

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

PRESS CONFERENCE WITH

ADMINISTRATOR MICHAEL D. GRIFFIN

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3:30 P.M.

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MR. GRIFFIN: Good afternoon gentle persons.

MR. MIRELSON: Good afternoon, everybody. Still the same roles. Well, you guys we just ask that you identify yourself and your affiliation. All right.

MR. GRIFFIN: Is it on? Okay.

MR. MIRELSON: Who wants to start us off?

QUESTION: Hi. I'm Frank Moring with Aviation Week. On the architecture studies that you have initiated, could you give us some examples of the kinds of questions you're trying to answer that would accelerate development of the CEV and also some of those key decisions that will be driven by this analysis?

MR. GRIFFIN: I think so. The CEV, as proposed by the President in his January 14th speech, and in the space policy must accomplish two things. It must serve as the vehicle to take astronauts back to the Moon, eventually one day to Mars, and it also must ferry astronauts to and from the space station. It must, if you will, service the space station.

Lots of things can ferry astronauts to the space station and can't necessarily go to the Moon. And what the CEV needs to look like and needs to-- what the requirements on it need to be in order to go the Moon need to be thought through carefully and specified carefully.

We haven't yet done that. We are--we will be attempting to do that over the next couple of months. And then, of course, we need to make sure that what is compatible with going to the Moon will also work at the station. So that's what we're trying to do.

QUESTION: That wasn't done before the RFP was issued?

MR. GRIFFIN: Well, the RFP did not contain, as you know, the requirement to ferry astronauts to and from the space station. That was obviously from--obvious from the public release of the document, and the requirements for a lunar architecture were not specific, and so we will be-- as we judge the proposals that have been submitted and try to decide where we want to go next, and what responses we want to make back to the contracts, we want to be able to provide very specific information on the requirements which they must build to.

QUESTION: [Inaudible]. There's some things coming out of JSC now that the July launch window is under threat, and I'm wondering if you can give us your assessment of that?

MR. GRIFFIN: That I didn't know. When I-- the last discussions that I had had with any of the program officials were really about a week and a half ago, when Bill Readdy did that joint press conference, and that followed on the heels of a review at the Cape for the Shuttle Design Certification and then a delta debris verification

review at JSC. And out of that, we came I think collectively to the conclusion that we needed to slip out of May and into July.

Now, if July is threatened, and I'm not saying that you're wrong, Tracy, by any means, I'm just saying I've been busy with other things today, and I've not heard it.

QUESTION: Seth Borenstein [ph.], Knight-Ridder Newspapers.

You talked about--in accelerating the CEV, some technology might--that you had hoped for would have--might you'd have to go with present into the future. What are some of the things that you see giving up in terms of technologies and capabilities by accelerating CEV?

MR. GRIFFIN: Well, I think it's way too early to be that specific. Okay. But broadly speaking, you would not give up, but you would defer technologies that would be focusing on humans to Mars or maybe even advanced robotics to Mars. You might give up on technologies, not give up, again delay or defer technologies that would be involved

with long human stay times on the Moon, because you don't need those quite yet. We first need to get back to the Moon.

So just think about what's involved in developing a CEV ferrying astronauts to the Space Station, developing a lunar return architecture, preparing later on to go to Mars and other destinations, and then the time phasing of all that would sort of lead you to the technologies that we would and wouldn't do in the near and far term.

QUESTION: Just to follow up on that, that makes it sound like you're--you might be doing a phased CEV, with the second phase that gives you--more of the ability to go to Mars--

MR. GRIFFIN: That could well be. I mean that's all up for grabs at this point.

QUESTION: Ron Berger with Space News.

Exploration Systems had in their project constellation [ph.] plan something like \$15 million through 2014 for CEV and I guess associated hardware.

I know you haven't completed the architecture study, but does that look to you like an adequate amount of money for CEV? That's the first part of the question.

Secondly, what kind of shift to the left do you need to do with resources available to envision that acceleration point to cost more money in the near term?

MR. GRIFFIN: Well, certainly, if we accelerate the CEV, it's going to cost more money in the near term. And I've indicated some of the real places we might get that money. Whether \$15 billion is the right amount, up or down, for CEV development, I just can't say right now. I would have to pretend to be smarter than I am, and I don't like doing that.

QUESTION: Yes. Guy Gugliotta from the Washington Post. We had heard that you were interested in using--possibly using the Shuttle stack as your next generation heavy lift vehicle. During the hearing, you sounded a little more definite about that. Is that debate over?

MR. GRIFFIN: Well, no, the debate won't be over until we carry out our responsibilities to conduct an analysis and discuss the results of that with the Secretary of Defense, and provide to the White House a plan in accordance with the National Space Transportation policy on what path we recommend.

I was pointing out to the committee that launch requirements come in several categories. Below 20 metric tons, I think the EELV fleet is-- it's there. We would have no intention to develop new alternatives if commercial industry wants to develop alternatives and will consider everything that can be, you know, brought in front of us.

But NASA would not be developing alternatives to go against the EELV fleet.

Above 20 tons, there currently do not exist other expendables, and so the issue for NASA, or for any other customer, is if you have requirements above 20 tons, what's the cheapest way to get there? There are Shuttle-derived solutions. There are EELV-derived solutions for above 20 tons.

The nation ought to pick the cheapest one. What else could I say as a responsible steward of the taxpayers' money?

When you get into the 100 metric ton range, it's clear that the nation owns one and only one vehicle in that class, and that's broadly speaking the Shuttle stack. If we replace the orbiter, either a side mount or inline, with a cargo carrier, then we have a vehicle today which provides 100 metric ton launch capability.

I need that class of vehicle to return to the Moon. Now, if the adaptations or the carrying costs of utilizing the Shuttle-derived architecture for that payload class turned out to be higher than an EELV-derived solution, then we, of course, would go to the EELV-derived solution.

What I was offering the committee today was my opinion, just based on engineering, experience, and intuition, and, you know, 35 years in the business, I was offering my opinion that the Shuttle-derived stack looks like the way to go for the 100 metric ton class requirement.

Now, am I being--Guy, am I being responsive and all that to your question.

QUESTION: That's pretty much what you said at the committee, and so I take it that you're leaning that way, but you're open to listening to other parties?

MR. GRIFFIN: We have analysis to do and we will go with the low-cost approach, whatever that turns out to be, and I was offering my opinion as to what that low-cost approach is likely to turn out to be.

My opinions are not carved on stone and are not, you know, are not ordained by heaven.

QUESTION: Larry Wheeler with Gannett News Service.

You talk about a number of options to complete assembly or you talked about assessing alternatives to complete assembly of the Station. You didn't talk about the near-term problem with the Russian Soyuz spacecraft and the Iran Non-Proliferation Act.

Can you give us any insight into how you're going to get past the--next April?

MR. GRIFFIN: I can't, and the reason is that, although NASA has been involved in interagency discussions on the INA and Soyuz purchase issues, I've not been. You can't--I've been in office one month today, and as much energy as I have, I don't have enough to do everything and so I just have had to make return to flight and the exploration architecture the priority, and I have left the interagency discussions to others.

As I understand it today, the Administration is not quite ready to suggest an--you know, an approach to the Congress. When they are, I'm absolutely certain they'll, you know, bring me into that loop.

So if I sound like I'm sort of taking a pass, I guess really that's what I got to do right now because I just haven't been involved.

QUESTION: Bob Dotson [ph.] of UPI.

I'd like to--I want to go back to the CEV, because the President first proposed the CEV as the

exploration vehicle that will explore the solar--
that will explore the solar system.

You seem to be shifting it back towards
including ISS as a Shuttle vehicle. And there was a
recent proposal by one company, Transformational
Space, that there should be a crew transfer vehicle
to do the ferrying, and let CEV do the exploration.

It seems to me there's some fuzziness about
what CEV is supposed to accomplish, and I wonder if
you can address that?

MR. GRIFFIN: There is no fuzziness about
what CEV must accomplish. The President's speech on
14 January 2004 was absolutely clear. It contains
the words: to ferry astronauts to and from the Space
Station; and it also indicates that it will be the
vehicle to allow astronauts to return to the Moon
and go to Mars.

I don't find any fuzziness in that at all.

QUESTION: It's a very broad definition
for-

MR. GRIFFIN: As is appropriate. I don't think we expect the President of the United States to get into design specifications.

He outlined the missions, which must be accomplished. If you look at that, it's very logical.

QUESTION: Yeah.

MR. GRIFFIN: Okay. We're going to be retiring the Shuttle in 2010. We want to return to the Moon. That will be later. We have--we will have the Space Station in place or essentially in place by 2010.

The United States must be able to ferry astronauts to its own Space Station. We--the issue with the Iran Nuclear Non-Proliferation Act and involving, as it does, the purchase of Soyuz, was just outlined.

We're not going to be doing that. If the CEV cannot also accomplish the Space Station ferrying mission, then the United States cannot use its own Space Station.

The President clearly understood that, and so in the broad mission statement for what CEV must accomplish, he included the words to ferry astronauts to and from the Space Station.

And I simply need to-if you will that's level zero direction in NASA jargon from me, from the Administration. I need to see to it that the CEV can accomplish that task.

Now whether that would be two different designs or CEVs that are of a family, and one looks like something and another looks like something else, but they have family in common, whether that's the cheapest approach or whether having one single design that does both things is the cheapest approach, I can't say that right now.

QUESTION: Can I follow up then?

MR. GRIFFIN: Yes.

QUESTION: How does that affect--the RF-- this is maybe my question. It refers partly to the RFP, which was very--was so broad that you could have almost have proposed almost anything. Did this affect that RFP almost--it sounds almost like you

need to issue a new one to give the industry more specifics and start over?

MR. GRIFFIN: Well, we gave some thought to that, but, as you point out, the RFP was quite broad. It--people proposed--I actually haven't been briefed on all that--there is a source selection board that will be busy grading those proposals.

If we concluded that if our purpose is now, moving down the road, to make the requirements more specific rather than more broad, that the existing RFP probably envelopes any requirements that we might have. Okay.

So we will select the winners, as we have we said we would do in the RFP, based on what they have submitted, and then we will provide further more specific guidance that will be a narrower set of objectives than in the original broader document.

I really don't see the alarm there.

QUESTION: Warren Leary [?] of the New York Times. About the operating plan for 2005, which we haven't seen, is there any reason we can't see that today?

MR. GRIFFIN: Well, there's a reason you can't see it today and that is that the oversight committees are entitled to a first look at that and to discuss it with us, if there are any modifications that we would need to make and all that. When we're agreed on the form of that op plan, it will be posted on our Web site and you will have it.

QUESTION: Part of that is that there's some indication that Prometheus is going to be, I guess, cut back a bit in terms of how much is allotted this year and next year.

MR. GRIFFIN: Prometheus will be restructured, as I said in the hearing, and that's as far as I want to go right now.

QUESTION: I was just wondering in that does "restructuring" mean less emphasis on the propulsion part of it and more on the power module, or--

MR. GRIFFIN: Right. I was very clear in the hearing that what we need first--again, you're talking to the world's biggest space nuclear power

and propulsion advocate. Or maybe not the world's biggest, but I claim at least a tie. So I absolutely want to do this program and we will do this program. But what we want from it--there always has to be a beginning, a middle, and an end, and what we want from it in the beginning, given that we're not going to be doing the JIMO mission, what we want from it in the beginning is surface nuclear power. And so we will be focusing it to do that.

I'm not trying to be confusing here. I'm trying to be, you know, consistent with our objectives in time-phased order. That's what comes first. But I'm not in any way withdrawing from the importance of the Prometheus program. I want to emphasize that.

QUESTION: Gwyneth Shaw from the Baltimore Sun. Talk a little bit about how you might pay for [inaudible] from this hearing, [inaudible] pull some money out of that pot. Are there specific line items you're looking at for that money in addition to the research budget, and are there things that

you will still not take money out of in order to pay for this?

MR. GRIFFIN: Too soon to say, Gwyneth, I'm sorry. When we're ready to do it, we sure won't hide it. But I just don't know right now. I mean, broadly speaking, I'm committed to leaving the Science Program intact. The Science Program should not pay for manned space flight. And no one wants to take more from the Aeronautics Program. So the overall Human Space Flight Program must pay for its problems within itself, and I'm committed to that. What specific piece will be decremented in order to increment, I just don't know right now.

QUESTION: Bob Zimmerman, UPI, again.

MR. GRIFFIN: I still recognize you.

QUESTION: Yeah, I know. It's still my name. Hasn't changed.

You've mentioned Science budget that you want to protect the Science budget. One source of mine told me recently that James Webb Telescope now is about a billion over budget. And I'm wondering if that might--first of all, how accurate is that

from your perspective, if you even know, if you've looked into it? And secondly, is that having a serious impact within the Science budget? In the hearings you said Exploration is not affecting Science. So I'm wondering if Science is affecting Science. If you can give me a few more details on that.

MR. GRIFFIN: Well, Science may be affecting Science. Again, I'd like to sound as if I were completely knowledgeable about all things happening within the agency. That would be a goal I can't claim. If JWST--if it is true, and I don't know--if JWST is overrun, then obviously the Science mission director will have to propose offsets somewhere else. Now, their offsets could consist of delaying JWST, making the project, you know, solve its own problems. Offsets could come from other Science programs. If all that is true, they will propose those offsets, we'll discuss them, and we'll make a decision and we'll let you know. But you're way ahead of my power curve right now. Bob.

QUESTION: You've mentioned--I'm refocusing on Prometheus--surface power generation's going to be the focus.

MR. GRIFFIN: That's the first focus.

QUESTION: [Inaudible] propulsion's now at the end of the line as opposed to the front of the line. The question is there's two ways to do sort of star generation. One is RTGs, the other is fission [?] reactors. And there's a big cost difference and a big--there's a big difference between having an RTG for a moon mission than having a reactor. You have RTGs now. So the question is will Prometheus include the development of a reactor for the lunar mission?

MR. GRIFFIN: Prometheus must include the development of a reactor for lunar and other space power supply missions. RTGs furnish power levels on the order of 100 watts, and you could argue, you know, you make a couple of them and get a couple hundred watts. You know, that won't run your hair dryer. I mean, it's pathetic. They're fine for unmanned robotic outer solar system missions. We'll

probably never give up using them for that. They're very effective. But they are not effective for the support of human missions, whether in space or on the moon or anywhere else. They just are an order of magnitude too low in their output power for reasonable-sized systems to get what we need.

QUESTION: And you need them for the first lunar returns to have these reactors, within the first five or 10 years of being -- on the moon?

MR. GRIFFIN: Well, again, that question depends on what is the nature of the lunar return activity. If you want to go to the moon and stay for a couple of weeks, maybe a few extra days, you can do that on, you know, fuel cell power, solar power arrays. If you want to stay through the two-week lunar night, one can concoct schemes to store power generated during the day and use it throughout the night, but I question whether those schemes save any money or make any more sense than just developing the space nuclear reactors that we need because no such scheme will be straightforward.

QUESTION: You've discussed the shuttle-derived heavy lifter. There's also proposals floating for a human rated shuttled-derived launcher for CEV. Had you given that any thought? This is the idea of using the SRB and then some kind of Saturn upper stage?

MR. GRIFFIN: Sure. Well, not a Saturn upper stage, but some upper stage around--

QUESTION: A Saturn engine, I should say.

MR. GRIFFIN: Well, of course we've given thought to that. It's a very attractive proposition. The SRB is the most reliable human rated space transportation element ever developed. The RSRB, I should say, that was developed in the wake of the Challenger accident, has 176 flights on it with no failures. No significant anomalies, even, as far as I'm aware. So it's a hugely attractive piece of space infrastructure. If it were to be used to launch human crew in the 25 to 30 metric ton kind of range--is what its capabilities would be--it needs an upper stage that we don't have now. If we were going to augment the existing line

of EELVs to do that human crew-carrying function, it would need a new upper stage.

So the question in front of NASA is, is there any difference in the stage that would need to be developed for one application versus the other--I mean, it obviously would be nice to have more than one path to get people into space; but secondly, if there is a cost difference, in which direction does that cost difference lie? And of course once we can make our best determination of that, we owe it to the taxpayers to go for the cheapest answer.

So those are the analysis challenges in front of us as we look forward.

QUESTION: Is that part of the analysis that's moving toward mid-July or--

MR. GRIFFIN: Yes, absolutely. That's one aspect of it because the CEV development plan must include not only the crew vehicle but the launch system that would--I mean, they go together. As the senators kept reminding me today, we have a lot of challenges and we don't have a lot of money. And NASA has been generously treated in the president's

budget. Senator Hutchinson made that statement right at the start, and I absolutely agree with her. NASA has to live within what we've been given.

QUESTION: Administrator, I'm Jeff Morris with Aerospace Daily. At the hearing today, you hinted that I guess what was known as the fast program, the light test program for CED--that's what they were calling it.

MR. GRIFFIN: Yes. Right.

QUESTION: Some people called it a fly-off, but they said that wasn't the word for it. --might not be the best way to go. What do envision as an appropriate light test program for CED, given the acceleration you're trying to--

MR. GRIFFIN: Well, you're asking me for the conclusions of the study before the study is performed. Now, I promise we'll share with you what we're doing at appropriate intermediate milestones as we crank through it. But we're looking at, you know, spending the next two or three months putting the specificity on what we want. As was pointed out earlier, we'd put out a more general RFP. And

that's fine, it's very instructive. But we now need to take, you know, those lessons and put a little finer point on things. So what you're really doing is you're asking me to tell you now what those answers are going to be, and I just can't do it.

QUESTION: Well, speaking generally, do you believe in kind of the philosophy of fly a little, test a little, fly a little, which seems to sort of go hand-in-hand with the spiral development philosophy?

MR. GRIFFIN: Well, it's lost in the mists of history, but I might be the person who coined the phrase "build a little, test a little" back in the SDIO years. And if I wasn't, I liked it. That was our motto then. But that's an approach that one uses when one is doing phased technology development, when you're doing something you don't know how to do. Okay, now, it is my every intention to make the crew exploration vehicle be something that we know how to do. It will be within the state of the art. It will not be a technology development. We don't want to undertake all the technical challenges of

returning to the moon, exploring it, going on to Mars, visiting the nearest asteroids--all of those challenges should not be in the first hundred miles.

The CEV is supposed to get humans from the surface of the Earth into space, and then it will be part of other systems that will, you know, land on the moon, stay on the moon, eventually go to Mars, bring astronauts home. But it's only one part of the system. It is not my goal to have that be the technologically challenging part. So I don't know that the philosophy we developed in those years of build a little, test a little--I hate the term "spiral development"--I hate buzzwords in general. I don't know that that philosophy is appropriate when with every beat of my heart my goal is not to be doing something which pushes the state of the art.

The CEV needs to be safe, it needs to be simple, it needs to be soon.

QUESTION: I was wondering if I could get you to indulge in a bit of self-reflection even though you've been here for four weeks. Some of us

were discussing earlier that you had an impact after just a month, of changing the direction of a number of things at NASA. And I was wondering if you could just give me your take on why that is. The Hubble mission--turned it around. It's now a different conversation. Jupiter icy moons--I believe you called it ill-conceived early in today's testimony. Correct me if I'm wrong. The CEV deployment schedule and now the CEV RFP, which didn't include going to [inaudible], you've altered all those things in just four weeks. Was there something wrong with the decision-making at NASA before, or are you just more creative or you're just more thorough? What is it?

MR. GRIFFIN: I'm hardly more thorough than others. I'm hardly more creative than others. NASA's got some of the most creative and thorough people in the world, and I'm not either one of them.

There are many different space programs you could buy with the \$16 billion plus change that we've been given to expect by the administration and the Congress. The president was very clear in the

wake of--we've gone through a national tragedy and we've done a lot of soul searching in the wake of that. We took a very deliberate amount of time to go through the Columbia accident investigation. Admiral Gehman has at least this administrator's undying admiration for his public service, and the things that were revealed and the suggestions showed that new directions were needed.

The president responded to that, put forth an incredibly bold challenge for NASA and the nation. It's the one I've said repeatedly I think is the right thing for NASA to be doing. It required some changes from what we were doing before. Required some changes in thinking. What you're seeing, you know, is an agency in transition. It isn't just me, it's the whole team. We're rethinking what we're doing to respond to the mission that the president has put in front of us.

We're trying very hard to do that while creating the least breakage that we can. You've heard me say I don't believe that the Manned Space Flight Program should raid Science. Now, I mean, if

we lose another shuttle or something horrible like that, then that will probably happen. But in the normal course of going forward with normal development, we should try to leave Science intact, we should try to leave Aeronautics intact, and similarly the other disciplines shouldn't raid Manned Flight.

But we have to make some changes in what we're doing, and the changes that you comment on are part of that. I did, in front of the committee, use the word "ill-conceived" for JIMO. I can do no else. The original purpose of the mission was to execute a robotic exploration of Europa. A mission was put together which would have had the advantage, if it were more feasible, of combining the development of nuclear electric propulsion with the exploration of Europa and maybe other moons as well. But when that technology development requires a launch and assembly process that we don't have, when it requires an amount of fuel that vastly exceeds the world's annual production of that fuel, you're

into an arena that I would say is not where we want to go on a limited budget.

If you give me all the money in the world, then we can take those challenges on. But at the same time that senators and congressmen are telling me, and I agree, that NASA can't execute everything on its plate, then clearly we must remove some of the more challenging things from our plate and concentrate on that which is feasible.

I've tried to amplify and be very general and still answer your question as best I can.

QUESTION: I have the token Hubble question. We've heard a little bit about [inaudible] a whole lot of tapes since the last couple of times you spoke of its status. But I wanted to ask you if anything's changed budget wise. I know that people at Goddard, under your orders, are back to work on this. Is there any intention on your part to start kind of tucking money away for that shuttle mission, given that it's not in the budget after it was essentially [inaudible]?

MR. GRIFFIN: If we decide--well, we have an appropriation of \$291 million this year for shuttle servicing missions and that's entirely adequate for what needs to go on at Goddard to support that mission. There is an appropriation--well, there's a requested appropriation of around \$300 million in FY 06 for a "de-orbit mission." Now, I've already indicated that we're not going to be doing that robotically, so that money is available to be redirected toward a Hubble servicing mission. It would, of course, require the approval of the Congress to use it, but I don't suspect that would be hard to come by. Monies beyond that required to service Hubble would require the deletion of some lower-priority activities within the agency that support Hubble.

The nation has been clear that, if it can be done, they would like Hubble to be repaired. The Congress has been clear. We, NASA, will respond to that clarity. I have a little trouble with the idea when we don't respond we're accused of being unresponsive and locked on our own path; when we do

respond to what our stakeholders want us to do, then somebody says, well, where are you going to get the money? Well, where we are going to get the money is from someplace that attracts less interest and attention than those things which attract more interest and attention. We're not going to be asking for extra money. So we will find what we believe to be the lowest-priority activity and we will delete that, and we will do the higher-priority thing, which is to take care of Hubble if it is feasible to do so.

QUESTION: Administrator Griffin, did you just say that you're not going to do a robotic [inaudible] Hubble and therefore that means that you're going to do a--

MR. GRIFFIN: Well, if we do-- Okay, back up. If we are able to do a shuttle servicing mission to Hubble, then we will attach at that time whatever de-orbit hardware we need to do. If we are not able to do a shuttle servicing mission of Hubble, then we will proceed with the de-orbit mission alone. If I'm going to fly a mission to

Hubble, I'm not going to fly a robotic de-orbit mission.

QUESTION: Let me ask you to settle one minor point about Europa. Will that mission go back to the Science Mission directorate, since the Prometheus [inaudible].

MR. GRIFFIN: The Science Mission directorate wants to do a Europa mission, the National Academy of Sciences wants to do a Europa mission, I want to do a Europa mission. When we can afford it in the budget, we'll do it. So yes, that would be a Science Mission directorate mission.

MR. MIRELSON: That now concludes today's press briefing.

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