 Do you see that being a problem in terms of a pilot
21 flying down Skull Valley?

22 A When we're talking about Skull Valley I
23 would say that no that is generally not a problem
24 because the density is so low that there is generally
25 a significant amount of space in between one structure

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1 and the next. You're often times talking in terms of
2 miles.

3 Q And for example, like your answers to
4 Judge Kline -- General Jefferson pointed out that if
5 you're flying right at the PFSF and something happened
6 you just would turn to the right to the open desert.
7 Correct?

8 A Yes.

9 Q There's also some discussion with respect
10 to visibility of a ranch house from five miles.
11 You've mentioned something to the effect that you
12 would expect the actual being able to see it to be the
13 same on the ground or in the air. One advantage you
14 do have in the air assuming you know the weather or
15 clouds is the restricted line of sight. Correct?

16 A Yes. I failed to account for the line of
17 sight differences and the curvature of the earth. But
18 that's correct.

19 Q A lot of times that's what restricts the
20 sight on the ground. Correct?

21 A Yes it is.

22 Q Isn't it true that Air Force pilots have
23 very good vision?

24 A Not quite as good as it used to be.

25 (Laughter.)

1 A I think they do. Former Air Force pilots
2 aren't quite what they used to be.

3 MR. GAUKLER: That's it.

4 CHAIRMAN FARRAR: Staff have any recross?

5 MR. TURK: One quick question.

6 RE CROSS EXAMINATION

7 BY MR. TURK:

8 Q The Bernard video. You just mentioned in
9 response to Mr. Gaukler and you mentioned earlier in
10 response to questions by Mr. Soper that there are
11 other aircraft involved in that mock war. Do we have
12 some estimate of the number of aircraft that were
13 actually involved in that?

14 A I cannot give you an aircraft count. He
15 did specifically mention the F-5, CF-5, F-15s, F-18s
16 and maybe A-7s.

17 Q It was a large scale exercise.

18 A Yes.

19 Q With many more planes than would be
20 present during normal two or four ship formation
21 flights through Skull Valley.

22 A Yes.

23 Q Would that have also been a factor in the
24 sense that he might have needed to avoid other
25 aircraft or be sure that other aircraft were not about

1 to hit him?

2 A If you were to look at his traffic -- The
3 short answer is yes. He talks about finding some of
4 these other airplanes and shooting them. He talks
5 later on about getting back to his altitude block.
6 That's a way to hopefully deconflict you from others
7 in terms of altitude so that you may not see the other
8 guy but you're at different altitudes so you pass
9 underneath each other or over and under, those types
10 of things.

11 MR. TURK: Thank you. That's all.

12 CHAIRMAN FARRAR: Thank you, Mr. Turk.
13 Mr. Soper.

14 RE CROSS EXAMINATION

15 BY MR. SOPER:

16 Q General Jefferson, you talked about
17 pointing west as a good direction because there's less
18 out there I think you said.

19 A Yes.

20 MR. GAUKLER: That was in the context of
21 being directly pointed at the PFSF.

22 CHAIRMAN FARRAR: Mr. Gaukler, you had
23 your turn.

24 MR. GAUKLER: I'm sorry.

25 BY MR. SOPER:

1 Q That would be away from the Stansburys
2 which would be to the east. Is that right?

3 A That's correct.

4 Q If you were to point west depending if you
5 were close to the Stansburys when you did that, you
6 might in fact also be pointing at some other
7 structure.

8 A If you were close to the Stansburys, but
9 the case I was answering was if you're pointed
10 directly at the PFSF that would be an option for you.

11 Q Depending on how far away from the
12 Stansburys you were.

13 A Sure. As you're coming down in the
14 typical flight if you're in that corridor that line is
15 lining up on the --

16 Q My point, sir, is this. Regardless if you
17 point east or west, you may also be pointing at some
18 other ground site in doing that. In other words,
19 automatically pointing east or west does not guarantee
20 a clear flight path for the impact of the aircraft.
21 Does it?

22 A I don't think you'd ever want to put it as
23 an automatic thing.

24 Q What it boils down to is you really need
25 to be able to see what you're going to hit and pick an

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1 alternate site where you won't hit anything. Isn't
2 that the case?

3 A You have to be able to know where it is if
4 you're going to avoid it whether you can actually see
5 it or whether it's obstructed at the moment but you
6 know where it is. You do want to avoid it. In that
7 area, you know there's a lot of open area. You should
8 be able to handle that.

9 Q So automatically going east or west
10 whether it's to one mountain range or the other does
11 not guarantee you a safe impact area.

12 A No. You'd have to have some positional
13 awareness to do that.

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

15 MR. GAUKLER: Nothing else from me, Your
16 Honor.

17 CHAIRMAN FARRAR: Mr. Soper, do you have
18 the need to put on rebuttal or sur-rebuttal, whatever
19 it is?

20 MR. SOPER: No, Your Honor. Thank you.

21 CHAIRMAN FARRAR: We've just heard the
22 last evidence in the case.

23 MR. GAUKLER: You can see the big smile on
24 the Chairman's face.

25 (Laughter.)

1 MR. SOPER: I could probably think of some
2 other questions.

3 CHAIRMAN FARRAR: Well, in a sense, Mr.
4 Gaukler, I wish that were true. But as hard as you
5 have been working the last few months this part of the
6 case may have been easier for us than the next part of
7 the case is for us.

8 MR. SILBERG: Actually the next part of
9 the case is harder for us.

10 CHAIRMAN FARRAR: You know what's coming.
11 Well, then gentlemen I gave you as nice a thank you as
12 I could yesterday. So I won't try to repeat that.
13 Thank you again. You can be excused.

14 (Witnesses excused.)

15 CHAIRMAN FARRAR: Let's take up then the
16 photograph exhibit and it's admissibility. Then we'll
17 see where we stand on other housekeeping matters. Mr.
18 Soper, last I remember yesterday you had moved its
19 admission. You had some restrictions on that. You
20 just wanted to show where things were as opposed to
21 claiming it was a real representation of what a given
22 pilot might see. Or do I recall that incorrectly?

23 MR. SOPER: Well, I can't recall exactly
24 how we described it either. They are actual aerial
25 photographs of the ground. The only interest that the

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1 State has and I understand that people can say I wish
2 they were a different color or the contrast was
3 different in which you could probably claim for any
4 particular photograph, but what we're interested in is
5 the relative position of objects in Skull Valley.
6 Particularly I think it would be an aid to the Board
7 since we've talked about the Goshute Village and Tekoi
8 Rocket Facility and the ranches and Skull Valley Road
9 and a host of other roads that aren't shown on
10 anything and just to know where they are.

11 CHAIRMAN FARRAR: Rather than to indicate
12 to the Board how easy or difficult it may be to
13 perceive Skull Valley Road for example from any given
14 altitude.

15 MR. SOPER: Yes, Your Honor. I guess
16 there were a couple of estimates to what this distance
17 might be. We don't claim that this is a pilot's view
18 of the ground from a certain altitude.

19 JUDGE LAM: I remember, Mr. Soper, you
20 also answered my question by saying you don't claim
21 this is what a pilot would see at any specified
22 elevation.

23 MR. SOPER: Yes. I think that's right. I
24 think we had rough estimates of what people thought it
25 might roughly represent. We don't claim this is a

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1 particular photograph at a particular elevation.

2 CHAIRMAN FARRAR: With that restriction on
3 the admission, Mr. Gaukler, I think you had objected
4 yesterday. But I don't know at the time that you
5 objected that we had those limitations.

6 MR. GAUKLER: It was not clear to me what
7 the limitations were. We view this and perhaps the
8 record will show these things but if it was just
9 limited to the relative locations of the facilities,
10 we have no objection to its admission.

11 CHAIRMAN FARRAR: Staff.

12 MS. MARCO: We do not have an objection
13 subject to limitations as described.

14 CHAIRMAN FARRAR: Okay. Then thank you
15 for that and we will just as we have with other
16 exhibits admit it. The burden will be on us to make
17 sure that our opinion makes clear what the limitations
18 are.

19 (The document referred to having
20 previously been marked for identification
21 as State's Exhibit 222, was received into
22 evidence.)

23 CHAIRMAN FARRAR: On the other exhibits,
24 why don't we do this. We will check over our
25 exhibits. I take it they are none left that are

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1 hugely controversial. We're dealing mostly with
2 housekeeping.

3 MR. GAUKLER: We have the QQQ which the
4 State objected to initially.

5 CHAIRMAN FARRAR: What's that?

6 MR. GAUKLER: That was the written summary
7 and testimony of the experts summarizing some of the
8 excerpt of the accident reports on whether pilots
9 could avoid. We also have some e-mails which our
10 experts relied upon which I think they objected to.
11 I don't know if they still do or not. We have those
12 plus we had a couple I know that were probably not
13 going to be an issue. I don't know the State's
14 position on those.

15 CHAIRMAN FARRAR: Why don't we do this?
16 Let's pick a date and you tell me what that should be
17 in which you all file with us and with each other not
18 an argument about these but first let's just start
19 with a list.

20 MR. GAUKLER: Just identify what they are.

21 CHAIRMAN FARRAR: Identify here are things
22 that either inadvertently we didn't rule on or there
23 was an objection. We'll exchange those lists. No
24 argumentation because it may turn out that 90 percent
25 of them everyone has agreed on. Then we can sort that

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1 out. We'll have argument on any one or two by
2 conference call.

3 MR. GAUKLER: What I would suggest is that
4 we file a joint list. I've worked with the State
5 before.

6 CHAIRMAN FARRAR: Fine.

7 MR. GAUKLER: In the effect that to the
8 extent that we agree on something we will admit it in
9 that list that we agree and other ones we just don't.
10 We disagree. Then we'll leave the full fledged
11 argument for some type of conference call on the ones
12 we disagree.

13 CHAIRMAN FARRAR: Fine. Mr. Turk, does
14 that make sense to the Staff?

15 MR. TURK: Are we talking about all
16 elements of the case or just aircraft?

17 MR. GAUKLER: Just aircraft right now. I
18 don't think there's anything outstanding for the
19 seismic. I guess we should check.

20 CHAIRMAN FARRAR: Well, let's do the same
21 for seismic.

22 MR. GAUKLER: I'm not aware of anything on
23 seismic, but we should check.

24 CHAIRMAN FARRAR: Then the parties can
25 file a joint statement that there's nothing there for

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1 us to worry about.

2 MR. GAUKLER: Yes. We can do that as
3 well.

4 CHAIRMAN FARRAR: As we mentioned
5 yesterday, let's for all purposes separate documents.
6 From now on we'll get accident documents and we'll get
7 seismic documents. Don't combine the two just as a
8 matter of the administration and the ease of us
9 handling paperwork.

10 MR. TURK: If we make a submission make a
11 separate submission on each.

12 CHAIRMAN FARRAR: Right.

13 MS. MARCO: Your Honor, how are we going
14 to treat the fact that some of the testimony didn't
15 get put into the record?

16 CHAIRMAN FARRAR: We'll include that in
17 your list. We had attempted to deal with that with
18 the Court Reporters but we may or may not have been
19 successful. So put that on your list. We'll have our
20 people get back to them and make sure that it's bound
21 in properly.

22 Mr. Gaukler, you mentioned how well
23 everyone's worked together in the past. Sometimes in
24 the heat of a nine or 13 week period things get a
25 little frayed at the edges. I think we can now revert

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1 to the way things were for such a long time, that you
2 all demonstrate a remarkable ability to work together.
3 So the heat of the battle shouldn't take anything away
4 from that. We'll count on you to proceed that way.

5 MR. GAUKLER: Always try to fight
6 substance and not procedure.

7 CHAIRMAN FARRAR: Right. Is there
8 anything else? We announced the schedule yesterday.
9 Is there anything else we need to do today?

10 MR. SOPER: Do you want the dash one
11 manual that we're going to file to be a State Exhibit?

12 CHAIRMAN FARRAR: Yes. Right.

13 MR. GAUKLER: My understanding is we're
14 going to file excerpts from this because that's what
15 we have from ours.

16 MR. SOPER: I'll go through and find out
17 what pages their on.

18 MR. GAUKLER: We'll do that for ours.

19 CHAIRMAN FARRAR: Right. If some
20 controversy comes up, let us know. But for now we
21 just want to have the exact same pages in front of us.
22 We'll take that. Mr. Soper, all you're offering that
23 for is that's what your man was working from. It
24 doesn't bind you to anything in there that you may or
25 may not like about it.

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1 MR. GAUKLER: I think some of the page
2 numbers will be different but the contents will be the
3 same.

4 CHAIRMAN FARRAR: Anything else we need to
5 deal with?

6 MR. TURK: The exemption request. Is that
7 something we're going to do or just put that in the
8 list also?

9 CHAIRMAN FARRAR: Put that in the list.

10 MR. GAUKLER: I may have that here. If I
11 do, I'll have the Court Reporter mark it.

12 CHAIRMAN FARRAR: Well --

13 MR. GAUKLER: Okay.

14 CHAIRMAN FARRAR: We could. No.
15 Everyone, we'll do it later.

16 MR. TURK: Maybe it's a good idea also
17 that when we have a conference call to have it
18 transcribed so it becomes part of the continuing
19 transcript of the proceeding.

20 CHAIRMAN FARRAR: Right. We'll do that.

21 MR. GAUKLER: The parties will suggest a
22 date for a conference call or you will suggest
23 something.

24 CHAIRMAN FARRAR: Yes. Once you send it
25 to us, we have some other things we'll all be doing.

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1 So just send it to us, we'll see what it looks like
2 and we'll get back to you.

3 MR. GAUKLER: Okay.

4 CHAIRMAN FARRAR: Then thank you all.
5 It's not quite 2:00 p.m. So we met our obligations.
6 We'll get everybody on their way. Here's the gavel
7 that a judge I clerked for 35 years ago gave me to try
8 to remind myself to be as fair as he was. It's been
9 good. I haven't had to use it all along. The record
10 is closed. Off the record.

11 (Whereupon, the above-entitled matter
12 concluded at 1:58 p.m.)

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CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

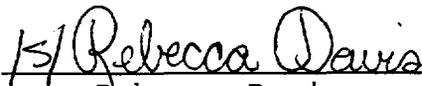
Name of Proceeding: Private Fuel Storage, LLC

Docket Number: Docket No. 72-22-ISFSI

ASLBP No. 97-732-02-ISFSI

Location: Rockville, Maryland

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.



Rebecca Davis
Official Reporter
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