HOUSE COMMITTEE ON SCIENCE HOLDS A HEARING ON THE FUTURE OF NASA

JUNE 28, 2005

BOEHLERT: The hearing will come to order.

It is a great honor and pleasure to welcome Dr. Michael Griffin this morning in his first appearance before this committee as NASA administrator.

Dr. Griffin appeared before us many times as a private citizen and he has long served this committee as a trusted adviser. The announcement of his nomination was greeted in these precincts with something close to glee, and we've not been disappointed.

Mike has taken on his duties with gusto and with candor. In fact, it would be easy to paint Mike as a Don Quixote-like figure, lost in his books. (LAUGHTER)

Mike does not realize that idealism has dimmed and he suits up and wanders about NASA, righting old wrongs, questioning old verities and rescuing programs in distress.

But there's an essential difference between Administrator Griffin and the man of La Mancha. The errors Dr. Griffin is battling are real and the results are consequential rather than comic.

Indeed, much is riding on Dr. Griffin's tenure at NASA. Each and every NASA program is facing fundamental questions: What will a CEV look like? And what will we do on the moon? What kind of aeronautics research will NASA pursue and at what facilities? Will NASA continue to have a robust Earth science program? What is the future of the Hubble and Web telescopes? What will be done about the Iran Non- Proliferation Act? And those are just a few of the basic issues.

In fact, more than two years after the president announced his vision for space exploration, NASA can barely give a definitive answer to a single question about its programs.

That is not, believe it or not, criticism of NASA. The agency is rethinking its activities and the answers will take time.

Moreover, Administrator Griffin wisely sent some of his teams working on the answers back to the drawing board.

But it's important to remember that we are pretty much flying blind right now. We expect to have the first answers about the human space flight program some time in July. And NASA will have to answer the most fundamental question about its current manned programs this week when it determines whether to return the shuttle to flight.

As yesterday's Stafford-Covey deliberations indicated, that is a close question. And I'm ready to abide by any decision Administrator Griffin makes.

But even as NASA wrestles with these thorny issues, Congress needs to move ahead with authorizing legislation. The bill that Chairman Calvert and I introduced yesterday provides a framework for moving forward, ensuring that Congress has the information it needs to make more detailed policy calls in the years ahead.

I look forward to working with all the members of this committee as we move the bill forward to enactment over the next several months.

There are two matters on which this bill is crystal clear: First, that we should move ahead with returning to the moon by 2020; and, second, that human space flight programs cannot become the sole mission of the agency.

Figuring out how to balance those goals will be no easy task but it is essential.

Part of the answer is ensuring that the shuttle is indeed retired no later than 2010. But it will take more than that to ensure that NASA continues to have vibrant and productive aeronautics, Earth science and space science programs, programs that are not evaluated in terms of the vision but on their own terms or their own contributions.

BOEHLERT: I look forward to working with Administrator Griffin, who also wants to see a balanced and multi-mission NASA.

And so I look forward to hearing from the administrator on his latest thoughts this morning. If things don't go well, he can just write us off as one more windmill he has to tilt with today.

Thank you.

Mr. Gordon?

GORDON: Thank you, Mr. Chairman.

I want to welcome not only Dr. Griffin, but also our audience today. I think the number of folks that are here indicate the significance of this hearing, and I'm sure there are many more that are watching elsewhere.

So welcome, everyone.

And as usual, I want everyone to know that I concur with my chairman and his statement. And we are on board in most sync in our direction for NASA.

Dr. Griffin, you come to the job of administrator with impressive technical credentials a wealth of experience. I want to wish you well. I look forward to working with you to ensure that the United States maintains a strong and robust civil space and aeronautics program.

I count myself among the supporters of the exploration initiative. I believe that the long-term goals for the human space flight program proposed by the president make sense.

At the same time, I must say that I am concerned about where NASA is headed and about the large number of unanswered questions that remain almost 18 months after the president announced his exploration initiative.

And let me elaborate for a minute on some of those unanswered questions.

For example, what is the overall architecture for achieving the president's exploration goals? That is, where are we going, how are we going to get there, what are we going to do when we get there, how long would it take and how much will it cost?
Last year, we were told that there was a rigorous process under way involving 11 concept exploration and refinement teams from industry and academia working with NASA to answer these questions.

Now we're being told that the process is no longer relevant. Instead, a small internal NASA team has been tasked with coming up with an exploration architecture by some time in July.

Another set of questions: What is the crew exploration vehicle going to do? How are we going to acquire it? And what it will cost?

Last year, we were told that there was a rigorous process to develop a system-of-systems concept for the CEV and associated launch vehicles, incorporating a spiral development acquisition approach.

GORDON: Now we're being told that the planned CEV acquisition approach is no longer relevant and that a new approach is being taken in order to accelerate the CEV, but there is no way of knowing, at this point, how much it will cost to accomplish the accelerated program.

What is the International Space Station going to be used for? And what is it going to look like? Last year we were told that the International Space Station research program was being restructured to more closely align it with the exploration initiative and that Congress would be given the restructured plan last fall.

Now we're being told that the entire ISS program content is once again being restructured and that we will -- that later this summer before we will know what those plans are. And we hear that our international partners are very concerned about the impact on their plans for NASA's restructuring.

And what is the priority of the nuclear power and propulsion system in the president's exploration initiative? For the last several years we were told that the most appropriate demonstration of the Project Prometheus space nuclear technology would be the scientific probe to Jupiter's moons called the JIMO mission.

Now we're being told that JIMO mission is essentially dead, that Project Prometheus is being restructured and that the main Project Prometheus activity at present appears to be transferring money from NASA to DOE's Office of Naval Reactors.

Last year we were told that it was important to undertake the whole series of explorations systems research and technology development projects at a cost of more than $700 million in FY 2005 alone. Now we're being told that the funding for many of those proposed projects has been put on hold.

Now I could go on, but I hope my point is clear. Almost 18 months after the president announced his expiration initiative basic questions are still unanswered and much of what Congress was told last year is no longer valid.

Yet in the absence of needed information, Congress is being asked to support the exact funding levels for exploration proposed in the FY 2006 NASA budget request, almost $3.2 billion, and to cut other nonexploration programs in order to free up funds for the initiative.

That is, we're being asked to make a trust me vote on NASA's funding request. And I might add, that is what the previous administrator not only asked but demanded and received and you see where we are.

GORDON: Dr. Griffin, you've only been on the job for about two months and you cannot be held accountable for anything that had gone on at the agency prior to your arrival.

At the same time, given all the changes you've made to the exploration program since you became NASA administrator, it would seem that you have concluded that none -- or rather, not all of more than $2 billion allocated for NASA's exploration's systems program since January 2004 has been wisely spent. And that's troubling, because even $100 million of that exploration's systems funding could make a significant difference in the health of NASA's aeronautics program or NASA's Earth science program.

Yet the reality is that under the president's plan, those other programs may increasingly become bill-payers for the exploration initiative in coming years, and the healthy balance that should exist between all of NASA's core missions will be lost.

That is certainly going to be the case if the administration continues cutting NASA's out-year funding profile for the upcoming fiscal year 2007 request, as it did in the fiscal 2006 request, while in the same time attempting to hold on to the president's milestones for his exploration initiative.

Unfortunately, the results of that approach are already evident. Some 2,500 current NASA employees are at risk of losing their jobs. Scientific missions are being canceled, deferred or cut and NASA's aeronautics program is on the path of becoming irrelevant, in the words of one of the recent witnesses before this committee.

In addition to being a waste of human capital infrastructure built up at NASA over the last 40 years, I believe such actions will make it increasingly difficult to sustain support for NASA's budget in coming years as the agency's focus is narrowed and the overall fiscal situation facing the nation becomes worse.

I hope we can avoid such an outcome, but I think it will require a course of correction within NASA and the White House if that is to succeed.

Now, Mr. Griffin, what does all this mean? Let me tell you.

You remember very well a few years ago when we had a number of votes at a time when we had world-record budget deficits, we had a lot of needs here on Earth, and the question was, should we continue with the International Space Station? And after a number of votes, by only one vote did the space station succeed.

Now, what I'm afraid that we're going to see is at a time when we have even worse deficits, even more needs on Earth, we're going to see a series of attempts to take money out of mission to Mars and put it here on Earth.

And as we do this -- and it's not going to be tomorrow; it's going to be in the next three or four years. During that same period of time, I'm afraid that we're going to see a cannibalization of other programs in NASA. We're going to see a lot of long-term employees with expertise and core missions within the centers to be lost.

And so, the situation then could very well be, at this point and whatever it might be three or four years, we have those same kind of votes, we decide that money rather than going to Mars ought to be placed in schools or veterans or something else on Earth, while at the same time we've already undermined our existing programs. Then do we say, Well, NASA now is not relevant in even more ways, and they're even more cut? That is my concern.

And so, I also should have a suggestion. And let me tell you about my suggestion.

GORDON: I'm taking a little more time than I normally do, maybe going back to some previous times, because you haven't been to see me yet, and so I want to take this opportunity to let you know.

Here's what I think that we need to do.

If we're planning on going to Mars in the year 2030 -- or I guess it's 2035 or beyond -- then rather than 30 years, it might be 31 years. I don't think we're any worse off and we might save a lot of money.

What I would hope you would do is go forward with those things we know that need to be done. We've got to return to flight. We've got to get this crew exploration vehicle going. You need to go ahead and look for the -- a heavy payload type of lift.
We've got to do those things. But let's slow down in terms of restructuring NASA until you answer those questions that are out there.

Let's take this year to try to find out what are those programs outside the exploration mission that really are important. Let's have some priorities there. Let's be sure that we're not going to have this start-stop approach any longer. I think we'll save money. I think it'll be the best thing for NASA. And I hope that you will give that some consideration.

And thank you for your indulgence, Mr. Chairman. I guess I am reclaiming lots of time that I yielded early in the past.

(LAUGHTER)

BOEHLERT: Spirit of cooperation.

The chair is pleased to recognize the distinguished chairman of the Subcommittee on Space and Aeronautics, Mr. Calvert of California.

CALVERT: And in the spirit of brevity, Mr. Chairman, I'll be very brief.

Today, we welcome NASA's eleventh administrator, Dr. Mike Griffin, in his first appearance before this committee. Tomorrow, we'll mark up the first NASA authorization bill in a number of years in the Subcommittee of Space and Aeronautics, which I'm certainly happy to chair. And I'm very hopeful that we'll be able to get this bill through the House of Representatives before the August work period, where we can go into conference with the United States Senate. Dr. Griffin, you're certainly a breath of fresh air for NASA and we're really looking forward, as you can tell, to working with you to build a better and stronger NASA together.

As you know, we're beginning a second Space Age, as I like to put it. The first Space Age was born of the Cold War. The second Space Age will feature space exploration while achieving synergy with commercial, civil and national security space programs.

Doctor, you're in a place to lead us in the second Space Age, and we'll we work together to make a better NASA.

For NASA to develop an overall grand strategy, we must have a strategy for NASA's aeronautics research and technology as well as a multi-year plan for NASA's science programs that parallel NASA's vision for space exploration.

Once we have well-defined missions and strategies, NASA will be able to move forward more effectively and efficiently in its core areas.

As you know, I plan on visiting all the NASA centers in this Congress. So far, I've visited the Kennedy Space Center, Dryden Flight Research Center. I plan to visit the Jet Propulsion Laboratory on July 3rd to observe the climax of the Deep Impact program as it collides with a comet. And for the first time, we'll have a good look inside a comet. This will be an exciting evening.

At each of these centers, I've been impressed with the enthusiasm, dedication and the technical skills of the workforce. I spoke with a number of the workers who are preparing the space shuttle for the return to flight, processing components of the International Space Station, conducting life science research, and testing experimental vehicles.

This NASA community is comprised of a talented workforce with skills that America cannot afford to lose.

CALVERT: I believe that Mike Griffin is the right person to lead this talented workforce in a direction to benefit our nation and to enhance our competitiveness globally.

Administrator Griffin said in a speech last week, “my feet are firmly grounded in reality, but I am also grounded in the idea that we need to change some of the definition of reality.”

I look forward to working with you as we change the definition of reality and work into this second Space Age.

And I certainly welcome your testimony today.

And I yield back the balance of my time.

BOEHLERT: Thank you very much, Mr. Calvert. And thank you for the leadership you're providing on the subcommittee during a very important time for the agency.

Mr. Udall?

UDALL: Thank you, Mr. Chairman.

Good morning, Dr. Griffin.

I'm going to hopefully comport myself in the same spirit as my chairman, Mr. Calvert, and be brief.

If I could, Mr. Chairman, I'd like to ask for unanimous consent to include my entire statement...

BOEHLERT: Without objection.

UDALL: ... on the record.

Dr. Griffin, I think it may be a bit of a cliché, but I think it is worth saying that NASA is at a crossroads, and this is the focus we want to have at this hearing, is how we balance all these competing interests.

The president has given us a new long-term vision for human space flight. I support that vision. But I'm not sure how all these aspirations, as I just said, fit into the budget that's been provided to NASA.

Congressman Calvert, Congressman Gordon and Congressman Boehlert talked about the aeronautics side of NASA. I have concerns based on what we've heard recently from nongovernment witnesses, and looking at the president's budget, I think those concerns are worth considering.

That's one of the reasons I introduced, along with a group of bipartisan supporters, H.R. 2538, the Aeronautics R D Revitalization Act, which I would like to see incorporated into the NASA reauthorization.

The concerns I've also heard from the fundamental biology and microgravity research communities, as well as from commercial organizations, about what we're going to do in the areas of Earth and space science, I think are worth hearing. And I look forward to your testimony today in that regard.

As I close, I do want to thank you for your willingness to start preparing for a shuttle servicing mission to the Hubble Space Telescope, contingent, of course, on a successful return to flight of the space shuttle.

It's one of the most significant space laboratories ever launched, and I believe we should continue to utilize it to its fullest capacities as long as it remains productive.

So again, Doctor, it's a tremendous opportunity to have you here. Thank you for your service. And I look forward to hearing your testimony and engaging further with you in the question-and-answer period.

Mr. Chairman, I'd yield back any time I have remaining.

BOEHLERT: Thank you very much.

How's that for a warm welcome?

GRIFFIN: Very interesting.

(LAUGHTER)

BOEHLERT: Mr. Administrator, as both Mr. Gordon and I noted in our opening statements, many fundamental questions facing NASA remain to be answered.

Let me go through a list of pending items that we reviewed at the February hearing with then-Acting Administrator Gregory.

BOEHLERT: For each of these, I'd like you to tell me and the committee when we will get the answer to the question. You may have mentioned some of these in your testimony, but I'd like to go through the list, nonetheless, to create a single place in the record we can all go back to to measure our progress.

Can you tell me when you're going to have the research agenda for the International Space Station and its proposed final configuration?

(Inaudible) make a statement, first?

GRIFFIN: No, sir. I wanted to take your questions.

You were...

BOEHLERT: Are you sure?

GRIFFIN: No, that's fine, sir.

BOEHLERT: All right, fine.

Can I repeat that? I'll go through the list.

GRIFFIN: Please do.

BOEHLERT: The first one, you've got that, right? When do you plan to have the research agenda for the International Space Station and its proposed final configuration?

I'll do them one by one; let you respond.

GRIFFIN: We are reworking the research agenda of the space station, as has been pointed out. We are looking at -- the question is difficult to answer because in part it ties up with how much research on the station do we want to do while we're trying to build and finish developing it.

As was pointed out in your earlier statement, or someone's earlier statement, we must retire the shuttle by 2010. We must, as soon thereafter as possible, deploy the CEV, the crew exploration vehicle, which will replace the shuttle and which will be our means of ferrying astronauts back and forth.

And so to some extent, the research that we would do on the space station if we were otherwise unconstrained must take a back seat to getting the necessary systems on-line to allow us to develop and utilize the station.

I can't specifically give you an answer as to when we will have the research agenda for the station fully defined.

BOEHLERT: Can you hint?

GRIFFIN: Yes, yes, sir. I can hint. I made a couple of notes on this.

We're trying to rebalance the portfolio. The high-priority areas are going to be space radiation, health and shielding, advanced environmental control and monitoring, advanced EVA activities and support of those, human health and countermeasures, life support systems, medical care for exploration and human factors, medical research with human subjects and microgravity validation of the environmental control and life support systems.

GRIFFIN: We expect to refine those as a result of the shuttle and station configuration options team examination that's under way today.

Within the next few weeks we will be briefing, discussing configuration options within the administration and then in short order with you here on Capitol Hill, with this committee and with others.

Our uncertainty today -- so in brief, for an answer to your question, I would say later this summer.

BOEHLERT: Later this summer?

GRIFFIN: The situation that we find ourselves in that results in this lack of full definition, is that as we sit here today the one thing we are certain of is that we cannot fly 28 shuttle flights to assemble the station and still retire the shuttle by 2010. There are not 28 flights available in our manifesting sequence if we wish to retire by 2010.

Therefore, what we're looking at is a redefined program of shuttle flights that we can execute with a high degree of confidence over the next five years. And that necessarily results in replanning the research agenda.

BOEHLERT: You know I was so anxious to get to these questions, and we all are, that I neglected to give you the opportunity for an opening statement.

We want to welcome you with open arms before this committee and give you the chance to share with us some of your thoughts before we proceed with the questions.

So, the floor is yours, Mr. Administrator.

GRIFFIN: Well, thank you, Chairman Boehlert. I will just make a few brief remarks and then I will enter into the record this statement as well as the longer, more formal statement.

I do want to thank you for inviting me to appear before you. As both you and Ranking Member Gordon have pointed out, I've been here many times before as a private citizen. I've forged, I think, excellent working relationships with this committee and I certainly hope that that won't change in testifying before you in a new capacity as NASA administrator. We do have many challenges to overcome. We need to work closely with this committee and the entire Congress to carry out the president's vision for exploration and our other programs.

You have raised many questions. I have made significant changes in the last two and a half months that I and my staff believe necessary to get us on the right track. And I look forward to answering as many of the questions that Ranking Member Gordon and yourself have raised today as I possibly can.

So with that introduction let me enter, if I might, this oral statement into the statement. Your staff and you can peruse it at your leisure, and with your permission then we can move directly to your questions, which I will try to answer.

BOEHLERT: Without objection so ordered. Your entire statement will be made part of the permanent record...

GRIFFIN: Thank you.

BOEHLERT: ... for our perusal.

GORDON (?): Quite frankly to be close exactitude.

GRIFFIN: Even better.

BOEHLERT: Let me continue my series of questions on when.

When do you expect that we'll have some report on the number of flights the space shuttle will make before its retirement, the purpose of those flights and the expected date of the final flight?

GRIFFIN: Again, sir, later this summer.

BOEHLERT: Later this summer is going to be in the August recess, so...

GRIFFIN: No. As I sit here, a team of bright and dedicated engineers with substantial experience in the business and on space station in particular are looking at all of the available options by which we might complete the assembly of the space station consistent with our obligations to our partners and our research agenda while remaining within the requirement to retire the shuttle by 2010.

GRIFFIN: I just mentioned that there will not be available 28 flights. And so we must work with less, and we must make some determination as to what amount of work is leftover for the new system to complete.

We are close to the end of that exercise. During the month of July we will be discussing those alternatives within the administration and, as soon as we can do so, with your committee and other members of Congress.

BOEHLERT: So is it fair to say the September timeframe would be...

GRIFFIN: Absolutely not later than that, sir.

BOEHLERT: All right. Thank you very much.

And when might we have a description of the means other than the space shuttle that might be used to ferry crew and cargo to the International Space Station?

GRIFFIN: Again, in that same time frame, because that depends upon the results of a parallel study on exploration systems architecture. And I think you know that the president has required that the so-called crew exploration vehicle, which will provide the fundamental building block for returning astronauts to the moon, must also be capable of ferrying astronauts to and from the space station.

And so, again, later this summer.

BOEHLERT: That same timeframe for a description of the launch vehicle for CEV?

GRIFFIN: Absolutely, yes, sir.

BOEHLERT: All right.

And now, this one's a sticky wicket, but a plan for the operation of the International Space Station in the event that the Iran Non- Proliferation Act of 2000 is not amended?

GRIFFIN: That will take longer if we -- for the administration, we are planning to seek amendations for that act to allow us to utilize the station together with our Russian partners. If that act is not amended, then at present the only plan we really have for utilizing the space station would be while the space shuttle is docked at the station. At times other than that after '06, the United States would not be able to keep astronauts on board.

BOEHLERT: April, '06, isn't it?

GRIFFIN: April, '06, that's correct, sir.

So if the act is not amended, then NASA would not be able to have U.S. astronauts on board the station, other than when the shuttle is there.

BOEHLERT: And the shuttle can be there a couple of weeks?

GRIFFIN: A couple of weeks.

BOEHLERT: All right.

A description of any heavy-lift vehicle the administration intends to develop, the intended uses of that vehicle, and whether the decision to develop that vehicle has undergone or is undergoing an interagency review?

GRIFFIN: All of the architecture that we intend to put forward this summer will undergo interagency review. That's an unequivocal statement.

For heavy-lift vehicles capable of returning us to the moon, I have made no secret of the fact that I believe a shuttle-derived architecture, wherein we retire the orbiter and utilize the remaining elements of the shuttle structure -- the engines, the tanks, the solid rocket boosters -- will provide us a 100 metric ton-class payload capability. And that from where we are today, that is the shortest path to such a capability.

BOEHLERT: Of the intended purpose of lunar missions and the architecture for those missions?

GRIFFIN: Answer: later this summer. Certainly not later than September. That is a study that is ongoing.

And I realize -- I fully respect Mr. Gordon's remarks and yours, that it has been now almost 18 months since the president's announcement of a vision for exploration, and that it might well be said that we owe you and have owed you for some time those plans and those architectures.

GRIFFIN: I do take responsibility for that.

BOEHLERT: Well, it's an agency in transition. We understand that.

GRIFFIN: It is in transition. And we do not believe that the problem needs to be as complicated as some have said. And we have been working since I arrived and we are working today in order to be able to provide you with those top-level plans, architectures, approaches and budgets later this summer.

BOEHLERT: Well, one of your great skills is your ability to take complicated matters and provide some simplification, and we're looking forward to that.

How about the project goals for Project Prometheus?

GRIFFIN: If I have an ability to simplify things, it's because I must to remain within my own limitations, but thank you.

Project Prometheus is extremely important. The utilization of nuclear power in space for electric power and propulsion has no stronger advocate than I. And I know that this committee knows that because I've said that in prior testimony.

However, in a world of limited resources, as I looked at our program going forward, I could not justify placing as the first goal of Project Prometheus the development of a nuclear-electric propulsion system to send a scientific mission to Europa.

That mission was at $11 billion and counting for cost estimates before we got off the drawing board, and I, in the face of competing priorities, simply could not endorse that.

Moreover, the nearest-term need that we have for nuclear capability in space will be surface power on the moon in the middle or toward the end of the next decade.

So to the extent that we wish to devote resources to exploring Europa -- and I do, and we will be submitting such a program -- I chose not to link the exploration of Europa with the development of nuclear-electric propulsion to do so. And to the extent that I believe in the importance of nuclear power and propulsion in space -- and I do -- I've chosen to devote our early resources to the development of surface power for lunar missions.

BOEHLERT: Before turning to Mr. Gordon, whose indulgence I appreciate, but these are really consensus questions...

GRIFFIN: I understand, sir.

BOEHLERT: ... that we're all searching.

BOEHLERT: The final thing is, when might we expect a plan for managing the cost overruns for the James Webb Space Telescope?

GRIFFIN: Again, sir, I was apprised of those potential cost overruns last month. Within 48 hours of having been so apprised, we at NASA chartered a special team to review those costs with the action

to reduce them where possible or, where they are real, to recognize them and replan the rest of the program around them.

The James Webb Space Telescope is the centerpiece of our astronomy program going forward, no question about it, but we need to make sure that we have an executable program with realistic dates.

When we have that information -- again, not later than the end of the summer -- I will bring it to this committee.

BOEHLERT: It is very apparent that you have a lot of busy days ahead. And we don't expect you to wave a magic wand and perform miracles, but I hope you can appreciate the desire on the part of this committee, on both sides, to get answers to some of these basic questions that guide us as we go forward with charting the course for the future of NASA.

GRIFFIN: Sir, I could not more fully understand and appreciate the need to do that. And we are with you in this search for answers. And as rapidly as we can provide responsive and reasonably complete answers, this committee will have them.

BOEHLERT: Thank you very much.

Mr. Gordon?

GORDON: First of all, let me say, Mr. Chairman, thank you for getting those questions on the record. I think it's important for us in our mission of oversight. And quite frankly, I say that we haven't done as good a job of oversight as we should have in the past because we haven't gotten those kind of answers.

And I think, Dr. Griffin, your suggestion of September is realistic, reasonable. You've got a lot to review.

But I'll also point out that it's only a few days before the beginning of the fiscal year, which is, again, why I would suggest that there not be major redefining of NASA and of some of the goals there until you have a chance to get through this.

GORDON: And so I would hope you would keep that in mind.

And let me move forward with my question.

Dr. Griffin, in my opening statement I mentioned a number of changes have been made to NASA's exploration programs since you arrived. I did that not to question your decisions, but to make the point that a lot is influx within NASA's exploration program. And a lot of what Congress and the industry was told last year is no longer relevant.

Unfortunately, NASA has a history of such changes.

The space station program seems to change almost every year since its initiation in the mid-1980s. And I understand you're now considering restructuring it again.

In 1994, NASA announced its single-stage-to-orbit launch vehicle program with much fanfare. A few years later, the program was canceled before the X-33 test vehicle even flew.

Then NASA announced that it was instead going to initiate the space launch vehicle within the goals of developing a next-generation reusable launch vehicle and other advanced technologies.

A few years later, NASA canceled the space launch initiative and said that its new plan was to build an orbital space plane. Well, the orbital space plane program last year was also canceled.

Then last year, NASA announced its plan to develop a crew exploration vehicle using a spiral development approach. Apparently the CEV program is being restructured and the acquisition approach changed.

And many other changes are apparently being made to the exploration program. That may be the best thing to do, and I think it probably is, Dr. Griffin. But given NASA's record, it's hard to take that on faith.

So, Dr. Griffin, you are not going to have a lot of room to maneuver when it comes to the budgets which you'll likely see over the next few years.

So how do you plan to ensure that your exploration program is not subject to the same errant changes that we have seen from NASA in the past? In other words, what are you going to do differently? And also, do you feel that it's necessary to set up firewalls? Or what are you going to do in these tough budget times to stop poaching into other areas of NASA's budget? Or do you think that's necessary? And is it inevitable that will happen?

GRIFFIN: Let me answer the last question first, sir, if I might.

I don't believe that we are allowing the manned space flight program to poach on to other areas. I have committed often and publicly that I intend to, want to and will protect NASA's science program from the demands of human space flight and, frankly, vice versa.

If the James Webb Space Telescope overruns, it's the problem of the astronomy folks, not the shuttle folks; they have their own problems.

GORDON: Do you see setting up firewalls or what other than just good faith? How do you intend to try to do that?

GRIFFIN: I don't think, sir, that we need legal firewalls, because the preservation of flexibility in the event of an emergency is always important.

As, for example, in recovering returning to flight from Columbia, NASA did not receive a supplemental as we did in the aftermath of the Challenger disaster.

GRIFFIN: And so, if we were to return to flight, there was no alternative but to reprogram funds. And this committee and others were very helpful in allowing us to do that.

So I think the avoidance of...

GORDON: There was a process there...

GRIFFIN: There was.

GORDON: ... that allowed you to meet those emergencies.

GRIFFIN: And I would use that process again.

So I would rather avoid legal restrictions on flexibility and I would rather rely on working with this committee to establish the correctness and the utility of the decisions that are being made.

You mentioned that you didn't want to appear to be questioning my decisions. On the contrary, sir, I think you should. If I make decisions that cannot stand up to the light of day, I think they should be questioned.

GORDON: We'll wait and do that in September once we hear them.

(LAUGHTER)

GRIFFIN: Yes, sir.

You asked, what we will be doing different. First of all, I hope never again to let the words spiral development cross my lips.

(LAUGHTER)

That is an approach to acquisition for large systems very relevant to DOD acquisition requirements, but I have not seen the relevance to NASA and I have preferred a much more direct approach, and that is what we will be recommending and implementing.

What else will be different? I hope that you will see, as we bring it forward, a very straightforward plan to replace the shuttle and a very straightforward architecture for a lunar return, that, on the face of it, will seem to you that if we are to do these things, that the approach being recommended is a logical, clean, simple, straightforward approach. You mentioned, sir, in your opening remarks postponing the arrival date at Mars in order that we can do the proper things now. And I agree.

The money that is being spent, that is being tagged with exploration initiative funding in these early years is really almost entirely for the completion of the space station and for the development of the crew exploration vehicle. That's what's being done with the money that is being provided.

And, in fact, we need all of it that we can get in order that we not have, in my view, a strategically undesirable gap between the retirement of the shuttle and bringing on-line the CEV.

I don't think it's too soon to undertake the redefinition of what we're doing in NASA that you've mentioned. I don't think we need a year to take a deep breath, because in the course of that year, we would be spending a lot of money.

There are many things which were on the table when I walked in the door at NASA that needed to be reexamined, and I felt honestly, sir, that the soonest that we could do that and stop spending money in directions that we felt were unprofitable and unpalatable -- the soonest that I could do that would be none too soon.

We have submitted to this Congress a revised operating plan for '05. We will be putting forward a budget amendment for fiscal '06 to reflect some of these changes in priorities.

BOEHLERT: Thank you very much.

Mr. Calvert?

CALVERT: Thank you, Mr. Chairman.

Obviously, the topic of all the news today is return to flight. And last evening there was a report that indicated there was some problems but that they anticipate returning to flight soon.

And I just thought we'd ask your current assessment of plans to return the shuttle. And do you still anticipate that we'll be able to do that launch on July 13th?

GRIFFIN: Let me start with the end.

Yes, sir, we have several days of slack available between today and a launch on July 13th. We look like we're in pretty good shape there.

We have the formal flight readiness review tomorrow and Thursday, which I will be attending. In fact, I will be leaving this evening for Kennedy.

I've participated in every technical review that was appropriate for me to do since coming on board as administrator and I believe I have acquired a pretty good picture of where we are with respect to the technical requirements to return to flight.

I've been tremendously impressed with the work that the team has done in executing those improvements. And I think, based on what I know now, we're ready to go.

The flight readiness review for the next couple of days will either uncover an exception to that statement or will endorse it and we will all see.

CALVERT: That's good to hear.

One of the questions that you answered indicated an obvious situation that we're not going to be able to fly the 28 shuttle missions that were anticipated to finish the International Space Station to some degree that some folks would like to happen.

I was wondering, in regard to the centrifuge, where do you see the future of that? And are we going to be able to move forward with human exploration without performing that research that the centrifuge was to provide or is there another way to get that centrifuge up there?

GRIFFIN: Well, in the fullness of time there is always a way to get anything up there.

The centrifuge accommodation module is being considered as to whether or not it should be flown, given the focus of station research on the affects on the human organism of microgravity.

Centrifuge can't, of course, accommodate a human. It can accommodate tissue or small animals for fundamental cellular-based life science research. That sort of research at the cellular level is not directly applicable, and would not be for many years, to problems of flying humans on voyages back to the moon or Mars.

And so, in that sense of reorienting the station's mission to focus on human exploration rather than fundamental life science research, the fate of the centrifuge accommodation module is in (OFF-MIKE).

CALVERT: One other question I have -- I know you've only been there a couple of months, but, as you know, for the last three of the four years NASA has been able to produce audible financial statements. Auditors have highlighted a number of weaknesses with NASA's financial statements, as you know, so what is your assessment so far of the situation and what do you have in mind to fix it?

GRIFFIN: The situation is deplorable. It is unacceptable that NASA cannot meet the standards for financial acumen to which it holds it contractors. I was apprised of this during my pre-confirmation visits here on the Hill, and scarcely a week has gone by that I have not been reminded of it.

We have provided additional personnel and additional budgetary resources to address the issue. We've, in fact, invited leading financial management experts from other federal agencies to review our plans and have incorporated their suggestions.

I've empowered the CFO to execute these plans and take actions that should produce the long-term financial health of the agency.

GRIFFIN: We have three core priorities that we're trying to achieve.

The first exercise is to generate a clean opinion from our auditors just to simply know where all our money is and have our auditors agree that we do.

With regard to developing our budget, we want to resolve issues of how we control our funding distribution, how we should standardize our financial data structure, and how we are going to standardize our budget formulation process.

And finally, we need to standardize our management reporting methodology and financial management metric.

Our major challenges are to reconcile the fund balance with Treasury accounts; to provide an auditable evaluation of our property, plant and equipment, and environmental liabilities; and to improve our financial data integrity and compliance with Federal Accounting Standards Board and OMB and Treasury requirements.

We know the challenge in front of us. We're getting the best external and internal help that we can to execute it. I take it very seriously.

CALVERT: Thank you, Doctor.

And I look forward to working with the chairman to have maybe a hearing about this later on more specific on this problem.

GRIFFIN: Yes, sir.

BOEHLERT: Thank you very much.

Mr. Udall?

UDALL: Thank you, Mr. Chairman.

Dr. Griffin, if we could, I'd like to focus on the aeronautics side of the equation and also ask you a couple of questions about Hubble.

As I mentioned in my opening statement, there has been a steady drum beat of task force reports and testimony that make a compelling case that NASA's aeronautics program is at serious risk. The five-year funding trend contained in the president's '06 budget I think could render the aeronautics side of the equation irrelevant.

Could you just comment, as the NASA administrator, on what you're planning to do, if anything, to reverse that decline?

GRIFFIN: Well, the president's budget for aeronautics is what it is, and what I'm committed to do is utilizing that budget in the most effective way possible.

I absolutely believe in the importance of aeronautics for NASA and for this nation, and I understand that we have stakeholders in industry, in DOD, with the FAA, and even internally within NASA, all of whom to which the aeronautics program is of the first rank.

I think we need to focus our efforts going forward, more than they have been. I think NASA does its best when our aeronautics programs are focused around key technical demonstrations which are of a groundbreaking nature.

We have had much in the aeronautics community which is of a business-as-usual, keep funding, keep-programs-alive nature, and I'm (inaudible).

I have been, in fact, one of the voices noting that the last time the nation had a strategic in aeronautics, it was issued by the Office of Science and Technology Policy, and the date it carried was 1982.

I have the report. I am (inaudible) House's recommendation that we (inaudible) new aeronautics strategy.

UDALL: Do I hear you say, then, that you'll more aggressively promote the aeronautics side of the NASA mission?

GRIFFIN: Within the context of the president's budget, I absolutely will. I'm a strong supporter of our aeronautics program.

I think we need to be looking at what we can do with almost a billion dollars in funding rather than complaining constantly that it isn't enough.

UDALL: If I could, I would ask you -- and I think you'd have a lot of support on the committee -- to push for additional funding. I think the flat-line trend puts us further behind the eight ball. And it's my opinion that the results, the economic return on the aeronautics side is equal to that of the space side.

UDALL: Could we count on you to push for, within the context of your responsibilities, additional funding, at least to keep pace with inflation?

GRIFFIN: Sir, my first priority will be to utilize effectively the money that we're given. I will be working with this committee and (inaudible) executive agencies to do (inaudible).

UDALL: I think this conversation will continue, if I might conclude in that way, because I do think the aeronautics side is crucial across a whole series of fronts.

But let's turn to Hubble. Again, I want to thank you for your willingness to revisit the Hubble policy. I know you've asked a team out at Goddard to start planning for such a mission. Could you talk about what they're doing? And then would you talk about your comment that after the first two successful return-to-flight missions -- and I'm going to presume as we all do here that these are going to be successful return-to-flight missions -- what are the criteria you're going to use to decide whether to proceed with the Hubble servicing mission?

GRIFFIN: There are some detailed test objectives to be accomplished on these flights that do affect our ability to execute Hubble servicing mission four, SM-4, as it's known. They have to do with available crew time for EVA, other EVA guidelines, (inaudible) use of the manipulator arm for tile inspections, what we do with regard to those procedures.

They need to be worked out before I could responsibly commit to you that we should undertake the servicing mission.

What I have said in prior testimony and in public remarks is that by this fall, when we have completed those two missions, we will know those answers. And if those answers are favorable, then I will recommend that we execute Hubble servicing mission four with the shuttle and restore the Hubble to health and to a stable orbit for the next half dozen years or more.

UDALL: Doctor, do you have any cost estimates on the Hubble servicing mission and any sense of how much might be funded by the science account in fiscal year '06?

GRIFFIN: I don't have those estimated currently -- no. I'm sorry. We can provide those to you for the record. I have also not looked yet at the structure of what that mission might consist. Much of the cost depends on the assumptions that go into the mission and all the missions we have flown of that vein beforehand, of course, were prior to the loss of Columbia. And we need to think through how we would intend to do this mission.

BOEHLERT: The gentleman's time has expired.

Let me ask you, Mr. Administrator -- and come closer to the microphone because we're anxious to hear what you have to say.

GRIFFIN: I'm sorry.

BOEHLERT: Is it still the operative plan within NASA, as you undergo this strategic review of your work force, that there will be layoffs at least until 2007 if then?

GRIFFIN: I believe that is where we are at present.

BOEHLERT: OK. Thank you very much.

Mr. Rohrabacher?

ROHRABACHER: Thank you very much, Mr. Chairman.

I'd like to welcome the new administrator. Thank you very much.

Let me note that our chairman compared you to the Man of La Mancha, which I found very disturbing, Mr. Chairman.

In fact, after considering that of the four top NASA executives, that all four of them are leaving, will be gone shortly, I think that we should compare you more to Conan the Barbarian rather than the Man of La Mancha.

(LAUGHTER)

But our governor in California has already secured himself that designation. So we will be searching for an appropriate title that will exemplify your administration.

Let me note that you have started very well, and you've been bold, you've been making decisions, you have been setting up a process in order to make the decisions that can't be made now. And you can count on all of us here on both sides of the aisles to be working with you.

A little disagreement with the ranking member: I would suggest that you actually take as much money from the Mars part of the program and spend it on meeting the current challenges. Spending money too soon, in such a large-term project as going to Mars -- spending money would be wasteful rather than trying to meet the challenges we have now and then using new technology in the years ahead, rather than trying to develop technology today for something that may not be applicable because of changes in the future.

I'd like to specifically talk to you right now about, and get your reaction to something that I see as your ultimate short-term challenge. You mentioned it in terms of the shuttle and the space station and the greatest impediment to you which I can see of actually meeting that challenge of making sure that the space station project is finished and reaches its potential.

ROHRABACHER: And, plus, I note what we know about is the terms of the limitations of the shuttle.

And I guess what I'm talking about is the Iran Non-Proliferation Act.

And let me note, Mr. Chairman, that I was very deeply involved in the wording of the Iran Non-Proliferation Act and dealing with this particular challenge that we face right here. And I will say that it was a worthy effort at the time to make sure that we pressured the Russians not to participate in the developing of a nuclear facility in Iran.

That strategy has, however, not worked. Clearly it has not worked.

Unfortunately, when the Non-Proliferation Act was put into place in the year 2000, both during the Clinton administration and during this administration, what needed to happen was some type of an overture to the Russians that would give them an alternative.

Neither administration did its job in the past, and now you, after two months as leader of NASA, are faced with this very serious time period when we have to make decisions. We have to move forward and decisions have to be made.

And so you weren't to blame. I would put the blame on the Clinton administration as well as the Bush administration for not doing this. But now we've got this decision to make.

Do you believe -- and you have a background. We know that the Defense Department has been able to work with the Russians all along, even with the Non-Proliferation Act. Do you believe that we should now shift into more of a policy with NASA that is more like what you have in the Department

of Defense and just realize that the Non- Proliferation Act is not working and the space station has got to be completed?

GRIFFIN: Well, yes, sir, broadly speaking, I do support that. And, as I said earlier, the administration is just releasing -- I, in fact, signed today, jointly with Secretary of State Rice, a letter to this committee requesting that we do amend the act.

It is worthy of note that it is, today, possible for the Defense Department, through its contractors, to buy Russian engines for Defense Department purposes. But if we would seek to use one of those engines to support the International Space Station program, it would not be possible under the act as it exists today. And that is an interesting...

ROHRABACHER: Well, you need not be burdened with things that were so weighty, let's say, as the Non-Proliferation Act, which was not, as I say, followed through on. It was not handled correctly by those who proceeded you, as well as the rest of the administrations, both the Clinton and Bush administrations.

Is there any other way out that you see?

GRIFFIN: Other than an amendation of the act, no, sir.

As I pointed out earlier, the only approach that we can take would be to cease buying Progress and Soyuz services from Russia and to restrict our astronaut time on the space station to periods when the shuttle is present.

Now, I would also point out that, while we have alliances and differences with Russia, that among the best things to have come from our space program over the last 15 years is the space cooperation that we've enjoyed with Russia. And, if the act is not amended, that will come to a halt in April of '06.

ROHRABACHER: Well, it was a worthy goal. We tried, Mr. Chairman, to make sure that we used all the leverage we had -- including space cooperation with the Russians -- to try to get them out of this nuclear power plant down in Iran. It did not work.
There is no reason for us not to be realistic.

And I applaud you and the administration now for being realistic, although I think the administration shares a great deal of blame for bringing us to this point.

GRIFFIN: Well, sir, none of us like this position.

And the fact is that, for the next several years, as the space station development and its partnership go forward, the United States is in the position where we cannot effectively utilize the space station without our Russian partners.

This strategic dependence in a critical area is why I have spoken up so strongly, since coming into this new position, for narrowing the gap between shuttle retirement and crew exploration vehicle deployment.

GRIFFIN: That is why I have subordinated other important priorities within NASA to that priority because I absolutely believe that it is strategically essential that the United States have its own access to space dependent upon no other nation.

ROHRABACHER: Thank you very much.

Thank you, Mr. Chairman.

BOEHLERT: Thank you.

And without objection, the letter to the chair and the committee, signed by Secretary Rice and you, Mr. Administrator, will be put in the record at this juncture.

In effect, it says that within the administrator, the proposed amendment is still being vetted and we can anticipate something in the short term.

So thank you.

GRIFFIN: I think the details of the wording, that's correct, but with the broad principle that we need an amendation, I believe that is accepted.

BOEHLERT: Thank you.

GRIFFIN: Thank you, sir.

BOEHLERT: Mr. Honda?

HONDA: Thank you, Mr. Chairman.

And welcome, Mr. Griffin. It's good seeing you again.

GRIFFIN: Good to see you, sir.

HONDA: A lot of the questions I wanted to ask were asked already. And I think your responses were clearer and very forthright, and I appreciate that.

And I look forward to September where we get more information from you in terms of what the timeline on the calendar's going to look like for our programs.

The previous administrator had set the budget in such a way that it appeared that our different centers would be operating as if they were R D outsourced agencies. And I heard you say -- and I read that you had said that you're changing our direction and trying to retain the core competence of those engineers and scientists that we have at these centers so that they can what we do best and what NASA's mission has been set out originally.

Understand, then, seeing that and looking at the proposed budget for NASA for '06, what is it in the budget that you see right now that needs to be revisited or looked at in terms of policy refinements in our budget for authorization so that you can move forward with the mission that you laid out and that you see that needs to be done in the near future; not only the mission, but also in terms of how we're going to be able to maintain the staffing that we currently have without compromising our core competencies in the direction that you'd like to take NASA?

GRIFFIN: Yes, sir.

I feel like I'm becoming repetitive with this answer, but we have yet another team of senior folks within NASA...

HONDA: I remember that.

GRIFFIN: ... who are looking at exactly the question you raise of how do we need to restructure our fiscal '06 plans in order to preserve core competencies within the NASA centers.

GRIFFIN: Those results also will be available within the next few weeks. In fact, we must have them within that time in order to prevent other undesirable actions.

Philosophically there's probably no one you will have before you who is a stronger supporter of the broad principles of competition and industrial capability than I. I've run businesses which had to make money. I've been an entrepreneur.

But all of that said, federal research centers and laboratories are not operating businesses. They don't exist for that purpose. They exist to make investments on behalf of the American people that it has been determined by the Congress are necessary to be made. And they don't operate or should not operate on the principles of short- term gain or next-quarter profitability.

So we will not be running our NASA federal centers as if they were outsourced laboratories for R D.

We will be making strategic assignments of mission areas and work to those centers in order to preserve the core competencies that we feel we have to have going forward to execute NASA's science missions, division for exploration and aeronautics.

They won't be necessarily the exact same missions that we have been performing in the past or even are performing today. During my round of center visits, including to Ames and other aeronautic centers, I pointed out that in fairness the research centers, as opposed to the mission and flight operation centers, should be on the cutting edge of change. They should be on the very edge of the frontier of what it means to be doing research and development for space and aeronautics.

Just as today we no longer have manufacturers who produce slide rules, today we may well not need every wind tunnel that exist within NASA. But the role of research within NASA to keep this nation on the cutting edge of space and aeronautics technology development cannot be denied and it's uniquely NASA's and I support it totally.

HONDA: Mr. Chair, if I may a quick question, have you reached into conclusions about the recommendation to convert centers to alternatives structures such as the FFRDC?

GRIFFIN: I've worked at NASA centers and I've worked at FFRDCs. Both are excellent investments, in my opinion, of federal tax dollars. I do not fundamentally see any gain to be achieved by having NASA convert federal centers to FFRDCs and so doing would, in fact, create pension and retirement system liabilities that I don't believe this Congress is prepared to take on in the current budget environment.

HONDA: Thank you, Mr. Chairman.

And just as a personal comment, this program and these projects have been in such turmoil in the last few years that a lot of things bear being repeated.

HONDA: And if we're talking about Don Quixote de La Mancha, he had more than one or two windmills he had to hit, and sometimes they looked like the same ones. And I think that people's lives and people's projects that are affected sometimes require repetition to replace the kinds of sentiments that have been growing for these past few years.

And I, for myself, do appreciate your leadership.

BOEHLERT: Gentleman's time has expired.

HONDA: Thank you.

GRIFFIN: Thank you, sir.

BOEHLERT: Dr. Ehlers?

EHLERS: Thank you, Mr. Chairman.

Let me first say, Mr. Administrator, how pleased I am that you are in this position. NASA is at a very crucial juncture, and you're the type of person and have the right background to solve the multitude of problems that we've been talking about this morning. And I appreciate your willingness to take on this almost impossible task.

I would like to join my colleagues who've expressed their support for the Hubble servicing mission. I won't go into a lot of details on that, but I would simply point out, we've done it several times before with far less safety concerns than we are facing right now, and we've completed the missions safely.

I worry, frankly -- and this is not just relating to the Hubble repair mission -- that we've become so safety conscious after the Columbia accident that we may be needlessly eliminating our space exploration effort.

We have to recognize as American people you cannot guarantee absolute safety. But I think at this point you're certainly very close to exceeding the safety standards that every American has when they

enter their automobile and drive through traffic in this country. They don't stay at home because there might be an accident.

And, similarly, I don't think you should stay on the ground or your astronauts should stay on the ground because there might be an accident. They recognize full well -- and I've discussed this with them -- the risks involved. They understood that full well when they became test pilots, the many who have served in that capacity.

And I suspect we're going in a direction where we're trying to make our spacecraft safer than the test aircraft that they flew in the past.

EHLERS: We have to develop better propulsion systems. And the CEV is a golden opportunity to really look at some new ideas that have developed since the shuttle was developed.

So I wish you well in that. And I really think you were correct when you say it's a very high priority. I think it has to be your highest priority other than the various satellites that are out there now.

I'd appreciate any comments or reaction you might have to any of these points.

GRIFFIN: Sir, with regard to preservation of operating satellites, we have heard the voice of the community and the Congress on this topic. We are doing a fresh, top-down review on what satellites will be kept in operation and which ones will not. And I assure you that I also think it's rather dumb to be turning off Voyagers 1 and 2.

Nonetheless, you'll hear our final answers on that a little bit later this year.

With regard to the priority of the CEV, in my view, it is my number two priority after flying the shuttle safely in the remaining years of its operation. So I support your remarks.

EHLERS: Thank you.

BOEHLERT: Thank you very much.

The gentleman's time has expired.

Mr. Miller?

MILLER: Thank you.

Administrator Griffin, nice to see you here.

A couple of years ago, the investigation into the shuttle disaster concluded that one of the problems was that NASA had contracted out too much expertise; that there was not the nucleus of expertise in-house at NASA that they needed to be at each other's elbows to do the job that they needed to do.

I asked Sean O'Keefe if he embraced that finding, since it did appear to be contrary -- to deviate from the administration's orthodoxy about contracting out. And I never got an answer, although when he got through not answering, the light was red.

So I'm very pleased to have heard you embrace that idea that we do need to maintain that nucleus of expertise within NASA and that you will push for that in future budgets.

I do have a couple of questions about other programs. You did say earlier that you thought that there was not an immediate need for life science research into longer-term human travel into space because we weren't going to do it right away.

But what is going to be the affect of a break in research in that? If we don't have continuous research, how easy is it going to be to pick back up after having essentially stopped the life science and the biomedical research that we have been doing and need to do at some point before we do longer-term space travel?

GRIFFIN: Sir, in response to that question, I believe the answer is fairly obvious to any of us who have ever been grad students in our lives.

Most of the kind of fundamental research that we talk about is done in universities or in programs where universities are part. And it will -- if we are not able to fund all of the work in fundamental life science, the researchers who were doing it will go elsewhere to other occupations, other research endeavors that are being funded, and we will have to put the program back together later.

MILLER: OK.

GRIFFIN: That is just a fact.

But I cannot responsibly prioritize microbiology and fundamental life science research higher than the need for the United States to have its own strategic access to space.

MILLER: Well, I'm not happy with that answer, but it was an answer.

GRIFFIN: Yes, sir. And I am sorry. I'm not happy with it either.

MILLER: Right.

GRIFFIN: But I don't know what else to do.

MILLER: One additional question, about the space grant program. It's hard not to look at NASA's request and Congress' appropriations and not come to the conclusion that Congress values the space grants program more higher than NASA does. I think Congress in fiscal year '03 appropriated $24.1 million for the space grant program. The request the next year from NASA was $19.1 million. And it kind of goes on every year.

What is your take on the space grant program? Do you support that program? Do you think it's important in providing the kind of flow of expertise that we need? Is there something we ought to be doing instead of the space grant program?

GRIFFIN: I would have to take that question for the record, sir. I'm actually not familiar with the program. And in the two and a half months I've been on board, I've not had the opportunity to become so.

So we will take a look at it, and I will get you a responsive answer, but it will have to be for the record.

MILLER: OK. Thank you.

BOEHLERT: Mr. Hall?

HALL: Thank you, Mr. Chairman.

Not necessary that I be happy; probably nor possible. And when I hear all these suggestions that we're going to have 28 or 38 missions by 2030, or even talk about our new vehicle by 2010, I think about George Burns at age of 100 saying he didn't buy green bananas.

HALL: So I don't think it's going to happen real quick.

But I'm glad to see you with your hand on the throttle. A lot of us were very happy to see him reach down into the maze of men and women that could be considered for this to see you come up with it. I'm not sure you're going to make it, but I'm pretty sure that I'm going to be trying to help you and support you.

GRIFFIN: Thank you, sir.

HALL: Congressman Rohrabacher referred to you as the Man from La Mancha. I guess the airs that you're battling are real, however. We know they are and the results are consequential rather than comic. You have a lot of work to do and some very difficult things to change.

You know, for one thing the trip to Mars. You're faced with the Will Rogers look-a-likes throughout this country who say they are less interested in going to Mars than they are being able to make a trip to the grocery story, and that's the thing that most people can relate to.

But the hard, cold facts are we need to go to Mars. We have to go to Mars for a lot of reasons. And this group -- obviously, we're aware of those reasons and are pretty supportive of them.

We know that, as NASA wrestles with all of these thorny issues, that we've got to move ahead with authorizing legislation to keep you going. The bill that Chairman Calvert and I introduced, just yesterday I think, provides the framework for moving forward and ensuring that Congress has the information it needs to make the more detailed policy calls in the years ahead, calls that you're going to have to make and be having to lead.

I think that on safety -- this hasn't been talked about very much here today, but I know it's on everyone's mind -- as you know, we had $15 million set aside -- we'd requested that and had been set aside to study for the future safety of the astronauts themselves. And I understand that you all have handled that and that either under the previous administration or your administration have been working for safety with full plating for the hulls of some of the birds that we have and space suits and other survival equipment; that that's been wrapped into that and going into the future planning that I've asked you about so many times.

So you know pretty well -- and because it's still a fragile mission you know the reason I'm asking them and you know the question I'm going to ask and you could just answer it without me asking it. But to make a little easier for you I'd like to get it of record.

This is your first appearance here, official appearance here as the administrator. You've been here many times before.

You know I'm concerned, as we all are, about crew safety. And I know you've down-selected the crew exploration vehicle to two contractor teams. Is that correct?

GRIFFIN: That is correct, sir.

HALL: And in their proposal did they address crew safety as an issue and if so, how? And if not, will this be included in future iterations of these contracts themselves?

GRIFFIN: Crew safety has been addressed. And as we go forward to a further down-select early next year to a single contractor to build the CEV, we will absolutely make certain that crew safety is a top priority.

HALL: But you're under way and you are of record and you've given leadership in that thrust?

GRIFFIN: In every possible way that I can, sir.

HALL: Because wouldn't you hate to be administrator and wouldn't we hate to be members of Congress if we had another tragedy and we weren't already traveling that road to get that type operative procedure for our future astronauts?

GRIFFIN: Sir, we are endeavoring, with our plans and designs for the new crew exploration vehicle, to make it as safe as we can, as simple as we can and have it as soon as we can.

HALL: Until 2010, and then have the module and that bird that would be an escape vehicle.

GRIFFIN: Well, we would hope that there would be an escape system for launch aborts and things like that. Yes, there will be.

HALL: I thank you. And I thank you for what you're doing. I thank you for the way you're doing it. And I admire you for the way you're doing it.

I yield back my time.

GRIFFIN: Thank you, sir.

BOEHLERT: The gentleman yields back four seconds.

(LAUGHTER)

Mr. Green?

HALL: Well, let me finish then.

(LAUGHTER)

BOEHLERT: Mr. Green?

GREEN: Thank you, Mr. Chairman. And I also thank you as well, as the ranking member, for this opportunity to visit with our outstanding head of our space program.

I will tell you, sir, that, as you sit there alone, that table looks very large. Normally we have several people there at the table. But it appears to me that you're up to the task, and I compliment you.

I would like to segue from Congressman Hall's comments about crew safety to another area of crew safety.

It is my understanding that the Columbia Accident Investigation Board gave us 15 recommendations that were to be adhered to -- or should be adhered to before we returned to space flight.

I understand that 12 of the 15 have been met, but we have three that are outstanding. Those three include the debris issue, which was a key issue with reference to the demise of Columbia; repair tools; and repair techniques.

Mr. Bill Parsons has said that the return to space right now bears an acceptable risk. And my question has to do with this term acceptable risk, given that we still have the debris issue, we still have the repair tools and repair techniques, and we're looking at a launch window of possibly early July, July 13th through July 31st.

Will you please comment on the term “acceptable risk?”

GRIFFIN: Yes, sir.

I believe that Mr. Parsons was commenting on the acceptable risk of returning the shuttle to flight in terms of the corrections and improvements that have been made after the loss of Columbia to address the causes of that loss.

GRIFFIN: Now, as I said earlier, I've participated in every significant technical review that has been held on this topic since I was nominated to this office. Let me give you my assessment, if I might.

We have -- and our independent advisers from outside have agreed -- we believe that we have tremendously reduced the amount of debris which is shed or will be shed by the external tank on this next shuttle mission, as compared to all prior shuttle missions.

Now, we believe that. This is a test flight. These next two flights are test flights. It needs to be fully understood that they carry the risks of test flights, because we simply do not have the capability to assess the efficacy of our improvement without returning to flight. But we believe it is much improved.

So when we say acceptable risk, we mean that the risk of an accident due to debris, which was the proximate cause of the shuttle Columbia loss, has been reduced to a level that is consistent with other risks associated with the shuttle space flight system; and there are many.

GREEN: Just as a quick follow-up, will we have repair tools and repair techniques available to us prior to the next launch?

GRIFFIN: No, sir, we will not.

Those three recommendations in the Columbia Accident Investigation Board's report were, of course, well-intended and serve as admirable goals. The ideal state would be to have no debris coming from the tank; we have not been able to achieve that. The ideal state would be to have repair tools and repair techniques which could deal with a flaw in the tile, the shuttle's entry heat-protection system, once we're on orbit; we don't know how to do that.

We have spent quite a lot of money on it, some have estimated hundreds of millions of dollars, trying to comply with that recommendation. We don't know how to do it.

So at this point, we must say that we have reduced the level of risk due to debris damage to an acceptable level, in Mr. Parsons' words the other day, or we must say that we don't want to fly the shuttle again because we do not have a better technical approach to dealing with it than the one we've put forward.

GREEN: Thank you, Mr. Chairman. I yield back the balance of my time.

BOEHLERT: Thank you. You're generous: two seconds.

Mr. Administrator, when you say debris, are we talking foam now or foam and ice?

GRIFFIN: Broadly speaking, foam and ice. If you wish to make it more specific then -- everything that I have learned in the past two and a half months causes me to believe that we have reduced the risk of damage from foam debris to a negligible level. That will not be a factor.

And, again, we cannot back that assertion up without a test flight, but we are going into the flight of SPS-114 with the belief that foam debris risk is not a significant...

BOEHLERT: What about the risk of ice?

GRIFFIN: We have greatly reduced the risk of damage by falling ice in particular by putting a bellows heater on the forward locks speedline bellows.

There are other spots on the external tank and its propulsion where ice can accumulate and from which it can be liberated and strike the orbiter. We believe that risk is minimal. We believe it is well less than one in 100 based on our analysis. But it is not zero.

BOEHLERT: That would lead you to conclude that it's an acceptable risk?

GRIFFIN: We have concluded that it is an acceptable risk in comparison to other risks which we assume when we fly the shuttle.

BOEHLERT: Thank you very much, Mr. Administrator.

Mr. Sodrel?

SODREL: Thank you, Mr. Chairman.

And thank you, Administrator Griffin, for being here this morning.

As you know, there are various kinds of risks to astronauts. One certainly is trauma which the question has been asked here, and the other is longer term.

I've got an e-mail here I'd like to read to you from a constituent in my district and ask your comment. It says: In order to ensure the safe return of astronauts from exploration missions, we must have effective countermeasures and an autonomous support system. This requires an aggressive basic and applied research program in flight aboard the ISS and on the ground. It's particularly compelling because the countermeasures that are available today will not adequately protect our astronauts.

In fact, I understand the astronaut who spent the longest time in orbit experienced both muscle deterioration and loss of bone density.

Anyway, so, in short, we must maintain orbital science and ground research and apply them directly to exploration missions.

One event having significant impact on space life science has been the denying of funding of proposed research that received high acclaim in peer review. We scientists believe the values and principles encompassed within the peer-review process need to appealed by all research agencies including NASA.

So I guess my first question is how much weight is given to peer review and the second part is what are we doing with regard to protecting the astronauts long term?

GRIFFIN: Well, with regard to the role of peer review in selecting science experiments that remain unchanged within NASA and absolutely follows the guidelines that your constituent is suggesting.

However, the purpose of peer review is to determine which experiments, in comparison to other suggestions, are worth doing and ultimately to help us with prioritizing our overall research agenda.

There will always be more good ideas that could be suggested for funding and would pass the peer-review process. Then we have the budget to support.

GRIFFIN: And so at some point there must be a cutline established below which we simply can't afford to fund those priorities. Now, that does not make them without value but it does mean that we don't have the money to support them.

We must choose. We must choose whether minimizing a strategically significant gap in space access to the United States is more important or less important that doing the kind of research of which your constituent speaks.

I've been very clear in my choice that the most important priority facing us as we conduct our program of human space flight is to fly the shuttle safely. The next most important thing is to bring on-line its replacement.

It, in my view, serves no purpose to conduct even very high- quality research into human space life sciences unless we're flying humans. And if we have a long and strategically significant gap in such human space flights, I think we've got the priority order in the wrong way.

But with all due respect to your constituent, I do understand the priority choices which must be made, and I've made mine.

SODREL: So you feel like we're doing enough to protect the astronauts in the long term as well as the short term?

GRIFFIN: I believe we must eventually do more to protect astronauts in the long term but at present we're not conducting long- term flights.

SODREL: Thank you.

I yield back...

BOEHLERT: Ms. Johnson?

E. JOHNSON: Thank you very much, Mr. Chairman.

I apologize for being late. I had an engagement I couldn't change. I might have missed a great deal of your testimony.

But welcome. And I've read about your beginning. And I'd like to -- well, over the years, I have touted the space program as being one of the most successful research programs in our history, with both treatment and commercial items. What did we learn from the International Space Station?

GRIFFIN: Well, ma'am, that's a very broad question. We've learned much from the International Space Station so far and have a significant amount to go.

GRIFFIN: Some specific things that we have learned: I have often said that one of the best benefits of the program has been the enduring quality of the international partnership which has developed.

We've learned to work with other nations in space and to find ways to resolve differences and make the program work.

We have learned a tremendous amount about assembling and integrating large structures in space and sustaining them for years at a time; frankly, through some pretty severe difficulties following the loss of Columbia.

It is the goal of this administration -- it is my goal -- to put us on the path to a lunar return and the establishment of a lunar outpost and missions to Mars. We will not be able to execute those missions without learning how to sustain operations in space for months and years at a time, and a place where we can learn to do that is the space station.

E. JOHNSON: Thank you.

A year ago, as we were listening to testimony, one of the urgent things was making sure that we had the talent in-house, the numbers available to do the work. And I notice you've gotten rid of a lot of people. Have you brought new ones on?

GRIFFIN: Ma'am, we haven't gotten rid of a lot of people. I'm not sure we've gotten rid of anyone.

I have reassigned some senior managers from existing roles in the agency -- or will be reassigning them -- to other roles within the agency, if they choose to accept those roles.

I am in the process of assembling a management team that I feel I can most efficaciously work with as we go forward, as I think you would expect of any senior manager.

We are looking very closely across the agency at how we preserve the core competencies that we need within the government.

E. JOHNSON: You have ended your associations primarily with private industry as well as universities. And most especially with the universities I thought we were attempting to attract and prepare staff for the future.

What was the rationale for that? I know you said you want to do it in-house, but I'm just trying to...

GRIFFIN: Ma'am, we have not ended our associations with universities and private industry by any stretch of the imagination.

GRIFFIN: Eighty percent or more of NASA's budget is outsourced and will continue to be so.

E. JOHNSON: I'm reading the wrong material.

I understand that getting to Mars is going to be a journey, so it's going to probably take a while. What do we need to do before you start, other than raise a lot of money?

You're going to use what you've learned from the International Space Station. What else do we need to do? And what are we looking for?

GRIFFIN: We need to develop a replacement for the shuttle which is capable of flying to the moon and later on to Mars. We need to redevelop a heavy-lift launch vehicle, something in the 100 metric ton class.

We need to gain broad operational experience going to and living on the moon for significant periods of time before it would be wise, in my opinion, to take the step to Mars.

We need to develop space nuclear power and propulsion systems in order that we can go to Mars and remain there in effective ways.

Those are the broad categories of things that I think are important.

E. JOHNSON: OK. Do you feel that you have now, or you have your eye on, the appropriate skills to bring in-house for that?

GRIFFIN: Yes, ma'am, I do. I think NASA has most of the critical skills it needs to acquire and maintain in order to execute this mission. And where we don't have them, we know what to do to get them.

BOEHLERT: The gentlelady's time has expired.

E. JOHNSON: Thank you very much. I appreciate it, Mr. Chairman.

Good luck and I'll try to be of support.

GRIFFIN: Thank you.

BOEHLERT: Thank you.

Mr. McCaul?

MCCAUL: Thank you, Mr. Chairman.

Dr. Griffin, it's an honor to have you here today. You certainly have a challenge in front of you. But I agree with the committee: You're doing a great job getting started and I wish you well.

I have about 15,000 NASA employees and contractors on the Houston end of my district. I've been through the Johnson Space Center; it's very impressive.

Most of the questions have already been asked, but I do want to ask a more fundamental question, and that is: I support the president in his vision, space exploration to the moon and Mars and beyond. But there are those critics who say that we shouldn't take the risk and that we should do that with unmanned vehicles.

And I was hoping that you could possibly articulate or advocate why it is important for us to engage and have manned space flights to the moon and Mars and beyond, as opposed to unmanned space flights.

GRIFFIN: Well, sir, I think both are important, and I've spent significant portions of my career in both pursuits. But let me answer your question as to why I believe it's important.

I believe that if the United States is to be the world's preeminent nation going forward in the 21st century and the centuries beyond, that it must be preeminent in space, exactly as was the case centuries ago when small island nations or other small nations, such as Britain, Portugal, had dominant roles in the global structure of their day because of their maritime prowess.

Mastery of the art of space flight, both human and robotic, is the most important thing that America can do to assure that we will always be a great nation, in my opinion.

When one looks at that, there are broad regimes of activity. There are activities that we undertake today in low Earth orbit, both human and robotic, and they're very significant.

MCCAUL: You're not answering my question.

GRIFFIN: Beyond low Earth orbit, the next places that we can go are the moon, Mars and the near-Earth asteroids. If we don't go there, eventually other nations will, and eventually may not be too long.

I've pointed out in other testimony that since we last flew our own people in space on our own machines, two other nations have done so. I do not find that acceptable.

Space will be explored and exploited by humans. The question is: Which humans, from where, and what language will they speak? It is my goal that Americans will be always among them.

MCCAUL: I think you for your eloquent testimony.

I yield back the balance of my time.

BOEHLERT: Ms. Jackson Lee?

JACKSON LEE: Welcome, Dr. Griffin. It's a pleasure to engage you.

And I thank the chairman and the ranking member for this very crucial hearing. I hope we'll have an opportunity, as I might imagine you would like, for members to engage on a regular basis. I, frankly, believe that we have to be a team if we're going to be successful.

I consider the astronauts brave and patriotic Americans willing to risk their lives on behalf of American excellence and at the directions of the commander in chief. I don't believe one astronaut would tell you that they're not willing to accept this mission or any other mission.

And that's why I believe that it's crucial for the executive, in this instance you, but even more crucial for this body, which is considered part of the people's house, closest to the people of the United States, to be diligent, technically and philosophically, on this question of space exploration.

JACKSON LEE: I happen to be a very strong supporter of human space exploration, including the mission to the moon. But at the same time, my neighbors are astronauts, my neighbors are the Johnson Space Center. My neighbor was Ron McNair, who attended church in my congressional district and his wife, a friend, and still a very zealous and wonderful supporter of NASA's mission.

So I pointedly asked a number of questions that you've already asked and answered, and I have reviewed your testimony -- and I, too, apologize for being at another meeting.

But I do want to probe more extensively your very forthright recognition that we don't have the tools or the techniques that we would totally like to have as it relates to space debris. And I think space debris is anything. It is the foam, or as I understand, any amount of debris that you encounter in going into space.

Can you calculate -- this question might be considered as been answered, but I think we need to hear it more times than not -- where you place this risk, this acceptable risk, as compared to the advantages or the importance of space exploration?

Might you also give us the vision of the NASA administration and the president of the extent of human involvement in the space exploration in the mission to the moon and the presence of humans on the moon or the advantage of their presence on the moon?

I'm trying to give you a series of questions so that you can answer them.

The other point that I want to acknowledge -- and I think I understand this -- I want to applaud the bringing in-house of technical and planning and strategic decisions for NASA, meaning that you're looking for the world's best scientists, the nation's best scientists and dealing with decisions in-house. And I think that is absolutely imperative.

One of the questions, one of what I gleaned from the Gehman administration, is the line of command: who was telling whom to do what.

JACKSON LEE: Can you telling me is that where you're trying to go to make sure that strategic decisions, whether it's on safety or otherwise, are within the bounds of NASA? And if you're going that direction I'm with you.

Let me conclude in this direction. I hope that you will join us and encourage this committee to hold a full, extensive hearing on the question of safety. And I'm going to ask you -- I'd like you to just answer that yes or no in your answers -- the importance of this of this committee having oversight being an investigatory mode to be helpful on the question of safety: safety on human space shuttle, but safety as well in the International Space Station, which I think is extremely important as a scientific tool for what it has done for America.

And lastly, this question of training in-house, I hope that we can work together on our Hispanic-serving and historically black colleges. I'd like to work with NASA on direct programs generating physicists, chemists, biologists and others that can be directed toward your institution who happen to be from the minority community.

And I think you for your presence, and I hope you can summarize my questions.

GRIFFIN: I will try. Thank you.

With regard to debris hazards -- and being all-encompassing in our definition of debris whether it's on ascent or while we are in orbit -- yes you're right, orbital debris, what we call MMOD, for micro-meteoroid in-orbital debris, hazard is one of the more significant hazards to space flight in the shuttle.

And when I spoke earlier of reducing our ascent debris hazard down to a level consistent with other risks this was one of the other risks.

Going forward in order to make space flight as safe as possible, the best thing we can do is to continue with the protocols we are already implementing regarding absolutely minimizing the generation of new orbital debris.

And then the other factor is in the replacement vehicle for the shuttle, the CEV, we must have a design which is, as much as possible, robust in the face of orbital debris. And that's a significant concern that I have. The value of humans on the moon I think is quite significant. I've never heard it put better than Norm Augustine in his report in 1990, where he pointed out that an instrument in payload on the top of Mount Everest simply did not have the same value as Tenzing and Hillary ascending that mountain. Others have tried to come up with similar approaches but I think Mr. Augustine put it best.

The value of humans on the moon is the value that we bring anywhere we go: the ability to make broad judgments, to make big- picture assessments, to decide what details are important and what ones are not important so that we can deploy our robotic assistants on the proper tasks.

GRIFFIN: With regard to our strategic decision-making in NASA, yes, we are refining what we call our Strategic Management Handbook as I speak, trying to simplify our chain of command and to make our decision processes more transparent and more specific.

If you decide to hold a hearing on safety of space flight, whether shuttle or International Space Station, you may count on me to be a strong supporter of that hearing and I look forward to working with you on it.

Regarding the development of in-house capability for our scientific and engineering staff, I welcome with open arms efforts to engage Hispanic or historically black colleges and universities, as I do all of our colleges and universities.

We are, as a nation, facing a crisis -- clear and documented -- in our ability to entice young people to embark on technical careers, science, mathematics, engineering, all branches of those.

In many cases, in our graduate institutions, foreign enrollment surpasses domestic enrollment. And the problem is that they go back home; they don't stay here. We need to address this.

I could not more strongly support that.

BOEHLERT: Thank you very much.

Mr. Feeney?

FEENEY: Thank you very much, Mr. Chairman.

And, Dr. Griffin, I want to join the chorus of members of the committee to welcome and congratulate you to the administration head at NASA.

I have been very impressed by your background, been very impressed by the fact that you hit the ground running. Even though you came from the outside, you had in your mind, and in a very visionary way, taken a complete inventory of NASA's resources and capabilities and opportunities and challenges long before you were appointed by President Bush.

And I have been, frankly, amazed at how quickly, dispensing with any need for on-the-job training, you have stepped forward; you have reorganized both personnel and mission; you have made some very critical, decisive judgments that are going to be criticized by a lot of us. But you've done so with the sort of confidence and the level of expertise and background that gives me confidence that we're exactly doing what we need to be doing.

FEENEY: And there are going to be 535 visions for NASA in Congress. And the fact of the matter is, we're going to have to rely on you to bring those together on behalf of the people of the United States. And I have complete confidence in your ability to do that job.

I was especially delighted to hear you say that priorities one and two for your term involve human space flight, because while there are lots of priorities in science -- microbiology, for example was mentioned earlier -- all these are important, but prioritizing is the job that you have to do and the budgetary folks have to do.

And the truth of the matter is, there are a lot of places that can do research. There's a lot of universities; there's a lot of foundations; there's a lot private sector folks. But there's only one place that can move Americans into low, middle and higher orbit and to explore the solar system. And for now, that's the federal government.

By the way, I join Dana Rohrabacher and others in hoping that with respect to lower Earth orbit NASA gets out of the business pretty quickly. We have commercial viable options that can do that.

But for now, return to the International Space Station by the shuttle and then, number two, the CEV, are clearly in my view the most important priorities. And you've got them right. And I congratulate you.

With respect to the new CEV -- and by the way, I want to thank you for trying to find a way to shorten the window. The original proposal talked about a window from 2010 to 2014 where we would have no capability as a nation to send humans into space.

As you determine what that CEV ought to look like, and you have to select the type of vehicles for launch, the CEV is an important thing to design, as Ralph Hall talks about, in a safe way.

The heavy lift obligation, for not just people but equipment, the supplies needed to go the moon, potentially to Mars someday, the ability to go back and forth to the shuttle -- for reasons of safety, reliability, schedule, cost, the development of the shuttle-derived vehicles I think have some real opportunities. And you've expressed a clear preference for those shuttle-derived launched vehicles.

On the other hand, back in December, you had the president's space transportation policy which had a presumption, as I understand it, in favor of the use of the evolved expandable launch vehicle. I wonder if you could tell us how those presumptions, yours versus the transportation policy organization -- how you expect them to be resolved, who do you expect to be involved in the decision- making, what sort of considerations ought to factor into that, and also what sort of capabilities we want the CEV to have that may combine a usage ultimately of both the EELV and the shuttle-derived opportunities.

GRIFFIN: Thank you, sir. Let me answer the last question first.

We have, within NASA, looked extensively at all the means that we might bring to bear for the three major categories of things that we launch.

GRIFFIN: And those three categories are science missions, which go on expendable launch vehicles; and then we will be requiring a shuttle replacement, the CEV, and its associated launch system; and then, finally, to go to the moon, as I've indicated before, we need capability in the 100 metric ton class.

I am, of course, aware of the space transportation policy that you mentioned. I don't believe that that transportation policy creates a presumption of the use of one system or another. What it requires NASA and the DOD to do is to coordinate on their requirements in an effort to achieve the most efficacious...

FEENEY: If I can interrupt, and then I'll let you finish.

GRIFFIN: Yes, sir.

FEENEY: But DOD has a presumption here at a minimum, don't they?

GRIFFIN: I have not yet had an opportunity. I've spoken with General Lord, head of U.S. Space Command. And General Lord was quite clear that he understands and agrees with my stated preference for NASA to pursue a shuttle-derived solution.

He would like us to launch our expendable vehicle traffic on DOD systems as much as possible, and with that we concur. NASA has no desire to spend extra money developing systems that already exist.

But where systems don't exist, then we need to look at the lowest cost and highest reliability, safest path forward, and that's what we're doing.

BOEHLERT: The chair would like to recognize the ever-patient Dr. Schwarz.

Here's the situation on the floor. We have a series of votes, and there are eight minutes and 46 seconds to go.

Dr. Schwarz, you can get your two cents in...

SCHWARZ: How about 46 seconds worth?

BOEHLERT: All right, go to it.

SCHWARZ: Just lob a softball up there, but I think people would like to know, as we talk about other nations and consortia who have programs, perhaps not as ambitious as ours to go to a Jovian moon, but other programs, what are the other countries and other consortia who you would consider our competition in these enterprises?

Because I think that's not commonly known, and people should know who the competition is out there and why we perhaps, if not have fallen behind, have fallen back from our previous lead.

GRIFFIN: Yes, sir.

The United States has partners in its space endeavors, and it has competitors. And in many cases, just as in industry, the partners and competitors are the same people. We ally or we compete on different ventures according to what we perceive our needs to be.

Our chief competitors for preeminence in space are Russia, the European Space Agency. The Chinese are coming along quite nicely, and the Indian space agency is making strong initiatives.

We partner with any and all of those nations in various venues, and I expect that to continue in the future. But we also compete with them. And it is, again, my goal to see to it that America is always in the lead in that competition. That matters greatly to me.

SCHWARZ: Thank you, Dr. Griffin.

Thank you, Mr. Chairman.

BOEHLERT: Thank you.

And, Mr. Administrator, we want to help you achieve that goal. Let me say, in your maiden appearance before this committee as administrator -- you've appeared many, many times before and been an invaluable resource to us -- quite successful. I appreciate the candor of your responses to the many questions. I appreciate your trying to give us some guidance as to when we might expect further answers to specific questions.

I think it's been a very productive hearing. I hope you share that view. We're partners in this endeavor. We want to make it work.

GRIFFIN: I do share that view, sir.

If I could just have one more moment: We need your help. We do need to work together. We need the help of this committee and this Congress in carrying out our mission. We need your help with an authorization request and with relief on the Iran Nuclear Non- Proliferation Act.

We cannot be successful without you, and we know that. So thank you for having me here today.

BOEHLERT: The cynics aside, I just want to tell you, we're from the Congress, we're here to help.

This meeting is adjourned.