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Media Teleconference

**"NASA to Hold News Briefing on the Space Shuttle
to Constellation Workforce Transition Report"**

Speakers:

BILL GERSTENMAIER, Associate Administrator,
Space Operations Mission Directorate, NASA
RICK GILBRECH, Associate Administrator,
Exploration Systems Mission Directorate, NASA

Moderated by John Yembrick

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P R O C E E D I N G S

MODERATOR: Good afternoon, everybody. Welcome to today's teleconference. Joining us here today to discuss today's Shuttle to Constellation Workforce Transition Report is Associate Administrator for Space Operations, Bill Gerstenmaier, and Associate Administrator for Exploration Systems, Rick Gilbrech.

We are going to start with opening remarks and then take questions. Remember, if you haven't looked at the Transition Report or the accompanying documents, go to www.nasa.gov/transition or www.nasa.gov/reports.

We will begin with Mr. Gerstenmaier.

MR. GERSTENMAIER: Thanks, John.

I think one thing I would like to do, in the report that John just referenced, there is a package of briefing charts that are out there. I would like to call your attention to a couple of those charts in that package.

So, if you could just follow along with me, you can have those charts in front of you at the same time.

I won't go through the entire package, but I think there's several charts that are in that package that kind of capture the summary view of what is in the report

and really stress some of the points that I want to make, and you have a written text, kind of, of what they are.

The first chart I would like to call to your attention is page 5 in that package. It is what was the Consolidated Appropriations Act, what we were asked to provide as part of this document, and it is pretty specific about what we are going to provide. You can read that down in the strategy where it talks about specific initiatives that NASA has undertaken, or plans to utilize, to maximize utilization of existing civil service workforce and contractor workforce. So that explains why we included some of the information on that activity in the document.

Efforts to equitably distribute tasks and workload between the Centers to mitigate the brunt of job losses being borne by only certain centers, you will see some discretion to that. That is still a work in progress.

You will see that probably in subsequent revisions of this document.

New workload, tasks, initiatives, and missions that are being secured for the affected Centers, you can see that in some of the text descriptions we have about new work we have added in or things we are thinking about

adding in. Some of that is still a little bit early for us to add in, and the fact that we haven't issued those contracts yet, it is too premature for us to really give the details of that in this document because we don't know where the contracts are going to be awarded or how much manpower is going to be associated with those. So that is some of the unknowns that are there, but we will, again, add that in future versions.

Then overall projections of future civil service and contractor workforce levels at the affected Centers, again, that is why you have got some of the detailed tables in there. Some of the information, we probably would have preferred to wait until we had a little better understanding of the information before we disclosed it, but we were required by this mod to go ahead and put it out, so we gave you the best information we had at this time.

In fact, we have been working along the past several years as we do transition. So there's things that are not here, but it reflects kind of a snapshot in time and doesn't reflect a fully formulated project like we would like to give you.

The next chart I would call to your attention is page 20, and the intent there is just to show that the overall budget between the two programs is about the same throughout this entire budget history. Since we purchased labor from our contractors and services from our contractors and they actually give us labor back, you can see that the dollars spent are roughly the same. So that says in an overall magnitude, our workforce will probably be about the same, maybe slightly smaller than we are today, just because of inflation or changes in cost or skill levels of workforce, but it gives you a feel that at the macro level, there is not a huge upswing or downswing in workforce. I think you need to factor that into our thinking.

So, even though we see some trends in some of the more detailed charts later that show some reductions, I think some of that will get mitigated as we put other contracts into place.

The next chart I would call your attention to is page 21, and that chart talks about some of the caveats and the details that are in the charts, especially the one that is coming next on page 22.

The things that are not included in the projections which are really important are the workforce for the lunar activities, Ares V, Altair Lunar Lander, and other contracts that are yet to be awarded, and some of those are even the Constellation process and contracts. Those have not been awarded yet, and so there is some real key data that will impact those numbers on the next chart, once we get that information better understood.

We also have some reserves that are available for problems that are not allocated. So we didn't put that funding into the manpower numbers that show up for WYEs and FTEs.

Commercial Orbital Transportation is not included in there. Construction of facilities activity and workforce associated with that is not in there. Shuttle transition and retirement beyond 2010 is also not shown in that chart.

On the details side, we know a lot about the Shuttle workforce. We know how it is ramping down. So we spent quite a bit of our time putting some of that information into the charts and into the report. The thing we don't know quite as well is how some of the Ares and

Constellation contracts are going to get awarded, and Rick can talk about that a little later, but again, those are some of the reasons why we need to be careful when we look at the next chart on page 22 that we don't overreact to some of the numbers that we see in this chart.

I will call out a couple of things in here that I think we need to work more on, and then I will stand by to answer any specific questions you have.

For example, at the Kennedy Space Center from fiscal year '08 to '09, you see a drop in WYEs on the low estimate of 700, on the high estimate of 600. Again, this was done before we factored in potentially flying Atlantis for two more missions after the Hubble mission. So some of that will be mitigated by that activity.

We are also getting quite a bit of synergy with Constellation where our workforce is able to charge. They have another charge code where they can charge some of their work to Constellation, but the charges that we thought were going to come to Shuttle, now some of those charges are going to Constellation. So we are, effectively, with the same dollar we spend on Shuttle being able to hold a larger number of workforce around. I think

when that comes into effect, that will also mitigate some of this. We may not see nearly that kind of reduction at Kennedy in '09.

Also, down in Michoud, you see a 500 reduction down there. Again, as you know, we are having some trouble assembling tanks today down in Michoud. Some of the processes are taking longer. So we are obviously not going to remove some of our workforce if we can't deliver the tanks that we need to. We are going to keep that workforce around to make sure we can deliver our tanks.

In fact, even if you look at our actual workforce at Michoud in fiscal year '08, I think it shows 1,900 here in this chart. I am not sure we are actually realizing that manpower. We would actually like to hire some more folks there to help us with our tanks. We are having trouble getting the workforce in the Michoud area to go support that activity. So, again, I think there will be some change there.

Then I would tell you that if we look forward, you are going to ask when will these preliminary estimates become more certain or more real. I think in the next update of this in six months, you will see some of these

changes I just described to you potentially in '09. With the '10, '11, and '12, and '13 numbers, they are going to still stay very preliminary and be very similar to what you see on this chart in the next six-month increment. There won't be a lot of change because we will not have done a lot of contract work. We won't know exactly where we are through the budget process. It will still be embargoed at that point.

We won't be able to impact that into our estimate. So there is going to be a lot of uncertainty. So it will be probably, maybe a year, year and a half before we have got this fleshed out and got a better plan, but again, I would tell you that this is a snapshot in time that we captured. This is where we are. It is clearly a work in process. We need to be careful that we don't overreact to these numbers, and that we don't send an unintended message to our workforce that there is going to be these huge drops up and down because we honestly don't know. There is a lot of invariables that I showed you on the previous page that need to get worked out as we move forward.

The last chart I would just call your attention

to is the last chart in the package, Chart 24. Obviously, transition is challenging, complex, and dynamic. We have been working it for multiple years. We are still continuing to work it. The workforce plans and estimates are continuing to mature. We are better off this year than we were last year.

There won't be a whole lot of new information available in the next six months, but maybe in a year to a year and a half, we will know a lot more about where we sit.

Transition and retirement and future contracts and gap issues, we know there is going to be some workforce skill shifts. We know we are going to do more development activities and less operational activities. We are preparing for that. We are trying to give our workforce tools to learn some of those new skills and be prepared to do that.

The other thing as we look, the gap is important. How long it is before the Orion equipment starts flying out of Florida, for example, the shorter we can make that and hold that to where it is today, the better off we will be. As that grows, it becomes difficult to keep a

workforce during that period because really our workforce enjoys what they are doing. They like doing exciting, challenging things. They like flying spacecraft, and that is the kind of work that they really want to go do. If we are just sitting around waiting, that is not a very good thing.

The other thing that I think gets confused sometimes as we talk about the gap, there is really a lot of activity in this gap. Rick can talk more about that. There's a lot of tests, a lot of other activities. There is a lot of development activity going on, as well as a lot of facility work down at the Cape. Many things are happening. So "gap" is maybe a little bit of a strong term. There is really a lot of development activity that occurs during this period that we couldn't do any faster than we really are right now.

So, again, you can read the last two bullets. Again, we think that overall we have got a good plan in place. We have got some work in front of us. This report helped to identify some of the areas that we need to focus on and work on, and we will continue to do that, and I look forward to your questions.

Rick?

MR. GILBRECH: Thanks, Bill.

Well, up front, Bill has covered most of the salient points. I did want to say that our workforce is really our most valuable asset, and it is very critical for us to manage this properly because not only is it key to us flying the Shuttle out safe, but it is also getting all the business of exploration. So I consider it one of the biggest management challenges we have at NASA, and we have applied a significant amount of efforts into it.

We have had a Transition and Retirement Team working this issue for over two years. This is recent data on the contractor side. We have real confidence in the FTE, the civil servants, in that those systems are internal systems with accurate accounting and real insight.

The contractor side, as Bill said, is a little more challenging to decipher, and again, this is the first turn of the crank for that data. So we are trying to understand it, and we consider it to be a bounding case. This tells us where the real poke-outs are for us to go work and get ahead of the curve.

So there really weren't any surprises from our

viewpoint of what we have been working here, and it is helping us inform our forward activities.

Again, as Bill said, we are moving from an operational stage with Shuttle into a development stage. So we are looking at these and where the developmental work would be, but again, we have a lot of work that we can't pinpoint just yet as far as what the content and location is. We know it is out there, and it will become more mature as we mature our design, but we are going to very carefully monitor this. Everybody needs to remember that this is the first time really in 35 years that we have had a change in U.S. civil space policy.

So it will move us from a low-earth orbit operational mode back into a development mode, and that requires careful transition.

So, with that, I think we can open it up for questions.

MODERATOR: Okay. Thank you, guys. Remember, if you have any questions, press Star-1 on your phone, and we will call you as you get queued in.

We will start with Brian Berger with SpaceNews.
Brian?

MEDIA QUESTIONER: Contractors are looking at what activity they have on the books, and once you get out past 2010, they don't have contracted activities. So the job loss numbers might be a little higher than you would expect them to be in reality, but if I can ask you kind of a hypothetical question, assuming that the next President comes in and does not allow NASA to get started on contracting activities for Ares V and the Altair Lander, then aren't you realistically looking at some of those higher estimates, like the 6,400 loss contractor positions at KSC? Again, maybe both Rick and Bill can comment on that.

MR. GILBRECH: Well, Brian, I'll start out. We currently are working to a plan that was very strongly supported, bipartisan, from both sides of the aisle, and unless and until that policy changes, we are marching forward with current plans.

I will say that we do need stable support and long-term commitment because you can't revector programs of this magnitude on a three- or four-year basis and expect us to achieve success. So we are going to do everything we can in our power in Exploration to keep the program we

have.

I believe we have a very sound approach to get back to low-earth orbit through our missions to the International Space Station and then build the architecture that will take us on to the Moon and beyond. So that is really our focus is to deliver on what we are saying that we are going to do and to carefully manage our workforce, so that we have got the right skills and right numbers in place when we need them.

MODERATOR: Next, we will go to Matt Sedensky with the Associated Press.

MEDIA QUESTIONER: Yeah. I just -- I'm a little confused. Hello?

MODERATOR: Yes, go ahead.

MEDIA QUESTIONER: Okay. I'm a little confused how you can say the workforce will probably be about the same when you look at this chart that shows thousands of contractor jobs going away.

MR. GILBRECH: Well, what we are not reflecting here, as Bill said in the caveat page, is there is a lot of work that is not folded into these numbers that is yet to be determined. It is all that litany of things with the

lunar work that is kicking in, in 2011. There is a lot of transition and retirement work that has to be done after the Shuttle retires in 2010. We have got a lot of construction work going on with Exploration. There is an awful lot of activity all around the country related to facility work that is driving a lot of work that we haven't captured here, and we also haven't touched on the Commercial Orbital Transportation Services and the potential that might bring to some of these launch locations and processing activities.

As Bill said, the ground ops piece, we are still working the strategies for how we will process the Ares and the Orion vehicles and the eventual lunar [inaudible] Ares V. So that is a significant portion for KSC work that has not been allocated. That is why we say these numbers are what we consider a bounding case.

MEDIA QUESTIONER: And once all those factors are considered, do you expect that the numbers would be about the same then?

MR. GILBRECH: We can't really project that. My goal is to be more efficient at processing these new vehicles. We could never make it back to the Moon if we

process the Ares and eventual Ares V the way we process Shuttle. So it is our goal to be more efficient in how we process these vehicles, but we also will have rolling waves of development that will be following. As we get the initial operating capability for the Crew Launch Vehicle, we will begin to work on the Lunar Lander, the departure stage in the Ares V. So we see this as a rolling continuous wave of development where we develop a system. We hand it off to operations, and then we put that team on the next wave of development.

MODERATOR: Now I will go to Mark Carreau with the Houston Chronicle.

MEDIA QUESTIONER: Thank you. I have a couple of questions.

The first one has to do with the Constellation timetable. If 2015 becomes unobtainable and that date moves out, what does that do to your estimate?

MR. GILBRECH: Well, you are postulating.

I mean, we feel like we have a solid plan for 2015. That is the date we picked and we have committed to the Congress and the administration, and we are carrying now the reserves and all the margins that we need to be

confident in that 2015 date.

Right now, we are executing. We are in formulation. We are hoping to get into execution in the following year. So, as these designs mature -- again, you got to remember we are taking an evolutionary step from where we have in prior programs. With X-33 and X-30, I believe we were revolutionary in trying to leapfrog technology. These are all evolutionary technologies that I believe are very achievable, and therefore, I am very confident in the 2015 date.

MEDIA QUESTIONER: Okay. My other question had to do with just Shuttle operations. You know, it is still incredible how many people who were involved in this program at the contractor level even just believed that somehow it is going to be extended beyond 2010, and I am not asking you to answer that question. I think the managers have said 2010 is it, but as that sinks in, are you not concerned that people will leave faster than you are projecting here?

I guess what I am really asking is how conservative or aggressive were you in estimating whether people will leave for other work because of that.

MR. GERSTENMAIER: Again, we didn't really get to that level of detail at all in this chart.

All that is in this chart is we take basically our budget predictions. We take those predictions, and then we look at it and what we think it would be if we went out with this kind of money and we needed these kind of services, what kind of workforce would we need, and that is the numbers we have in these charts.

Again, I think if you look at the workforce and where we are, you know, our folks feel a pretty strong dedication to the Shuttle program, and another thing we need to be careful about is we need to be careful about when we generalize about our workforce. Our workforce is pretty diverse in a lots of different aspects. They are located throughout the country in various areas, and regional impacts have different effects on that workforce.

They are also different by what skill base they are on. If they are on a Shuttle system, for example, tiles will not be used heavily in the next vehicle or fuel cells won't be used in the next vehicle, that is a consideration.

Depending where they are in their own personal

life, if they are a new employee that has just come into the program, this is a great learning experience. They are not as concerned potentially about future employment. They are more mobile. They don't have a lot of outstanding commitments. So they are not as concerned.

Maybe an older workforce that has been around for a while has a sense of real pride in the Shuttle program. They would like to be there to the end of the Shuttle program and see that program be successful and start the activities we are starting to see unfold on Space Station. So there is a real strong commitment there.

Then there is maybe a middle group that has more financial considerations, kids potentially going to college, kids in high school. They are more concerned about their own personal stability from a financial standpoint, and the ability to support an exciting program like ours with the dedication that it requires, they may be in a different situation.

So I think it is inappropriate that we try to characterize this as one kind of generic set. It is very different, depending on how you look at that.

We have done numerous surveys so far with our

workforce, both on the civil service side and also on the contractor side, and so far, we have very strong support for the program. Folks are really committed to make sure that we fly out this program through 2010, that we leave Space Station in the absolute best configuration we can, so when the Shuttle is required, it is there to go to productive research until CEV and Orion and Ares can get flying again, and that all makes sense.

Again, I think we have got the plans to go do that. We just need to be careful that we don't scare that workforce by talking about some of the numbers we see on this chart when these may or may not come about. These are bounding conditions, as Rick talked about. We need to be careful we don't get folks overreacting to these numbers. So we as a team need to do that.

We have also benchmarked an awful lot of transitions. We looked at the Titan program. We have looked at various other programs. Probably, the key to workforce longevity and staying around is first-line supervisors. So we are spending a lot of time with our first-line supervisors making sure that they can answer their employees' questions, that they can get information

to that particular employee, so they can make the right decision about what they want to do with their life and their career.

So we are doing everything we can. We are trying to learn where we are, and I think the Shuttle Team is tremendously dedicated. The Space Team in general is very dedicated, and I think they will stay around until the end of the program to support what we need to go through.

And they are critical to the next generation. They are critical to this next series of vehicles. The knowledge they have, the skills they have are absolutely mandatory for what we need to do to do this evolutionary activity that Rick talked about.

MR. GILBRECH: And to tag onto Bill's statement, another factor, too, is this contractor workforce, 25 percent of them are retirement-eligible. So we are trying to work with them closely on how we can smartly plan the natural attrition process to minimize impacts.

Also, a lot of people like to compare Orion and Ares and our Constellation programs to Apollo, but a lot of people are remembering and expecting that the Shuttle transition is going to be as abrupt and devastating at the

Apollo was. We have got a three-year head start on this problem, and we are working it very actively and very diligently.

So I feel like we are doing everything we can responsibly as managers to get our arms around this problem and stay ahead of it.

MODERATOR: Any follow-up questions, Mark?

MEDIA QUESTIONER: No. Thank you very much for your patience.

MODERATOR: Next, we will take a question from Peter King with CBS News.

MEDIA QUESTIONER: Thank you very much.

I guess following up on Mark's question, this is a two-parter. You talked about the dedication of the workforce, but I am wondering what incentive they have besides their own personal pride to stay with the program if they get offers from the outside, and the second part of that would be, how do you expect to recoup the brain drain with the loss of all that institutional knowledge and memory that is going to go walking out the door in a few years?

MR. GERSTENMAIER: There's a couple of things we

have in place. Essentially, I talked about it before. We have provided charge codes that folks that are working on the Shuttle program can start charging sometime to Exploration activities.

MEDIA QUESTIONER: I'm sorry. Can you come closer to the phone, please?

MR. GERSTENMAIER: Sure.

MEDIA QUESTIONER: Because you are really, really fading out there.

MR. GERSTENMAIER: Okay. Is this better?

MEDIA QUESTIONER: Yeah. That's a little better. Thank you.

MR. GERSTENMAIER: Okay. What I was talking about is we have given charge codes to the Shuttle workforce to actually prepare them or allow them to start charging some time to Constellation activities.

We are going to fly next year, this Ares 1-X demonstration flight. That will be flown by USA workers from the Shuttle Team, and they have a charge code that they can go charge that activity against.

So, in a sense, they are getting a chance to actually participate in the new program. We are able to

capture their knowledge, their expertise, their skills and apply it directly to the new program. So that information will be captured, and it also benefits the employee in the fact that they now have gained experience and great qualifications to go do the new work.

We have done the same kind of thing. We have powered up an Orbiter vehicle with all-electronic procedures, not using any paper products. That is how we plan to process the new launch vehicle. So we, again, let our workforce experience that new system to figure out how to take their knowledge of how to do it today with a paper product and migrate that to the electronic world.

We have done the same thing on solid rocket motors. We have started stacking some of those electronically and tracking some parts with some electronic tags.

So, again, we are starting to experience and use and actually give the folks working today a chance to see what it is going to be like in the future and gain those skills.

The other thing we have done is we have some severance and retention packages available with our

contractors. They differ by individual contractor, and I probably would suggest you talk to the individual contractors, and they can tell you about the details of them.

We have also given our employees a chance to go do some learning after hours, to go learn some new skills.

The State of Florida has helped with some of that to allow some training for folks that had been in one area that may be going away to go learn another area of skill that can actually help in that area.

What we are trying to do is give our employees everything we can to help them make this transition the right way, to capture their knowledge and skills and take it forward, and again, the workforce has been a tremendous asset to us all along. I think they will make the right decisions if we give them the right tools and we communicate with them the right way. They will do what is right for them, and they will do what is right for us as an agency, and we will continue to do what we need to do to lead in space.

MEDIA QUESTIONER: But you are still losing a lot of institutional knowledge going out the door, and when you

start rehiring, I guess the question is, how do you really get that back?

MR. GERSTENMAIER: And again, I think the only thing we can do is we are trying to capture that knowledge before it goes out the door by letting them participate in design and development of the new systems, and we will not get some of it back. We have some databases and things, but also, when you bring on a new workforce and you bring on a new team, you bring on new ideas and new ways of doing business. There are some advantages to having some new folks come in with a fresh look. They haven't always done it the same way, but if they have the right skill base and the right bases to start from, they can actually improve the product that will be coming out in the future.

MEDIA QUESTIONER: I have one last question, and then I will be quite. When do the first notices, when do the first workers find out that they will not be making transition?

MR. GERSTENMAIER: It is probably a couple years away, the way we look at things.

You see these numbers here. We are still a ways away from any kind of notices or information going out. As

I talked about in '09, I don't think we are going to realize the numbers that you see on these charts. In fact, I am almost sure we won't, but we will work that kind of as a yearly basis, and we will let folks know as we understand the plans, and we will work with their first-line supervisors that I talked about. But I don't anticipate or see that anytime in the near future.

MEDIA QUESTIONER: Thank you.

MODERATOR: We will now take questions from reporters at Marshall Space Flight Center. Go ahead, Marshall.

Ken Newton, are you on the line?

PARTICIPANT: I've got a question here at MAF.

MODERATOR: Go ahead.

MEDIA QUESTIONER: Hi. I am Tan Drigenthall [ph] with WVUE-TV.

I am looking on page 21, and at the bottom at the Michoud facility, it shows potentially hundreds of job losses, but based on what I am hearing, those numbers may not be accurate. Could you kind of reiterate on what you think those numbers possibly mean? Because you are saying this is kind of preliminary.

MR. GERSTENMAIER: What I would say is right now, we are very busy constructing external tanks. This is a very heavy build period for us in the external tank world.

So, when we had done these projections or when they were put together, we had these estimates down there.

I think what we are realizing now is we are going to probably need even maybe slightly more people than we have right here to get our tanks produced and ready to go fly.

So I think at least in '09, this is a little bit of an overstatement in terms of the reductions. I don't think there will be very many reductions at all when we actually figure out how to get our tank production levels where they need to be.

MEDIA QUESTIONER: So am I hearing that you may actually be needing people in the New Orleans area?

MR. GERSTENMAIER: And in fact, I think in the 2008 time frame, I don't think we are able to effectively get a WYE level of 1,900. So we are actually, I think, actively trying to bring some new folks on board in that area.

MODERATOR: Any other questions from MAF?

PARTICIPANT: No. That's it, John. Thanks.

MODERATOR: Thank you.

We will now go to Pat Duggins with NPR.

MEDIA QUESTIONER: Yes. Is everybody picking me up okay?

MODERATOR: Yes.

MEDIA QUESTIONER: I was wondering. There is some talk of moving some Orion-related jobs down to Kennedy Space Center, but I wonder if you could talk about the practicality of that, since most of the Kennedy Space Center workers are technicians who make a system operate as opposed to the engineers who will be working during the design phase.

MR. GERSTENMAIER: There is definitely going to be a skill shift as some of the design work -- a lot of the design engineering work will stay at the typical centers like Marshall and JSC where their work occurs today, but some of the production work, for example -- and Rick can talk about it more.

MR. GILBRECH: Yeah. I can chime in. We are looking at the Orion as a freightable vehicle over time, and the mission we have for the ISS mission is not as

challenging as the lunar mission. What we are looking at is another wave of this, is to do the design, development, test, and evaluation at typical centers, Marshall and JSC, but eventually, we want to hand that design off to the operational center at Kennedy and have that team that has just gone through that development cycle go onto the next wave of development.

Like I said, we expect to have these rolling waves of development where we design, do the evaluation, prove and validate the system, and then we hand it off to the operators down at KSC. So that is probably what you are referring to there as these things migrate from a developmental cycle into a production and operation cycle.

MR. GERSTENMAIER: We are going to do some of the final production of Orion down in Florida in the O&C.

MR. GILBRECH: In the Operations and Checkout Building.

MR. GERSTENMAIER: The O&C Building. We have the test program Ares 1-X, that is coming up next year which will involve a lot of the same skills, essentially putting together the Ares 1-X and the VAB which involves a lot of the same activity.

MR. GILBRECH: We are currently modifying the firing room four which will be used for our test flights and our eventual Orion flights, and we also have a lot of interim work between Ares 1-X and our Ares 1-Y where we have to write all the procedures for the human launch of these flights that will eventually lead to the Orion I and the Orion II crew launch. So there is a lot of pad modifications that have to be done with the pads and the mobile launcher, all the communication and ground systems. So there is a lot of work there.

Also, the lunar assignments we made, especially at Kennedy, we have added some new roles to the Kennedy Space Center, in situ resource utilization, also the assembly of the Lunar Lander, the Altair Vehicle, some surface habitat. So all those surface systems, that budget kicks in, in 2011, and that will be some immediate work for Kennedy to pick up.

MEDIA QUESTIONER: Thank you.

MODERATOR: We will now take a question from Bobby Block with the Orlando Sentinel. Go ahead, Bobby.

MEDIA QUESTIONER: Thank you. Can you hear me?

MODERATOR: Yes.

MEDIA QUESTIONER: I was wondering. There is mention -- I understand, although preliminary, there is mention made of the contractors, but there is also, at least at Kennedy, thousands of people who work in support position, IT, police, whose job is there to basically support the workforce. What happens to them as the workforce shrinks?

MR. GILBRECH: That is typical of any community. If you swell the direct workforce, the support community adjusts to that, but our main focus right now is to concentrate on the direct workforce within our budget and within our control.

We are working with the local economic organizations at the Centers to help them assess what other external community impacts there might be and ideas that they might have to diversify the business at some of these centers and make them a little more robust against some of these sways that we are trying to work through.

MEDIA QUESTIONER: Could I ask one follow-on to that? In addition to Ares and Orion, are there any other alternate Shuttle-derived approaches that are also being looked at that could close the gap and could also deal with

the workforce issue that you are facing at the moment?

MR. GILBRECH: I mentioned the Commercial Orbital Transportation System. We have got two of our funded Space Act agreement partners working right now to demonstrate cargo capability. The Space Ops Directorate is looking at commercial resupply. So we think there is a potential market there, and that could drive some activity at Kennedy Space Center, if that is the launch site of choice, and other locations, depending on where these commercial vendors decide to process their spacecraft and their launchers and their launch activities.

MEDIA QUESTIONER: And one final, last follow-up. There is a concern that the gap may actually grow, depending on what happens with the budget in the future and the like. If the gap does grow, how does that impact these preliminary numbers?

MR. GILBRECH: Well, right now, we show strong bipartisan support from the Congress, and we are executing the President's Vision that was enacted in the law in 2005 NASA Authorization Act. So we really are trying to keep our eye on the task at hand, and when and if the policy changes, we will adjust with that, but right now, I think

we have got a very executable plan. It is the best plan I have seen for getting us back to the Moon in my 17 years at NASA. So I have great confidence that we have got an achievable plan. We just need commitment and stability to execute.

MEDIA QUESTIONER: Thank you.

MODERATOR: We will now take a follow-up question from Brian Berger with SpaceNews. Brian?

MEDIA QUESTIONER: This one is for Bill Gerstenmaier.

Since that Kennedy workforce is largely your workforce right now, you guys are willing to say that the job loss numbers will go down once you factor in some planned work, but isn't the inverse true as well that these preliminary job loss numbers are what the numbers will be or worse if you don't replace Shuttle work with the envisioned Constellation work or something comparable?

MR. GERSTENMAIER: If the gap is extensive and there is no future work coming, then they will be bigger than this, potentially.

I mean, we were able to bridge in and fill in with what we knew, work we knew was coming, but if there is

no new work coming, then it is essentially the Shuttle workforce disappearing.

MR. GILBRECH: I think that is our biggest threat is not showing the workforce that we have a stable future to go to.

MR. GERSTENMAIER: I think what we tried to do here, even though it is a bounding condition and maybe a little more negative than it will end up being, it reflects a snapshot in time, and it reflects our plan, but it gives a sense of the future that there is a plan. There is carry-on work. There is a reason to keep working. There is a reason to bridge this into the new system.

The fact that we are using the solid rocket motors for the next vehicle, the fact that we are carrying over a lot of those systems, the basic launch pad kind of things, the firing rooms, the VAB, we are carrying a lot of that equipment and hardware and tests and expertise into that next program. That is a huge plus for our workforce.

We are really transitioning from one venture to the next venture, and we are moving to a vehicle that allows us to get on a low-earth orbit and to do the Exploration activities that we want to do in the future.

So there is a positive piece when we look at all that, but we have got to make sure that we follow through with that other work that is coming down the road. We need to get as good a budget as we can, be stable as Rick talked about, and be ready to move through this period as fast and as good as we can.

MODERATOR: We will now take a question from Mark Mathews with the Orlando Sentinel.

MEDIA QUESTIONER: Hey, thank you very much.

I had a question about the workforce now. As many as 6,400 folks at Kennedy could lose their job between now and 2011. About how many of that number are you guys planning to give some type of retention package to keep them on, or are you encouraging the contractors to have some sort of retention package to keep them on until the last Shuttle mission?

MR. GERSTENMAIER: Again, we are working with the contractors. They are the ones that actually manage the workforce. We buy goods and services. They are off setting those plans in place and putting those things out there that need to be done, and I don't have specific numbers for them.

MEDIA QUESTIONER: Is there sort of a drop-dead -- what sort of a drop-dead, worst number if we lose this many people before 2010, then we need to go out and get some more folks?

MR. GERSTENMAIER: I don't know that there is a specific number.

We really need our workforce to support what we are doing now in Florida. Again, the timing is somewhat unfortunate. Here we are during the most exciting activity we have ever done in terms of Space Station assembly and Shuttle flight, and the fact that the last two Shuttle flights have been so good, there is a direct reflection on our workforce. The fact that the two orbiters performed so well with so few anomalies, we were able to go from landing to launch within 20 days, which we haven't done for a while. That is a direct tribute to the quality of work and the workforce in Florida that prepared these vehicles and got them ready to go fly, and I need that workforce to execute the remaining 11 flights of the Shuttle program.

I need them to be there all the way to the end with that same assurance, or we potentially jeopardize the condition we leave Space Station in when the Shuttle quits

flying.

So I am trying to do everything we can to give that workforce every tool that they can to be prepared to make the right decisions for the future that benefit them personally and benefit the Shuttle program to allow us to fly out safely. So I truly need that workforce, and I don't have a minimum number that says we would do something different.

We typically have attrition every year anyway, and we have to make that up with some hiring. We are still continuing to do that. We are able to bring some folks back in from other programs that had worked previously on Shuttle, and we are doing that and managing that. We are not seeing very high attrition right now. Folks are pretty happy and content where they are working, and we just need to keep, again, providing a good communications plan, being open with them, tell them what we see, and we should be able to go ahead and make this a successful transition and fly out of the Shuttle.

MODERATOR: Okay. We have another question from the Houston Chronicle, Mark Carreau.

MEDIA QUESTIONER: Thanks. I have a couple more.

The projections that you are showing on page 21 of the report, is there any way these numbers can be met through normal attrition and the retirement wave you see?

MR. GERSTENMAIER: Some portion of these numbers will be met through attrition and normal retirement, and I don't know the exact numbers.

MR. GILBRECH: The exact numbers, like I had mentioned, 25 percent of this workforce here is retirement-eligible. So we think there is opportunity there to work that smartly, but it is hard to predict exactly what the numbers will be.

MR. GERSTENMAIER: And again, I think it is important that this is a snapshot, that we just kind of captured this data at this point based on our financial and budget information today. This doesn't represent a really coordinated plan or a really strong goal that we are trying to achieve. This is where we are today.

We have now got this data in front of us. Now it is for us in the next couple years to continue to refine that plan, work on it on a year-by-year basis, work the next year with real specificity, work really hard on '09, get a really good plan in place, and then move forward kind

of year by year and see where we are.

So I caution us again to not get too fixated in specific numbers on this page. This is an indication of where we are as we snapshot things in our budget process today, but it has all the caveats that are listed in the report which you really need to read and understand. Those caveats are very significant.

MEDIA QUESTIONER: One other question I had, I think you were careful in the caveats to say these numbers are not reflecting employment that might accompany the Ares V contracts, say, to Marshall and the Altair work that's been assigned to Johnson.

How soon, if those contracts were awarded in the 2011 time frame, would you see employment ramp up to respond to that sort of work? Is that something that would happen in the same year, or would it take a couple years to reach them? I am just wondering when that sort of impact might be apparent.

MR. GILBRECH: As you recall, we just announced our lunar assignments in October of this past year, and so we really need to work with the Centers who have the lead roles in those areas and decide what kind of acquisition

strategy they have, the type of in-house NASA designs followed by contractor production or some mix of that spectrum, what support centers would be supporting those lead roles as far as what skills and what locations would be needed to do that type of work.

So it is a little early to make any kind of predictions in that arena, but we have tried to give each Center their own identity, so that they can start making those thought processes. So that would be my answer to that one.

MEDIA QUESTIONER: I guess what you are saying is you can't reflect those numbers in this report, and it is really too soon to project when they may have an impact on a future report of this kind?

MR. GILBRECH: That's true, and as the government, we want the best competitive value. So we have to let the Centers come up, and we have to agree on acquisition strategies and make sure that we leave the contractors open to bid what they think is required of the job and not the government and specify what we believe the job requires.

MODERATOR: Okay. We have some additional

questions at MAF. Go ahead.

MEDIA QUESTIONER: Yes. You referred on page 12 to some examples of work or opportunities for retraining that were being done at Kennedy. Can you cite any similar examples for Michoud facility?

MR. GERSTENMAIER: One thing we are looking at Michoud is, you know, we assembled the large external tanks there, and they are welded. For the future program, we are going to look at friction stir welding for some of those tanks. We have started some discussions with our workforce potentially about maybe doing some Pathfinder development activities along that where we use a different weld technique called friction stir.

So we can actually use some of our workforce that have assembled some of the Shuttle tank to actually, potentially begin some of that work exploring the techniques of how we would use friction stir for the new tanks that are going to be part of the Ares and Orion programs. So we have got some things, again, along those same kind of lines.

Also, I think CEV is going to be --

MR. GILBRECH: Yes. CEV will be doing some of

the structural work assembly down at Michoud. Of course, the Boeing upper stage production work will be done once the NASA design has matured by the Marshall Space Flight Center. So we are looking at all of those opportunities and ways, that we can look for ways to get the MAF workforce engaged as early as possible.

MODERATOR: Okay. We will now take a question from Bobby Block with the Orlando Sentinel. Go ahead, Bobby.

MEDIA QUESTIONER: Thanks.

Bill, you know, you are saying that everything is preliminary and that there is a possibility that the numbers could get better. Is there also a possibility that they could get worse?

And a follow-up to that is a lot of this seems to be aimed at dampening what you hope would not be a panic among your workforce which could endanger the rest of the Shuttle flights, but given that the job market situation is so bad and the housing situation is so bad, do you have any indication at all that people are panicking and trying to leave? You said you have very little attrition. What makes you think that people are going to leave?

MR. GERSTENMAIER: Again, I would say, first of all, we consider this kind of a bounding analysis. With our current understanding and the budgets and where we sit today, this is the bounding condition, and that is what I would say to that piece.

I don't know what my workforce is going to do. I mean, they are a very mature workforce. I am not concerned that they are going to leave, but I think it doesn't help them if we continue to talk about the big numbers and we make headlines associated with some of this stuff. Eventually, when folks are sitting at home reading the morning newspaper, they will ask about some of these numbers, and it carries into their work, and that may make them go do something that isn't exactly the right thing to do if we would have had a more open and frank discussion about what the numbers really mean.

So my only caution to all of this collectively is that we don't overreact to these numbers. They truly are estimates. They are a snapshot in time, and we need to be careful we don't give these numbers more credence than they deserve because then that could make our workforce do something that is not appropriate because, as I described

to you, we truly need this workforce to fly out the Shuttle, and I need this same workforce to be able to build the new vehicles to do the Exploration activities that we talk about in the future.

So this workforce is critical to us, and I don't want to do things that disturb that, as much as we can. So we just need to be careful, all of us, as we look at these numbers and treat them for what they are. They're estimates.

MEDIA QUESTIONER: Are you implying that you are worried about sabotage, or are you implying that you are worrying that people will just up and go and then you won't have the experience you need?

MR. GERSTENMAIER: I am not worried about sabotage. It is just that we need -- this workforce is highly trained and highly skilled. They are the reason we fly safe, and I just want to have them stay around as long as they are willing to stay around to do the work we need to do to keep flying.

MR. GILBRECH: And part of our job is to, in all fairness, communicate with them, our best projections of where we see things, so that they can make their plans and

they can stay focused on the task at hand and make definition plans in their own lives about what their future work situation will be. So it has been our commitment to communicate with them as responsibly and as openly as we can with data that we believe is accurate.

That is why we are saying these are very preliminary estimates, and we don't want them to be taken in the wrong context and get people distracted and thinking other than the task at hand.

MEDIA QUESTIONER: But again, to come back to my first question, when you mean they are preliminary, does it mean that the situation could get better, but it could also get worse?

MR. GERSTENMAIER: We figure this is as bounding case, unless there are major changes to our current budget profiles, and everything that we see in our budget runout, if we had stable funding, this is what we believe is the worst-case bounding scenario.

MODERATOR: Okay. If anyone has any follow-up questions, press Star-1 on your phone now.

[No response.]

MODERATOR: Not seeing any, that will conclude

today's teleconference.

About an hour after this call, the playback of the teleconference can be heard by calling 866-432-3926. Again, if you want to hear this teleconference again, call 866-432-3926, and for periodic updates, you can always visit us on the web at www.nasa.gov/transition.

Thank you for joining us.

[End of Media Teleconference of April 1, 2008.]

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