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"RETURN-TO-FLIGHT ROUNDTABLE"

MODERATED BY GLENN MAHONE,
ASSISTANT ADMINISTRATOR OF PUBLIC AFFAIRS

PRESENTATIONS BY:
SEAN O'KEEFE, ADMINISTRATOR OF NASA

AND

BILL READDY,
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Friday, March 14, 2003

[TRANSCRIPT PREPARED FROM AUDIOTAPE RECORDING.]

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

2 MR. MAHONE: Good morning, everyone. Thank you
3 all for coming. Let me just make a quick announcement here.

4 The Administrator has a commitment, and he is going to have
5 to leave a little early, but hopefully we can keep Bill for a
6 few moments to talk with us.

7 Hello, Eric. Good to see you back from Houston.
8 How was your trip?

9 QUESTIONER: It was great.

10 MR. MAHONE: Good, good.

11 But Bill will stay around for a few moments and is
12 going to have a couple of opening comments, if you will bear
13 with us for just a few moments, to let him hit on a couple of
14 topics that we feel are very important to us to hit on today.

15 We appreciate you being here, and with that, Mr. O'Keefe. --

16 ADMINISTRATOR O'KEEFE: Thank you.

17 First and foremost, we all need to congratulate
18 newest addition of a grandfather crowd as of last night, his
19 first grandchild.

20 [Applause.]

21 MR. MAHONE: Thirteen ounces. It was a premie.

1 ADMINISTRATOR O'KEEFE: So it was kind of
2 harrowing evening for Glenn last night, who nonetheless
3 spared a few moments to think about all of you in the course
4 of what we are going to be involved in today, but, you know,
5 a difficult last night, but everybody reported to be doing
6 well.

7 I want to touch on two points very quickly, if you
8 can indulge it. First of all, please observe and note that
9 the last of the funerals was conducted on Wednesday for
10 Captain David Brown. All seven of the astronauts who died in
11 the Columbia accident have now been buried in a way that,
12 quite frankly, our first responsibility we believed from the
13 very beginning here was to assure that this be conducted with
14 dignity and great respect, and I want to thank all of you for
15 the manner in which you handled that.

16 It meant a lot to the families that it was handled
17 with tremendous dignity, and respected their privacy, and to
18 the press corps, we are extremely grateful to you for the
19 diligence as well as responsibility that all of you exercised
20 in that regard, and they really, really appreciated that
21 because it is, in many cases, that extended family were

1 involved, to include particularly David Brown's service, and
2 the reporting and coverage of each of those ceremonies was
3 really nothing less than exemplary.

4 So we are grateful to you for a coverage of
5 honoring and celebrating the lives of seven extraordinary
6 people, and that having been accomplished was an important
7 factor for the families as well as for all of us. So the
8 manner in which that was handled was really quite exemplary.

9 Each of the families have reminded me at each of
10 the five of the seven services that I attended and the four
11 different memorial services that were conducted separately
12 from those funeral services, so a total of at least nine that
13 I had the opportunity to attend, but in each and every case,
14 many family members consistently reminded me that the
15 objective we ought to be after is to reiterate the same
16 themes that we talked about on the very first day with them
17 before we ever discuss this more publicly, which is to find
18 the cause of what occurred here, make the fixes and
19 corrections that are necessary, and get back to doing what
20 their folks, the seven courageous folks who were aboard
21 Columbia that day, had dedicated their lives to.

1 And I found that to be nothing short of inspiring
2 at each and every step. As emotional and as difficult as
3 each of these services and ceremonies and funerals have been
4 I think for all of us, it nonetheless has been a source of
5 tremendous inspiration to see the courage and the strength
6 that each of the families have demonstrated in this regard,
7 and they are really remarkable people who we are committed to
8 assuring from this point forward, not just the 6 weeks that
9 have passed, but from this point forward that all of their
10 needs as well as privacy are protected as well. So we are
11 going to continue that effort.

12 This is not a one-time circumstance for that first
13 6 weeks. It is something we will continue to quest for as
14 well and to honor their intonement to us that we continue the
15 exploration quest that their people have dedicated their
16 lives to.

17 The second issue I wanted to touch on just a
18 little bit as well is the recovery operations are continuing
19 to pace, and a few have reported there is on the order of
20 about 20 percent of the Orbiter by weight has been collected
21 and has arrived at the Kennedy Space Center.

1 There are still 4,000 people in East Texas and
2 West Louisiana who are searching for debris from 20 different
3 Federal agencies, the U.S. Forest Service and the EPA
4 probably the largest contingents there now, by virtue of the
5 spreading activity that occurred, and just by comparison, let
6 me give you a frame of reference.

7 I think the first time that Bill and I visited
8 Lufkin and Shreveport, I guess about 2 weeks after the
9 accident -- 2-1/2 weeks roughly. There was a comment that I
10 heard that I will never forget. It was on the order of about
11 95 percent of all of the debris at that point that had been
12 collected was within 100 feet of a road. So, as a
13 consequence, they really picked up all of the debris. It was
14 easily accessible.

15 Everything since that time has been real tough,
16 and again, literally, by bringing in several hundred Forest
17 Service folks from the U.S. Forest Service as well as a lot
18 of the environmental folks in the State of Texas as well as
19 in the State of Louisiana, whoever has responsibility for
20 this being forest area, have really helped out enormously in
21 our efforts to continue to find pieces here that may give us

1 further evidence, figures and facts in terms of what could
2 have occurred, but it is much tougher to find.

3 So they have really been engaged in the activity
4 much further away from all of the accessible road areas, and
5 so having the expertise of the Forest Service and the EPA
6 particularly have been really just extraordinary.

7 Again, that acquired 4,000 folks, Federal, State,
8 and local activities, and a lot of volunteers that continue
9 to show up, amazingly, folks that just have got other lives,
10 other activities, and other pursuits that they are engaged,
11 but have dedicated themselves to helping to find the evidence
12 that would give us some idea of exactly what happened here.
13 It is still nothing short of awe-inspiring to see the
14 continued effort. Here it is, a month and a half after the
15 fact.

16 That is going to continue a pace at least for the
17 next few weeks. One of the challenges that we are about to
18 confront here with the recovery effort is just the forces of
19 nature. When the growth activity of spring begins to take
20 hold, it is tougher and tougher to find debris that is on the
21 ground.

1 So, under this circumstance, they have been able
2 to not only collect the material and debris that was
3 accessible within very convenient access areas, the public
4 access roads and paths and so forth, but the next phase from
5 there is even with the help of the Forest Service in delving
6 further into the forest and into the Toledo Bend Reservoir
7 area and helping the U.S. Navy and the scuba divers and all
8 of the other folks who have been doing the excavation work
9 out of the Toledo Bend Reservoir itself.

10 Nonetheless, it is going to get tougher and
11 tougher because the growing season is on us, and as a result,
12 in the next 30 days, it is going to be very difficult, given
13 the coverage and the canopy that then unfolds, to find
14 things.

15 So we are really intensifying, and the reason why
16 we have kept this pace going and that the Forest Service, the
17 EPA, the Navy, and, again, 17 other agencies joined with us
18 in doing so, including those three, have continued to really
19 work this extremely hard is because they see that particular
20 inevitable natural circumstance taking hold, unless we really
21 intensify our efforts now. So we are trying to collect as

1 much as we can.

2 At date, as I gathered it from -- to this date, as
3 I understand it from the Gehman board, the further west piece
4 that we have collected is, as previously reported, 10 days, 2
5 weeks ago, which is just west of the Lubbock, Texas, area,
6 and there is no further debris that has been found in the
7 path west of that area. And we are still anxiously looking
8 for anything that may show up.

9 The area that the Orbiter progressed over, as all
10 of you know from looking at the flight path and the very
11 marginal amount of debris lost that occurred prior to breakup
12 over Texas, is going to make it extremely difficult, but we
13 are still endeavoring to do that.

14 We have got teams in New Mexico, Arizona,
15 California, Utah, trying to run down every single reported
16 lead from anybody who claims they pick up anything. So
17 sometimes in running down those leads and reports, it turns
18 out to be rusted bottle, cans, and stuff like that, or rusted
19 pop cans, but nonetheless we are leaving absolutely no report
20 unreviewed or examined in the effort, as Hal Gehman and all
21 of the members of the board have reiterated.

1 Those earliest shedding of debris will tell us so
2 much about where the origins and the original point of the
3 breakup began at that time and may tell us a lot more than
4 even some of the volume that we would collect in East Texas.

5 So any reiteration of that point would be -- as a matter of
6 public statement and continuing appeal for would be most
7 appreciated in that regard because anything you can find that
8 is west of that debris path from the Texas border would be
9 extremely illuminating in the view of the accident
10 investigation folks as well.

11 A third tidbit I want to touch on quickly is --
12 again, some of you may have noted and I hope that the --
13 responded to Admiral Gehman's request for a revision or
14 change in the way that we are organizing ourselves to support
15 the accident investigation process.

16 That letter that I wrote to him describing that,
17 that I promised to him the better part of a week and a half
18 ago, was put on the site I think this week sometime, sent
19 late last week, which defines that we have reorganized our
20 interface in support of their activities to match up exactly
21 to the three subdivisions of their board that they have

1 elected to organize under.

2 Again, as you all are aware, they have got a group
3 that is really looking at materials and structures. Another
4 group is looking at operations. Another group is looking at
5 technology. And they have divided their membership, not
6 exclusively, but more focused on these three areas, so,
7 again, roughly two or three members per each of those three
8 areas that are concentrating on that area, but they all are
9 engaged in the entire investigative process. This is more of
10 an intensity of focus in one area versus another. So we are
11 now organizing exactly the same way.

12 Randy Stone, who is our deputy director of the
13 Johnson Space Center, is leading one of those teams as a
14 direct interface there.

15 Jim Kennedy, who is the deputy center director at
16 the Marshall Space Flight Center -- excuse me -- at the
17 Kennedy Space Flight Center -- Kennedy Space Center in
18 Florida. "Kennedy at Kennedy," that was part of the madness.

19 I really had an issue there. He had come from Marshall. So
20 he has got a lot of experience understanding the activities
21 that the Marshall Space Flight Center is engaged in, and now

1 has been up at Kennedy for the better part of 6, 7 months, I
2 guess, back in the fall who was sitting there as the deputy
3 when Jim Jennings came here from that capacity. And he is
4 involved in -- leading one of the teams as well as Frank
5 Benz, who is essentially the chief engineer at the Johnson
6 Space Center, to look at the material structure side.

7 So all three of them are matched up exactly the
8 same way the subdivisions of the board are working, and they
9 are tasking the agency assets and capabilities around our
10 organization in terms of support the analysis as well as
11 continued testing and anything else that the board asks for.

12 So it is that approach that is being worked through.

13 They are all coordinating through a task force
14 that we announced the better part of about 3 weeks ago, I
15 believe, that is the central point of contact in which
16 Admiral Gehman, who can reach into any part of the agency he
17 wants, but nonetheless in order to get some organization for
18 the products and the analysis and the data or the information
19 or whatever else that he requests or the board requests is
20 vetted through the task force, and they work through that
21 analysis in that regard.

1 So the interface we have is exacting now in terms
2 of the approach that he had requested and that we believe is
3 led by folks who have no direct association with the on-orbit
4 activities of STS-107 or any of the prelaunch functions that
5 led up to that. These are folks who were not actively
6 engaged in a direct way in that regard. So the interfaces
7 now are very, very clear.

8 Next, the last couple of points I would want to
9 touch on quickly just as informational issues, next week
10 there will be a get-together at the Nissho facility for a
11 couple of days with all of the NASA experts as well as in the
12 Shuttle program as well as throughout the contractor
13 community to look at what we had announced some 6 months ago
14 or planned some 6 months ago, which was in pursuit of the
15 President's amendment that he sent up on November 13th of
16 last year which was to begin a process of looking at what it
17 will take to fly the Shuttle Orbiters through the next
18 decade.

19 So part of what we were engaged in last fall is
20 reflected in the budget amendment the President forwarded at
21 that time. It is in the budget request for '04 as well; as a

1 matter of fact, Congress having endorsed the Integrated Space
2 Transportation Plan that was incorporated in the President's
3 amendment back in November and again still is part of the '04
4 budget proposal that was made on February 3rd incorporating
5 that in one of the assumptions in the Integrated Space
6 Transportation Plan, in addition to the Orbital Space Plane,
7 the next-generation launch technologies and all the aspects.

8 It was also to look at what it will take in order to
9 maintain safe flight operations for the Orbiter for an
10 extended period, potentially through the next decade.

11 What had been planned, as some of you are well
12 aware, and existed several years ago was a working assumption
13 that the Shuttle would be retired in the early part of the
14 next decade. So, as a consequence, the projected effort
15 several years ago was to kind of phase down the activities
16 progressively until retirement of the asset.

17 Having looked at that rather intensively over the
18 course of the past year and particularly last summer, we
19 elected as part of the Integrated Space Transportation Plan
20 to not only not retire the Shuttle in that span of time, but
21 to look a what it would take as a careful examination to look

1 at all modifications, upgrades, improvements, structural and
2 technology assets necessary in order to maintain that for as
3 long through the next decade as we could. And that analysis
4 and examination that we are about -- and this is just the
5 next phase of that, which is going to occur next week -- is
6 to assemble all the folks who are engaged in this activity.

7 Again, it had been planned for months. This was
8 not something we laid on just in the last 6 weeks. It was
9 scheduled well before the 1st of February with the intention
10 of specifically looking at the full range of all of the
11 different modifications, upgrades, improvement, technology
12 enhancements, life extension efforts, all of those different
13 things that would be necessary in order to safely fly the
14 Shuttle Orbiters through the next decade.

15 We don't have a notional date, but it has been
16 talked about in terms of how long you would want it to last,
17 but certainly through the next decade is the working
18 proposition because we want to examine the full range of
19 different improvements or capability enhancements or
20 technology insertion or anything else that would be necessary
21 for the Shuttle, and look at what point are you investing in

1 an asset that is not going to have a service life necessary
2 to justify that expense or investment over a course of time.

3 The working assumption that we developed over the
4 course of the last several months, particularly back in the
5 summer and fall, was that that doesn't occur until well into
6 the next decade, the middle of the decade at the earliest.
7 So that justifies at least, as an opening proposition,
8 examining all of the efforts that are necessary to maintain
9 the safe operations for the Shuttle for at least the next 10
10 to 12 years minimum is the working assumption at this point.

11 Prepare to be disabused of that. There could be
12 some "aha" that comes out of this down the road that may tell
13 us something different, but as of right now, that is based on
14 our best understanding, and certainly it was back in the
15 summer and fall of last year when we laid on this idea.

16 So, if you look at the funding stream in the '03
17 amendment as well as in '04, what the President forwarded on
18 February 3rd, for the out-years through '08, the enhanced
19 resource levels that you see was premeditated at that time.
20 It stems from that period.

21 So part of what the effort is about, next week at

1 Nissho and with the collection of all the folks who are in
2 this community who are going to examine this, is to think
3 about what is the process we are going to engage in, in
4 prioritizing all of these different ideas, of how to modify,
5 upgrade, insert technology, make enhancements, and extend the
6 service life of this asset.

7 There was never any working assumption that I am
8 aware of as to what the actual age of the Orbiter would be at
9 point of retirement. It was based on a proposition at the
10 time of design that it would be designed to last for 100
11 flights each. So that is the working proposition we are
12 going with, but, again, I don't know of any specific
13 intention at the time that the design the original Orbiters
14 were done.

15 So, as all of you are aware, too, the Orbiters go
16 through a major modification effort, roughly, every 8 to 10
17 flights that goes for a period of, roughly, 18 to 24 months.

18 What we are trying to do is look at what modifications,
19 upgrade, insertion of technology, et cetera, would be the
20 most appropriate thing to do during those industrial
21 availabilities, if you will, at a time that the Orbiter is

1 down and actually going through, as Discovery is right now,
2 to assure that what we are doing during that time is to
3 enhance the service life of the asset for as long as we can
4 and to operate as safely as we know how to make it.

5 So this is part of that effort, part of the same
6 quest. Again, it is a 2-day get-together. I think there is
7 an open press day on the 19th of March that is available.
8 So, by all means, we would be delighted to have you there and
9 respond to any thoughts you may have or concerns you want to
10 raise or issues or questions you have as we go through it,
11 but the product that we hope to see coming out of this
12 particular effort for the couple of days, again, is a very
13 firm inventory of what we believe to be the range of things
14 that could be considered and then, more importantly, a
15 process by which we would go about prioritizing those
16 particular modifications, upgrades, technology insertions, et
17 cetera, that would be necessary in order to maintain the
18 Orbiter safely for an extended period of time. So it would
19 be efficiency improvements as well as safety improvements or
20 any other range of activities. So it is part of that
21 continuing planning process of being assured that we have an

1 effort to do that.

2 Concurrent with this and as what is clearly an
3 aftermath of February 1 that will help inform the debate as
4 well is we have initiated a return-to-flight plan which Bill
5 Readdy sent out a couple of days ago with the intent
6 specifically of looking at not only a product of this shuttle
7 confab that we are going to have next week in Nissho, but
8 also a very specific understanding of all the other
9 operational activities we may want to consider and examine
10 and look at as we prepare to return to flight. So that we
11 are not just sitting here waiting for a report from the
12 Gehman board and then getting started as soon as we open up
13 page 1 of the report.

14 So we are trying to anticipate and get ahead of
15 the things that we see, not based on superior knowledge or
16 even anecdotal knowledge we are getting from the Gehman
17 Board, but instead to think in terms, very constructively, of
18 the kinds of prelaunch, on-orbit, and after-landing kind of
19 changes to not only process, but also the longer-term efforts
20 necessary in order to get ourselves ready and ready to
21 prepare to move ahead.

1 I hasten to add, though, that there is nothing in
2 this particular procedure -- and it is very firmly stated --
3 to alter or to implement any particular effort to return to
4 flight until such time as that report is released.

5 What we are doing is doing all of the appropriate
6 planning and the program considerations and what are
7 necessary in terms of how we think we want or at least
8 examine what we think may be necessary changes in procedure
9 as well as lead run-up to launch itself as well as on-orbit
10 activities that we think are necessary in order to prepare
11 ourselves to have thought through all those issues that we
12 know of right now, that we are gaining more knowledge of as
13 this investigation continues, to prepare for return to flight
14 as quickly and as expeditiously as we can upon receipt of the
15 Gehman board's report and then make the determination at that
16 time based on what they advise in terms of what we need to do
17 in order to make such changes as may be necessary to return
18 to flight expeditiously and safely.

19 I think that document as well is out or around and
20 certainly available to the extent that anybody wants to
21 examine that. We will be looking at what that planning

1 horizon is by the beginning of next month and start down the
2 road of doing that.

3 It is an effort we are also looking to do, just as
4 a last aside, that is not only within the Office of Space
5 Flight and the Space Flight community directly, but also an
6 expression of looking across the full range of assets and
7 capabilities and expertise that we have -- and talent we have
8 across the agency from the Aeronautics and Aerospace
9 communities at large. And one of the key participants in
10 that activity will also be, in addition to the Space Flight
11 community, Michael Greenfield who is the deputy director for
12 a number of years until he replaced and relieved Dan Mulville
13 when he retired as the associate deputy administrator for
14 Technical Activities. So he will be engaged in this as well.

15 So it is a very strong team I think that Bill has assembled
16 and that will be working through all the issues there.

17 The final thing is next Wednesday at Johnson Space
18 Center, we will begin a series of open houses, if you will,
19 at Johnson for any journalists who are interested in
20 participating down there. They have set up a schedule of
21 activities which is very loosely structured to kind of give

1 you a sense of what the Shuttle program management as well as
2 Shuttle operations and training efforts and all the other
3 things that go into that may entail. So, to the extent that
4 you want to avail yourself of that opportunity, we would
5 welcome those who are interested.

6 It will be the first of a few. Jeff Howell, the
7 center director there at Johnson, plans to at least set up a
8 couple or three of those over the course of the next few
9 weeks, so as to accommodate whatever interest may be there,
10 in order to spend time talking to folks on engineering
11 issues, the mission control, the training simulators, the
12 astronaut corps who are engaged in the activities, whoever it
13 is you want to talk to. So it is a fairly loosely structured
14 program that will begin on the 19th of March, next week. It
15 is a full-day activity, but, again, any part of that
16 activity, of course, you are welcome to engage in and just
17 see Glenn and his folks if you have an interest in pursuing
18 the one next week or any thereafter, so we can follow up with
19 that.

20 Thank you all for spending the time, and I
21 appreciate you listening to the monologue here. I appreciate

1 it.

2 Questions? Yes, sir. Eric?

3 QUESTIONER: Just a couple of follow-up questions.

4 Beyond the task force that will interface with the Gehman
5 commission on these three levels, do you know roughly what
6 percent of the NASA work force is currently involved in the
7 investigation or assisting in analysis?

8 Secondly, how does the Ron Diddimore letter of
9 late last month asking a review of the five key areas of
10 shuttle safety and trajectory and all that -- how does that
11 fit into what you folks are planning next year?

12 ADMINISTRATOR O'KEEFE: Sure. On the first one,
13 that is a good question. I don't know exactly what the total
14 number of people throughout the agency are that are engaged
15 in supporting the investigative activity.

16 QUESTIONER: Is it like a goodly number?

17 ADMINISTRATOR O'KEEFE: Oh, yes. Oh, yes. But I
18 wouldn't want to speculate. Let me go back and take a look.

19 There are some people who are doing this, you
20 know, 24/7. There are some that are doing it half their
21 time. There are others that, as you have seen from the

1 anecdotal e-mail traffic and everything else, are engaged in
2 it on topic-specific analyses. So they may be working like
3 dogs for 2 or 3 weeks and then back to their day jobs.

4 You get a lot of this, and probably the safest way
5 or the clearest way to give you a representation of that
6 would be to tote up the number of folks from various
7 disciplines across all the activities who are doing the fault
8 tree analyses because they are really intensively involved in
9 this.

10 Again, some of you may remember I described for
11 you a scene that I saw just on the external tank for the
12 fault tree analyses that was going on there, which they were
13 examining. Gosh, they had started off with some 120
14 scenarios, and they literally were working through this
15 analyses. This was several weeks ago now. They have
16 narrowed it down to a smaller number than that. But there
17 were, I would say, easily, 50, 60 people from across the
18 agency, from Marshall, from Kennedy, from Johnson, certainly
19 from right there at Nissho. I think there was a couple of
20 folks from the Glenn Research Center, AIMS. It was across
21 the aboard, and it had to be at least 50 to 60 people that I

1 remember seeing there, physically sighted, that were in a
2 room twice the size of this with wall art across, made-up
3 wall art of all the fault trees working through every
4 possible scenario and closing off branches of the fault tree
5 just on the external tank.

6 If I had to multiply that number, it would be
7 substantial. Let's go back, and we will take a look at that
8 very question and figure out what a good thumbnail might be
9 of folks who are intensively doing this all day, every day,
10 24/7, working this kind of stuff as opposed to the people who
11 are just being tasked as an aside to support some aspect of
12 that.

13 To your second question, Ron's memo, as I
14 understand it -- and I saw this -- was very much in support
15 of the same objectives we are after here. He was looking at
16 it from the Shuttle program responsibilities, and so that was
17 his effort to begin preparing for this larger
18 return-to-flight objective that Bill offered up just a couple
19 of days ago. So, indeed, a lot of what Ron was doing was
20 getting out of the traces quickly in order to get his effort
21 organized.

1 He will respond to that early-April objective that
2 Bill has articulated. So the larger, over-arching
3 return-to-flight effort will require participation not only
4 from the Shuttle program office, but also from the full
5 expanse of all the capabilities we have across the agency,
6 which will include, again, the aeronautics kind of expertise
7 like Langley brings, some of the propulsion expertise that a
8 place like Glen Research Center will bring. Certainly the
9 Marshall Space Flight Center, Kennedy, Johnson, and Stennis,
10 which are the four primary space flight centers, will be
11 engaged in this activity. So the full range of that is what
12 is really the larger, over-arching effort that Bill and
13 Michael Greenfield are sponsoring.

14 So Ron's part of that, just from the program
15 management perspective, was how do I get ahead of this stuff
16 knowing that Bill had already forecast to him, "Yes, we are
17 heading down this road. Start thinking in terms of what you
18 need to do." So he is just exercising prudent management
19 activity in order to get himself ready to go.

20 Yes, sir.

21 QUESTIONER: Larry Wheeler [ph] with Gannet News

1 Service.

2 Just a couple of points on Mr. Readdy's
3 return-to-flight memo here. I just want to make sure I am
4 not misunderstanding it.

5 You want to look at on-orbit inspection and repair
6 to the thermal tile system. You want to review policies for
7 photographic and radar coverage, and then there is also an
8 item here about whether things are being brought up the
9 management chain appropriately.

10 That seems to be a direct response to things that
11 we have been speculating or reported by the media about what
12 we did and didn't know about a satellite photograph. Can you
13 talk a little bit more about why these specific things are
14 here, and are we wrong to say maybe you guys thought
15 something should have been done differently on STS-107 and
16 you want to make sure that changes in the future?

17 ADMINISTRATOR O'KEEFE: Let me ask Bill to
18 elaborate here, but I will just give you an open proposition,
19 I guess.

20 There is no question, again, reporting -- I don't
21 take issue with anything that has been covered here. The

1 only point that I have gotten to the point of repeated
2 rhythmic insults -- I apologize for it -- is to say don't
3 fall in love with any one theory. There are lots of them out
4 there, and we are narrowing them down. The Gehman
5 investigation is going through its methodical fault tree
6 analysis, and again, they are beginning to hone in on what
7 they believe to be more dominant or more prominent
8 probable-cause areas of examination. I think he said that
9 very bluntly in his commentary this past Tuesday and the
10 previous Tuesday.

11 So everything I am hearing is what you are hearing
12 in terms of the way they are just kind of focusing down on
13 this, and the follow-the-heat theories and all those kinds of
14 engagements that are involved. So, no, I don't have any
15 problem at all with the coverage, and I think, again, by and
16 large, fairly accurate in terms of the diligence the press
17 corps has engaged on this, but it is more that there seems to
18 be a, more or less, focus or dominant or favorite theory that
19 emerges from time to time. And my only plea has been to say
20 don't fall in love with any of those because that might it or
21 it might be something totally different. I would hate to

1 kind of lead you down a path that would prove to be one that
2 -- just being open and above aboard as we can, that may not
3 turn out to be the fruitful path, not because we know
4 anything about it, but because the way this process is being
5 conducted by the independent accident investigation board.
6 They are looking at every possible permutation.

7 So what has come out of this, though, and I think
8 as accurately reported and has been pretty evident to us at
9 the time in which we examined the issues as well, is we ought
10 to at least go back and look at what our standing policies
11 and procedures are for prelaunch activities, launch day, and
12 on-orbit activities.

13 So part of what I think Bill has responsibly done
14 here with putting this in motion with Michael Greenfield is
15 for us to have a deliberate, thoughtful examination of what
16 those policies and procedures are in terms of how we conduct
17 activities and in light of what we now know or at least
18 understand or think we know about what is going on. So any
19 one of those activities, let's examine those issues so we are
20 prepared and have kind of gotten through the preliminary
21 discussions and debates and thought, so that when that report

1 comes out from the Gehman board and when their findings are
2 rendered and when their recommendations are put forth is when
3 we are in a position to respond to them rapidly, rather than
4 saying, "Well, gee, we haven't thought about that before. We
5 have got to go back and start doing some noodling on this
6 point now."

7 There is a lot of things that are pretty evident
8 here. Again, we have been very up front about the point last
9 week when we got together that during the course of this
10 investigation, there is going to be a lot of stuff that is
11 going to come through all of this that we are examining and
12 we are seeing and they are seeing that has absolutely nothing
13 to do with what happened on that day or anything leading up
14 to it, but that are nonetheless the kinds of things that we
15 ought to look at because, if there is a better way to do it,
16 we ought to be doing it. So that is a lot of what Bill's
17 memo does.

18 Did you want to elaborate at all?

19 MR. READY: Yes. I would just like to give you a
20 little background here.

21 Before I wrote this, I had a number of

1 considerations, and I was guided by sessions I had with Dr.
2 George Miller, who is the associate administrator for Space
3 Flight Factor and [inaudible]. I talked to Vice Admiral
4 Truly [ph], who is the associate administrator, to go over
5 return to flight post-Challenger.

6 The timing of this, you are probably scratching
7 your head, "Why now? Why now?" At the service the other
8 day, it was an Old Testament -- I don't remember it because
9 it was a popular song back in the '60s, the Byrds. There is
10 a time for every purpose. Out of respect for the families,
11 the promise that we made them on February 1st was that we
12 were going to take care of them and honor the crew
13 appropriately, but also that we were going to honor the crew
14 by returning to flight. And they insisted on that, that day.

15 So, after Captain Dave Brown's funeral, I came
16 back to the office and signed out this memo in order to get
17 the team focused on return to flight.

18 Now, this isn't a prescription here. This is a
19 tasking memo. I have asked General Gestelmik [ph], who is
20 the program executive for Station Shuttle, to provide a plan,
21 and if you read it very carefully, it is, first of all, not

1 to prejudge the outcome of Columbia Accident Investigation
2 Board, far from it, but we don't view things that are in this
3 task as being serial necessarily receiving the board's
4 findings and recommendations. So the plan is nothing, but
5 the planning that goes into the plan is everything, and we
6 wanted to get the team focused on return-to-flight effort.
7 So that was the motivation behind this.

8 The five areas that I highlighted, the reason for
9 putting those in -- and it also says "not limited to the
10 five" -- those were clearly observations that have been made
11 after the fact. You know, that is the elephant in the room.

12 Are we going to ignore those? Hardly. So we want to
13 examine those.

14 You all, I think, have reported on it pretty
15 lively. We can't ignore those. We don't want to ignore
16 those. We want to find out what happened. We want to know
17 if there are ways that we could improve our process, and at
18 the end of the day, there will be three outcomes. And there
19 may be combinations of these three. The hardware failed,
20 process broke down, and there was an error in judgment.
21 Maybe some combination of all three. Then the Gehman board

1 is going to tell us what they think happened.

2 We are going to be guided by their results.

3 QUESTIONER: Center Director Harry McDonald made
4 some comments based on a report that came out of the
5 [inaudible]. Although those things were mentioned in
6 hearings and the report was widely circulated, he seemed to
7 be implying that lessons had not been learned in terms of he
8 was harping on you can't look at this database or this is on
9 paper, this is not.

10 How much of that has actually been implemented
11 since then? How much are you in the process of doing now,
12 and given what you just said, are you going to be [inaudible]
13 records to make stuff more efficient?

14 ADMINISTRATOR O'KEEFE: Okay. That is a good
15 question.

16 And to provide you with a little bit more context,
17 I actually was the one that tasked Dr. McDonald to do that
18 red team on us as a result of STS-93 in-flight electrical
19 short that we experienced, and also the fact that in the
20 combustion chamber I think of one of the main engines, a pin
21 or a piece of material was liberated that caused several of

1 the nozzle tubes to leak.

2 So I asked Dr. McDonald to go ahead and do that
3 red team on us and not simply to look at those particular
4 areas, but to look and see if there was anything
5 systematically wrong with the system.

6 He assembled a team, a cross-disciplinary team,
7 went out there, and as I recall, he has I think 80
8 recommendations. And some of them were -- I think there were
9 about four or five that were due before the next flight.
10 There were some that were due within the next year and some
11 for downstream consideration.

12 We acted on those, and I think that one is still
13 in work in terms of probabalistic risk assessment, updating
14 that, but we conducted the reviews that he requested, and I
15 think we acted on -- with this one that is still in progress
16 and estimated for completion in the summer, 82 out of 82. I
17 think we did take his report very seriously and instituted
18 reviews on each and every one of the program projects within
19 the Shuttle program as a result of that.

20 We have the Aerospace Safety Advisory Board. We
21 have the NASA Advisory Council, the National Research

1 Council. We invite people to come in and critique us to make
2 us better, to make us stronger, and we really applauded Dr.
3 McDonald for his efforts. It was a very thorough review, and
4 we were guided by his findings and recommendations and acted
5 on it.

6 MR. READDY: There is a point that we saw the
7 other day, too, that goes through a methodical view of --

8 ADMINISTRATOR O'KEEFE: We can provide that to
9 you. I mean, the triage on every one of the recommendations,
10 we can get that for you.

11 QUESTIONER: I want to go back to [inaudible] for
12 a second. How deep into the [inaudible] are you prepared to
13 entertain ideas of change; for example, encapsulated crew
14 escape system? Are we talking about enhanced parts of
15 systems that are already there?

16 ADMINISTRATOR O'KEEFE: I am reticent to exclude
17 anything from that equation. I think, again, much of what we
18 are preparing to do here is to position ourselves so that
19 when the Columbia Accident Investigation Board renders its
20 independent judgments and recommendations, we can act on them
21 expeditiously.

1 We are certainly looking at how do you make the
2 range of adjustments, modifications, upgrades, technology
3 insertions, that would not substantially alter the structural
4 integrity of the Orbiter because those clearly are the kinds
5 of things we have thought about and examined most intensively
6 over the last few years, and I think now we have got an
7 organized procedure in which we say, "Okay. We made a
8 decision last fall to proceed ahead with prioritized set of
9 those modifications, upgrades, and technology insertions. So
10 let's look at what those are," but it might well be that
11 there are proposals, recommendations, or findings that may
12 require us to think about the whole line of the Shuttle.

13 And that is not off the table, by any means, but
14 it is one that certainly would be a degree of difficulty,
15 more intensity, but that, by no means, is to suggest signal
16 or that we are unprepared or unwilling to accept that kind of
17 a deal. Whatever it is that comes out of the recommendations
18 is what is going to come out of the recommendations, and
19 those will be exactly right. We are going to act on this,
20 and we will assess what it is going to take in order to do
21 it.

1 Yes, sir.

2 QUESTIONER: Nick Anderson with the L.A. Times.

3 I have two unrelated questions. Just to be clear,
4 when we talk about having the Shuttle operate potentially
5 through the next decade, are you talking about the next 10
6 years starting from now or through 2020 as someone talked
7 about?

8 ADMINISTRATOR O'KEEFE: Potentially through 2020,
9 sure.

10 QUESTIONER: That is what the Nissho conversation
11 is going to be about, 2020?

12 ADMINISTRATOR O'KEEFE: Sure. And again, it is
13 what the budget implies or -- I'm sorry -- very explicitly
14 states. It is not an implication. It is what the November
15 13th amendment of 2002 very explicitly stated.

16 It is what our plan was last summer and during the
17 fall to say let's specifically look at what it is going to
18 take to operate this for as long as possible. What you do in
19 any of these cases is look at what those investments are that
20 you need to make based on that priority set, and then you
21 make a determination at what stage are you making an

1 investment in an asset which there is diminishing markings of
2 utility.

3 That appears to be no less than 10 years from now,
4 more likely probably a dozen, and I am not sure how many more
5 after that, and that is what this particular effort will also
6 help us do. It is another step in that process that was
7 planned months ago, and rather than say, "Well, gee, in light
8 of events of February 1st, let's change the plan," the event
9 is we are pressing on exactly the way we planned, and this
10 planned has been scheduled for several months.

11 QUESTIONER: This is unrelated. The last couple
12 of days, there have been reports about issues dealing with
13 requests of imagery from the Defense Department of spy
14 satellites and so forth from NASA to agencies. Even this
15 morning, a story in The Washington Post quotes anonymous
16 sources.

17 ADMINISTRATOR O'KEEFE: Do you care to comment on
18 that?

19 QUESTIONER: I wondered if you could verify
20 whether this story is accurate, the story on the front page.

21 ADMINISTRATOR O'KEEFE: Again, this is not -- I

1 apologize for being repetitive here. What we have been
2 talking about all the way through since the very beginning of
3 this tragedy, there are a lot of -- again, the point I think
4 Bill just mentioned here a minute ago, we fully expect that
5 what the board will come back with are recommendations,
6 findings and recommendations that will pertain to the
7 hardware or the process or judgments.

8 This falls in the category of a judgment, and as a
9 consequence, all of the information pertaining to all that
10 has been reported and much more has been released to the
11 Columbia Accident Investigation Board within days after the
12 accident.

13 They have all of the information. The House and
14 Senate Intelligence Committees have all of the information.
15 The Inspector General has all of the information. So we have
16 gone through every effort we know of that was aware at the
17 time as it pertained to judgments about the use of national
18 assets.

19 We have made it available to all those appropriate
20 venues. So they have got it. We full expect that they will
21 render some views, findings and recommendations, and in this

1 case, it will pertain to process and judgments of the three,
2 although it might actually talk about hardware, but I don't
3 know how that would be [inaudible]. But it could be. We
4 will leave opening up to you for that to be discussed.

5 So, as a result, we will be guided by that set of
6 findings, but it is about judgment calls. They have all of
7 that information, and that is as far as I want to go in terms
8 of discussing the origins of what is out there.

9 As we are gaining more and more information and
10 rounding up all the -- as we are continuing to go through the
11 e-mail traffic and everything else that has been going on,
12 anything and everything that has any application to this
13 question is being turned over to the Columbia Accident
14 Investigation Board, the Inspector General, and the
15 Intelligence Committees. So everybody has got it, and we are
16 working through that.

17 Again, from the very opening days, all that
18 information, as we received it, was being turned over to the
19 appropriate sources, and the appropriate officials,
20 particularly the Columbia Accident Investigation Board, for
21 their determination about process and judgments rendered, and

1 those are the ones that were rendered. So there is no
2 walking away from that.

3 QUESTIONER: Could you address whether you made
4 this request, as The Washington Post reported this morning?

5 ADMINISTRATOR O'KEEFE: I have seen Jeffrey's
6 article. I saw it this morning. Part of it is correct.
7 Part of it is not. It is attributed to sources on sources.

8 I could tell you that we were approached by an
9 individual, and not me personally, but secondhand. The offer
10 was relayed. This had already followed the determination
11 from the engineering community and the mission management
12 team if there was no safety-applied issue, and therefore, it
13 didn't warrant an increasing of the priority of the request.

14 MR. READY: The issue is really -- what is
15 critically important here is that the determination was based
16 on a series of judgments about what we thought at the time
17 was the information that supported any analysis or
18 expectations of what kind of on-orbit problem may have
19 emerged.

20 There were no sensor readings. There was nothing
21 that would suggest any anomalies on flight, on orbit. So, as

1 a consequence, it was speculation of what could be there
2 based on, again, a lot of very reasoned people making
3 judgments about what they thought could be the nature of the
4 problems and lots of recommendations back and forth.

5 QUESTIONER: I just wanted to be clear because it
6 is on the front page of a national newspaper.

7 MR. READDY: Lots of things run on the front page
8 of national newspapers, and if we commented on all of them,
9 we would be here for all day.

10 QUESTIONER: That is exactly [inaudible].

11 MR. READDY: No. And I said the word "request,"
12 and I misspoke.

13 We were approached by another agency, and this
14 offer was broached to us, as I said, after the determination
15 had been made that there was no safety-applied issues.

16 The exchange that occurred, basically, this is a
17 routine request or routine offer. I guess it wasn't formally
18 a request. It was an offer of routine precedence for support
19 using national assets.

20 There was no rationale at that time to support
21 increasing the priority.

1 ADMINISTRATOR O'KEEFE: Again, the judgments were
2 rendered, and that is what the Columbia Accident
3 Investigation Board and others are all privy to, and this
4 will be a rendering of judgment about those judgments. We
5 fully expect they will opine, and when they do, we will be
6 guided by those views.

7 Yes, sir.

8 QUESTIONER: About the judgments, also about the
9 Rogers Commission which specifically called for changes in
10 NASA management, your memo doesn't talk about changes in
11 structure. It sort of implies almost the exact same
12 structure you have already, with the addition of Mr.
13 Greenfield.

14 Are you looking at changes in structure, and if it
15 is judgment calls, which you seem to be talking about a lot,
16 couldn't people who make bad judgment calls be held
17 accountable? Do you plan to hold them accountable? Will
18 there be management changes?

19 ADMINISTRATOR O'KEEFE: On the first part, there
20 is no question. If there is an observation or any view that
21 is expressed by the Columbia Accident Investigation Board

1 that, hey, folks, you are fundamentally organized in a way
2 that prohibits or impedes or whatever else, the proper
3 conduct of operations or preparation for launch and so,
4 therefore, you ought to rethink how you are organized to do
5 so, you bet you, we are going to look at that and absolutely
6 implement whatever it is that we need to in order to do this
7 right.

8 I don't have any opening bias that says that that
9 isn't right now, but if that is their judgment, if that is
10 their set of recommendations, you bet, we are open to
11 anything. There is not a limit here of what is involved.

12 In response to Frank's question as well, even that
13 deals with the technical question, that is a really far-out
14 proposition of saying something altered the structural
15 make-up of the Orbiter, but even that, anything, it doesn't
16 matter what it is they come back with. There is nothing I am
17 telling you -- or any of us are telling the Gehman board,
18 "Hey, you can only look at these things, and don't even think
19 about recommendations." No. Anything they come back with,
20 that is entirely their call, and we are prepared, as tough as
21 it is going to be, of looking at the full range of whatever

1 it is they prefer.

2 On the issue of accountability, make not mistake
3 about it. I have offered plenty of observation on this
4 point. When the full story is out here and we see all the
5 findings and we understand exactly what it was occurred,
6 there is no doubt about it, we are going to be looking at how
7 we hold ourselves accountable for this activity. And that
8 accountability starts with me.

9 There has not been one moment from day one on this
10 in which I have had any doubt in my mind that, first and
11 foremost, the responsibility begins with me of what happened
12 on that day and everything leading up to it, no walking away
13 from that at all, and I am prepared for whatever answer comes
14 out of that. And I think we all are.

15 First and foremost, make not mistake about it, we
16 want to find out what happened, and when that judgment is
17 rendered, we are going to make it [inaudible] as necessary,
18 get back to flying safely, and along the way, we are going to
19 be accountable for all of those activities. Make no mistake
20 whatever about that.

21 QUESTIONER: Does that mean someone? You expect

1 someone's shop to change?

2 ADMINISTRATOR O'KEEFE: When the facts are
3 released and everything comes out and the findings are
4 rendered, we will act on that. Before that time, I think it
5 is positively -- and this has been a point that I have talked
6 about publicly as well as in every written correspondence --
7 we are not going to walk around making snap judgments based
8 on what we think we know at any interval in this process.
9 When you get the whole picture, the whole understanding, that
10 is when you do that, and before that is premeditated and in a
11 way that frankly is premature, premeditated being premature.

12 I don't want to even go there. I just don't think
13 that is appropriate to make judgments until you see the whole
14 picture of what is involved. I don't know any other way to
15 do it. That has been my entire professional experience has
16 been that is the only way to do this responsibly, and if you
17 reach judgments prior to fully understanding what is
18 involved, you run the risk, the probability of being
19 inequitable, unfair, and more knee-jerk in your reaction to
20 things, and I will not do any of those.

21 QUESTIONER: Earl Lane with Newsday.

1 In Mr. Readdy's memo --

2 ADMINISTRATOR O'KEEFE: I said "yes, ma'am," and
3 you responded.

4 QUESTIONER: Mr. Readdy's memo says to prepare to
5 support a launch opportunity as early as the fall initiative.

6 Do you think that is realistic, particularly given the fact
7 that you might have to do things like come up with
8 inspection, repair mechanisms?

9 ADMINISTRATOR O'KEEFE: Let me refer you back to
10 conversations as early as the 12th of February when the Joint
11 Committees on Commerce and Science asked me to come up and
12 speak about that within 11 days of the accident.

13 Their determination at that point was when you are
14 looking at the range of different issues that are involved
15 here, what is the earliest and the latest that you could
16 support operations, and so what they recommended -- and I
17 heard beforehand and we have been pursuing ever since -- is
18 looking at this in really basically 6-month intervals.

19 You may recall a specific dialogue in which there
20 were discussions back and forth in which certain Members of
21 Congress asked very specifically on the International Space

1 Station, how will you rotate crews, over what period of time,
2 how long can you sustain the activity. So much of what is
3 guiding here is based on International Space Station, to be
4 sure, because we have got three folks up there right now.

5 We have announced a rotation plan that we are
6 pursuing with our partners to rotate the crew and put
7 Expedition VII aboard at the end of April, bring Expedition
8 VI back in the beginning of May. And in the course of that
9 time, we have got to be thinking longer term in terms of what
10 it is going to take in order to support them with
11 consumables, propellant, water, spare parts, all that stuff.

12 So everything has got to be done in intervals here, and the
13 earliest interval that we would have to consider would be
14 fall.

15 And that is why rather than saying, oh, yes, let's
16 speculate on this date all the way through X-number period of
17 time, whatever you would like to go to, the smarter
18 proposition -- and I think Bill hit it exactly right -- was
19 to say the earliest point where we could make it, I think the
20 potential of return to flight, would be sometime as early as
21 this fall. So that is the first 6-month interval, and that

1 is what he is prepared for. And anything from that point
2 forward is going to roll out in accordance with that dialogue
3 and that very first hearing, 11 days after the accident, in
4 which we are being asked and I think responsibly so.

5 I think it was a very helpful notion to say let's
6 look at this in terms of longer-term intervals and what each
7 of those would apply, and it applies to different things, the
8 longer you go and the earlier you go. So we are getting
9 started in a way that tackles the earliest one right up
10 front, and it continues to move down that path at every
11 interval there.

12 QUESTIONER: If you were doing the early
13 [inaudible], you wouldn't have -- I mean talking about the --
14 to review the operational concepts for on-orbit inspection
15 repair, the TPS, is it realistic to think you could have that
16 in place by the fall?

17 ADMINISTRATOR O'KEEFE: I will let you get into
18 further detail, but I think none of these are date- or
19 scenario-dependent. It is simply -- I think an important
20 point of what Bill has launched here is let's start down this
21 process, and each of those limitations or opportunities will

1 present themselves as we begin that dialogue.

2 The alternative is to sit here on our hands and
3 wait for a report to be released. We are not going to do
4 that.

5 Again, this is exactly consistent with everything
6 we have talked about the last several weeks, which is we are
7 going to continue to look at what it is we got to do, return
8 to flight safely. This is just the next step in that
9 process. It is all going to be planning-oriented. We are
10 not going to do anything that would fundamentally alter or
11 implement anything along the way until after the report is
12 released and the findings are concluded by the Columbia
13 Accident Investigation Board.

14 Yes, ma'am, now.

15 QUESTIONER: In your opening remarks, you talked
16 about an "aha" moment in the course of the Gehman board's
17 investigation. We all know that the course of unfettered
18 investigation can lead to places that you never expected to
19 go.

20 Is there any possibility in all of these
21 wide-ranging scenarios that the return to flight would not

1 include the Shuttle?

2 ADMINISTRATOR O'KEEFE: I can't imagine a scenario
3 which would do that, but certainly that has to be the
4 furthest range of what could occur. I think it is equally --
5 that probably is equally probable as th Gehman board coming
6 back and saying it was the Acapulco Flange and all you got to
7 do is fix the Acapulco Flange and everything will be fine,
8 you can start flying tomorrow. I think that probability is
9 as high as the probability that says --

10 QUESTIONER: So it is light, but possible?

11 ADMINISTRATOR O'KEEFE: It is as possible and
12 probable as them coming back with an answer that says it is
13 something really simple, and all you got to do is hold your
14 mouth a different way and the flights will be just fine. I
15 think that is unlikely, too. They are both equally unlikely.

16 QUESTIONER: Then again?

17 ADMINISTRATOR O'KEEFE: We will see.

18 I got to run.

19 QUESTIONER: Were you aware of Mr. Readdy's
20 conversations with NIMA [ph], and if so, at the time they
21 were happening? And if so, did you have a viewpoint about

1 them? What was your --

2 ADMINISTRATOR O'KEEFE: Nice try, Jeff.

3 I am not going to confirm that there were
4 conversations between any specific agency or not. These are
5 national assets, and we will not get --

6 QUESTIONER: Okay. Take that part of my question
7 out.

8 ADMINISTRATOR O'KEEFE: Okay. Try it again.

9 QUESTIONER: Were you aware of the conversations
10 Mr. Readdy was having with another agency about whether to
11 have an image captures of the Shuttle during the flight?

12 ADMINISTRATOR O'KEEFE: After February 1st, I
13 became aware of circumstances under which there were -- as we
14 all were, during the course of the operation as well as
15 later, in which there were reported anomalies or concerns
16 about various efforts. So every day, there would be a report
17 on the status of the flight, recalled it on this one -- I
18 want to say Day 4 and on Day 12, the issue of the foam
19 impact, for example, was reported, analyzed and determined to
20 be not a safety-of-flight consideration.

21 QUESTIONER: You are saying this is after the --

1 ADMINISTRATOR O'KEEFE: No, during the operation
2 itself, those reports were available to the crew, to all of
3 us within NASA. It certainly came across the desk each day.

4 This is the same dialogue I think you and I had about.
5 Those are the same reports that told me about the temperature
6 rising.

7 QUESTIONER: Daily reports, yes.

8 ADMINISTRATOR O'KEEFE: Yes. So all of that was
9 available.

10 After the accident was more of a discussion of
11 exactly what national assets were available or discussed or
12 whatever else, and again, all of that has been documented and
13 released to the Columbia Accident Investigation Board, the
14 House and Senate Intelligence Committees, and the Inspector
15 General.

16 QUESTIONER: So you didn't know about these
17 conversations until after they --

18 ADMINISTRATOR O'KEEFE: All of that information
19 has been released to the Columbia Accident Investigation
20 Board, the Inspector General, the House and Senate
21 Intelligence Committees, and I really don't want to go into

1 sources and methods or how it was determined or anything
2 else.

3 QUESTIONER: No, I am not asking you about any of
4 that. I am just asking you what you knew --

5 ADMINISTRATOR O'KEEFE: Yes, you are.

6 QUESTIONER: -- during the flight.

7 ADMINISTRATOR O'KEEFE: Yes, you are because, as
8 things roll out, that then starts to establish points of
9 source of where it may have emerged from and whatever else,
10 and I really don't want to get there. I think all of the
11 appropriate folks who are working these kinds of questions
12 that have the classification clearances for them and
13 understand the process of how they are derived, have
14 information, fully documented, it is all out there, again, my
15 firmest view is that we will, in all likelihood, get some
16 understanding or recommendation or finding from the Columbia
17 Accident Investigation Board that will render a judgment
18 about judgments made at that time. And that is the way we
19 will treat that particular question.

20 But I really don't want to get into a timeline
21 sequence or anything else. Again, it all either verifies or

1 not the sources and methods of how those national assets may
2 be attained. I really can't do that.

3 QUESTIONER: The other question is: Can you make
4 available, or ask your colleagues to make available, the
5 Rosha [ph] e-mail?

6 ADMINISTRATOR O'KEEFE: The Rosha e-mails. As I
7 understand it, one of the things we are trying to do is
8 collect all of the information out there.

9 Let me see.

10 MR. READDY: Well, there are several, and we are
11 working to get them together.

12 ADMINISTRATOR O'KEEFE: Not only this, but lots of
13 other things.

14 MR. READDY: Lots of other things.

15 And as soon as we can get that together, we are
16 going to release it, as we have other documents.

17 QUESTIONER: You mentioned 6-month increments and
18 the possibility of fixing thermal protection and so forth.
19 Could you address your outlook at this point on the
20 [inaudible] of whatever redesign you do decide to do? Do you
21 see any problem that would involve the Orbiter body, probably

1 the test machine, just having one, and would you be forced to
2 rely on computer modeling and other kinds of partial
3 [inaudible], and do you anticipate having an overseeing body
4 such as the NRC panel that oversaw the redesign of the
5 Challenger?

6 MR. READDY: Well, I think they oversaw the
7 redesign of the solid rocket motor [inaudible].

8 QUESTIONER: Right, right.

9 MR. READDY: Very, very narrow, very specific area
10 of redesign, and that was after the findings and
11 recommendations said that that was a causal factor.

12 QUESTIONER: Right.

13 MR. READDY: So, to dissect your question now a
14 little bit, I think we will use whatever means that we have
15 available, and whether they include computer modeling or
16 actual tests on hardware, we will certainly do that.

17 As you know, the Discovery right now is in an
18 Orbiter major maintenance phase there at the Kennedy Space
19 Center, Orbiter Processing Day No. 3, I think, and so that
20 vehicle is available at this point to go look and see. As
21 the board determines, maybe we want to examine this

1 particular area of structure or this particular design
2 feature. So we have that available to go off and go look at.

3 So we actually have flight hardware.

4 QUESTIONER: Flight what?

5 MR. READDY: Flight hardware. Flight hardware,
6 the vehicle, another Orbiter at this point.

7 In terms of what happened, obviously we don't
8 know. If it turns out to be -- and I think at this point, we
9 are certainly going to go off and look at foam. We are going
10 to go look at the external tank and the insulation. We are
11 going to look at tile, just like I put in my tasking memo.
12 We are going to look at all of those things.

13 Some of them may require testing of the materials.

14 Some of them may wind up being just analysis of the existing
15 capabilities and the proposals that may be on the table.

16 I don't know whether I answered your question or
17 not.

18 QUESTIONER: Well, do you anticipate -- has there
19 been any mention or discussion in your presence ginning up an
20 independent body to oversee the process, once the Gehman
21 board has reported?

1 MR. READDY: You know, it is just so soon that
2 that hasn't been raised, but I certainly wouldn't rule it
3 out, particularly if they get to a very specific causal
4 factor.

5 I mean, you know, nobody wants any worse than we
6 do to find out what happened and fix it and make sure that we
7 fix it right, but by putting a laser beam on whatever that
8 happens to be, we are not going to ignore the rest of the
9 system.

10 I think he talked earlier about, well, how about
11 the organization. That was something that was commented on
12 post-Challenger, but we acted on that. We changed the
13 organization. We changed the reporting structure. We put
14 crew members in key positions of responsibility. Why?
15 Because we have been there. We know what it is like. We
16 know what it takes to make those kinds of decisions real
17 time. We know how the crew responds, how the training team
18 responds, how the engineers respond, and the firing room and
19 ignition control. So I think we acted on those before.

20 I wouldn't rule those out either. We will be
21 guide by the results of the board.

1 MR. MAHONE: We have just got a few more minutes
2 left. So if you want to ask any additional questions --

3 QUESTIONER: [Inaudible.]

4 MR. READDY: That is a very legitimate question.
5 Let me start out with that.

6 I think there is the impression that these
7 capabilities are available any time you want them. These
8 capabilities were not put in place to support the Space
9 program. These capabilities were put in place for other
10 purposes, and for us to change priorities for those national
11 capabilities is extraordinary, and we have to justify that
12 there was an extraordinary reason to do so.

13 We did not have that rationale. We would have,
14 believe me. If we had thought for a moment that there was a
15 problem where requesting those capabilities would have
16 helped, we would have done it.

17 QUESTIONER: [Inaudible.]

18 MR. READDY: Well, you all could talk about them
19 all day long, but people who have clearances can.

20 QUESTIONER: To determine as much as we can talk
21 about it, were these things in the position to take images

1 that would have been useful to you? What can you tell us
2 about that?

3 MR. READDY: I can't comment on sources, methods.
4 Sorry.

5 QUESTIONER: Another thing I want to ask you
6 about, primarily I am interested in the International Space
7 Station. I am wondering if you are looking out. I know you
8 are looking out 6 months and you are looking at 12
9 [inaudible] 18. How far out are you looking in terms of
10 trying to prepare for operating without a Space Shuttle? Are
11 you looking out 24 months? Are you looking out 30 months?

12 MR. READDY: You know, I think our view right now
13 is much nearer term. We are certainly looking out 18 months
14 to 2 years. Why? You know, if you look at the aftermath of
15 Challenger, you might say that would be a length of time that
16 would be appropriate.

17 We don't know what happened, and when we find out
18 what happened, then we are going to be an awful lot more
19 informed in terms of how long it is going to take to return
20 to flight.

21 Like I said before, the plan is nothing, but the

1 planning that goes into the plan is everything, and we need
2 to be prepared.

3 QUESTIONER: When is the latest, though, in
4 getting additional assistance from Russia, should you need
5 it, the way that might happen? There is some indication that
6 the relationship between NASA and Russia is getting sucked up
7 in the relationship between Washington and the Kremlin over
8 the Iraq. So how has that affected your day-to-day dealings
9 with your Russian partners, and what are the options right
10 now?

11 MR. READDY: First of all, that is way, way, way
12 above my pay grade. When it comes to our relationships with
13 Russians specifically on International Space Station, though,
14 Mr. Koptov [ph] has been very forthcoming.

15 He has said that they are there, they are moving
16 forward, they are going to do the best they can to support
17 the international partnership, and we take Mr. Koptov at his
18 word.

19 Right now, the most immediate thing that we need
20 to do is crew rotation and continue the operation of the
21 Space Station, and that is what we are focussing on right

1 now.

2 QUESTIONER: Could you comment on the request that
3 we have all seen? Russia is basically setting up a request
4 that they need cash assistance from the partners, probably
5 the United States, soon.

6 MR. READDY: Well, I think, first of all, the
7 United States, because of INA, is not in a position to fund
8 the Russian Space program. That is pretty clear.

9 This is a partnership, an international
10 partnership, and I think that what has happened with Columbia
11 highlights the fact that it is good to have dissimilar
12 redundancies in terms of access to and from the Space
13 Station, for supplies to people. We are expecting the
14 partners to work through this with us.

15 We are not in a position to help ourselves in this
16 particular case. That, I think ultimately -- that will be a
17 litmus test for how a legitimate partnership is, how we deal
18 with this issue.

19 MR. MAHONE: Last couple of questions.

20 MR. READDY: I am here eventually again. Talk
21 about the elephant in the room here, obviously that is an

1 issue that I would just as soon [inaudible].

2 Who is next?

3 QUESTIONER: You guys are quick to let us know
4 when we are rushing to judgment on things, but aren't you
5 guys rushing to judgment also when you say that a safe return
6 to flight is, in fact, possible, especially in light of what
7 Mr. Gehman said on Tuesday about age of the system now being
8 in question?

9 MR. READDY: Well, you know, go back to -- as a
10 test pilot, I flew the F-18. The F-18 is the front-line
11 fighter that we have right now in the Navy. I flew that
12 before the Shuttle ever flew the first time.

13 We are not talking about retiring the F-18's. The
14 F-18's don't get the same kind of care that Orbiters get
15 every trip through the Orbiter processing facility. They
16 don't get the same kind of overall that the shuttles get in
17 the Orbiter major maintenance period.

18 So, if it turns out to be age-related, I guess so
19 be it, and we will deal with that. It is hard for me to
20 imagine, having spent so much time at the Cape, having flown
21 [inaudible], and every time you strap in, it is like a

1 brand-new car. I mean, it is just hard to convey to you the
2 level of attention and detail and TLC that those technicians
3 lavish on those vehicles, each and every time we prepare to
4 go fly.

5 Are we rushing to judgment thinking that we might
6 return to flight? Gosh, that is a real stretch for me. I
7 don't see how you arrive at that conclusion. I think the
8 expectation is we will return to flight. I think that is
9 what we owe the STS-107 crew, and in terms of the processes
10 that we put in place to assure that we return to flight
11 safely, that is what we owe all of the other crews.

12 QUESTIONER: I would like to just go back to what
13 Bill said a little earlier, though, also. Bill, everything
14 is on the table in this memo, too, and so if you will read
15 where he did make some points, he also made the point that
16 there were the other things that would be looked at as the
17 process goes. It is a large process, and everything is out
18 there and is on the table.

19 MR. READDY: Yes. Look, this was not a term paper
20 or anything. I mean, you know, we did the best we could to
21 try and corral as many things that we knew at the time to put

1 in there and guide the effort, to task them to come up with a
2 plan, and there are probably going to be more things. Maybe
3 they will rule some things out. I don't know. I don't want
4 to prejudge that outcome.

5 I am expecting a team to come back with a plan.

6 QUESTIONER: Bill, as I reported this morning, one
7 of your colleagues at NASA told me that there were three
8 offers.

9 MR. READDY: Yes. That is confusing to me.

10 QUESTIONER: It comes from somebody who said they
11 spoke to you, so --

12 MR. READDY: Yes. Well, I made my statement to
13 the board for the record, and I can read portions to you.

14 QUESTIONER: Yes.

15 MR. READDY: Okay. Let's see. A NASA official
16 visited me in my office and said an individual from another
17 agency had been discussing the external tank debris issue
18 during STS-107 ascent. He wanted -- he, the NASA person
19 wanted to discuss an offer of support from the other agency
20 with respect to observing the Space Shuttle Columbia on
21 orbit. He explained that NASA would have to repeat -- excuse

1 me -- would have to request that support on an emergency or
2 high-priority basis.

3 I explained that the ET debris and possible
4 implications to the left wing thermal protection system had
5 been analyzed and reported to the mission management team and
6 documented in Flight Day 12 per daily report.

7 My understanding was the Space Shuttle program was
8 well aware of those capabilities that could be provided by
9 the other agency, and had concluded that the offer would not
10 contribute to the analysis.

11 I related to that individual as well as the
12 conclusions reached by the mission management team that there
13 was no safety-of-flight issue, and for those reasons, there
14 was no rationale for requesting emergency or high-priority
15 support.

16 This individual reiterated that the other agency
17 desired to do support on a not-to-interfere basis. I
18 acknowledged this information and told him again that this
19 was not viewed as a safety-of-flight issue, but told him to
20 accept the offer of support on a not-to-interfere basis.

21 That is it.

1 QUESTIONER: Under what basis?

2 MR. READDY: Not to interfere.

3 QUESTIONER: Can you explain that?

4 MR. READDY: What?

5 QUESTIONER: In the days that followed, when
6 people are questioning themselves in everything they have
7 done, in your own mind, have you thought through this whole
8 scenario, and do you have personal regrets there yet?

9 MR. READDY: I can tell you that I am familiar
10 with the capabilities. So are other program officials.

11 In my judgment, I don't think that that would have
12 added to the discussion, nor in the judgement of Ron
13 Diddimore, Len Hamm [ph], and others in the Shuttle program.

14 At the end of the day, the Gehman board, who has
15 individuals that are clear with proper security clearances,
16 will review what was potentially available, and they will
17 also rule on that and will be guided by the results.

18 QUESTIONER: So you really haven't questioned
19 yourself on this in the post --

20 MR. READDY: I think everybody looks back at the
21 events that transpired during that mission and critiques

1 every last little detail, every last little nuance. Those
2 were my friends. Those were my colleagues.

3 If I had thought for a second that there was
4 anything that we could have added to the discussion at that
5 time, if I had thought for a second that there was a
6 safety-of-flight issue, we would have availed ourselves of
7 every possible resource, including national capabilities,
8 including an emergency request for national capabilities.

9 MR. MAHONE: Next question.

10 QUESTIONER: You are ruling out -- or not ruling
11 out, though he said the chance of anything coming up out of
12 the investigation that would prevent [inaudible] at all is
13 very remote.

14 You addressed how [inaudible] the Shuttle is
15 periodically. I understand that, but it doesn't get down to
16 the actual air frame itself.

17 MR. READDY: Yes, it does. Actually, it does.

18 QUESTIONER: Okay. So I am wondering if there is
19 any issue here where there is a determination that the age of
20 the air frame is the culprit and whether that would make it
21 more complicated to clear it for return to flight.

1 MR. READDY: Go back to the aerospace flying
2 process is those vehicles were certified for 100 missions,
3 each and every one of those -- Discovery, I think has 30
4 missions on it. Columbia, I think had -- correct me -- 28.

5 Part of that certification process means that
6 there is tremendous margin built into that. Okay. We don't
7 just accept the design as sufficient. That is the reason why
8 we have all of those detailed structural inspections that are
9 performed during the Orbiter major maintenance period.

10 So we do x-rays. We do modal analysis. We
11 examine the structure inch by inch to make sure that per the
12 design, the hardware is responding as we thought it would.

13 QUESTIONER: Would you explain just going back to
14 this, the other agency desired to do this on a
15 not-to-interfere basis? I am not sure I understand that.

16 MR. READDY: I had no conversations with any other
17 agency. I had a conversation with a NASA person --

18 QUESTIONER: Right.

19 MR. READDY: -- who conveyed this. So this is all
20 secondhand.

21 QUESTIONER: But that offer -- they wanted to do

1 it on a not-to-interfere basis?

2 MR. READDY: What does that mean?

3 QUESTIONER: I don't know what that is.

4 MR. READDY: I think it means just what it says.

5 It is not to interfere. Those capabilities are in place to
6 do a lot of other different things. You can suppose that
7 they were doing other things with those assets. I think it
8 is that simple.

9 QUESTIONER: A second offer was if it is possible
10 without interfering with our war plans or whatever else they
11 were doing, that they wanted to do it. Was that offered?

12 QUESTIONER: Is that your phrase or their phrase?

13 MR. READDY: That was their phrase.

14 QUESTIONER: That was their phrase.

15 MR. READDY: Well, it was relayed to me. That was
16 their phraseology.

17 QUESTIONER: Not to interfere with their
18 operations as opposed to --

19 QUESTIONER: NASA operations.

20 QUESTIONER: -- your operations?

21 MR. READDY: Their operations.

1 MR. MAHONE: In the sense that it was communicated
2 to Bill in that way because, again, this is coming secondhand
3 to him, not direct. So there is a distinction there that I
4 think you need to be sure and make.

5 QUESTIONER: When did you make that statement to
6 the board?

7 MR. READDY: The statement, I made on February
8 3rd. And actually, the statement was: For the record, it
9 was released to the board and to the IG.

10 MR. MAHONE: Last question.

11 QUESTIONER: Did it seem odd to you that there was
12 another agency in the Government that was more eager to take
13 a photograph than NASA was of the Shuttle in flight? Doesn't
14 that seem odd to you?

15 MR. READDY: Yes. Quite frankly, it did seem odd
16 to me in that these other people did not have insight into
17 the engineering analyses that had been done and likely as not
18 they were informed simply by what they read in the newspaper
19 or what they saw on TV.

20 So I think they were leaning forward saying, "Hey"

21 --

1 QUESTIONER: Well, wait a minute. There was
2 nothing on TV or in the newspaper about debris, nothing,
3 none. None.

4 MR. READDY: Really?

5 QUESTIONER: Nothing.

6 MR. READDY: I know that somewhere I saw on a
7 website or someplace actual footage of the asset as played
8 over and over again, and maybe it was your website. I don't
9 know, but I remember seeing that.

10 It was certainly in this kind of neural network
11 that it is to NASA. I mean, it was all over the place. It
12 was discussed.

13 MR. MAHONE: It was in the daily reports.

14 MR. READDY: It was in the daily reports, and in
15 fact, I think that the transaction that I heard was this
16 individual from another agency was attending a conference and
17 heard about this and then volunteered to a NASA person, "Hey,
18 have you considered" -- but none of those people were privy
19 to the engineering analysis, and it is unlikely that they
20 were privy to the MIR reports. And in fact, this individual
21 from NASA that approached me was not aware of the Flight Day

1 12 report that said there was no safety-of-flight issue.

2 QUESTIONER: Did you discuss this issue with
3 others, your superiors?

4 MR. READDY: No.

5 MR. MAHONE: Thank you very much.

6 [End of Media Roundtable.]

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