MEDIA TELECONFERENCE

Briefers:

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PROCEDINGS

MODERATOR: Thanks everyone for joining us today for this teleconference update on Hurricane Katrina's impact to NASA. Calling today from one of our effective facilities, from the NASA Stennis Space Center in South Mississippi, is the senior agency official in charge of NASA's Hurricane Recovery Effort, Bill Parsons. Also joining us from NASA's Johnson Space Center in Houston is the associate administrator for Space Operations, Bill Gerstenmaier.

We will start off with an update from Mr. Parsons and Mr. Gerstenmaier, and then we will open it up to questions.

Mr. Parsons:

MR. PARSONS: Before anybody asks a question, I will just explain that I have been assigned as the senior NASA official for Disaster Recovery and Relief, and while I am doing this, we put a letter out making Wayne Hale the acting program manager for the Shuttle program. So that is what he is doing at this time.

Our first priority in this recovery is taking care of our people, and we have had a huge effort on going
with that. I will tell you a little bit about that in a minute.

The second priority is to save our facilities as best we could, to reduce the damage that might occur with ongoing storms or anything like that. So that has been ongoing as well.

Then the third major priority is assisting all the disaster relief agencies that are located here at the Stennis Space Center and at Michoud in their efforts to provide search-and-rescue, relief, and recovery for all the people that are affected here.

I'll tell you, you just can't watch it on TV and get a feel for the devastating that I have seen down here on the Gulf Coast. It is just unbelievable.

I will say that you can't imagine the dedication of these employees here at the Stennis Space Center and Michoud that faced this Category 5 hurricane, the ride-out crews that stuck with our facilities and made sure that they kept our facilities up at Michoud, and then here at Stennis, we evacuated almost 4,000 people to the Stennis Space Center as a point to ride the storm out. Then the employees here that took care of those people, took care of
our facilities, and rode the storm out right here where the
eye just about came over the top of Stennis.

At this point in time, we have accounted for all
our civil servants at the Stennis Space Center, and we have
accounted for about 95 percent of all our contractor
employees. Every meeting I go to, we have contacted one
more or two more or three more, and we continue to get in
contact with all our employees, but we still have a few
that we need to get in contact with.

At Michoud, all the civil servants are accounted
for and about half the contractors, and as you can imagine,
more of the contractor work force is in the New Orleans
area. It is so difficult to get information about the
people there in the New Orleans area, and it is going
pretty slow, but Lockheed Martin is putting forth one heck
of an effort to find all of their employees and get
accountability for them.

I will say that I can't really give you a figure
for Michoud because, again, only about half of the
contractor employees have been accounted for, but I can
tell you that the people without homes are going to be
huge.
Here at the Stennis Space Center between the NASA and contractor work force, it is somewhere around 180 to 200 people that are without homes, and the overall population of Stennis, which includes the Navy and the resident agencies here, it is somewhere in the neighborhood of 8- to 900, possibly a thousand people that are without homes or homes that are not livable, you couldn't go back to. So, again, that gives you a feel just from the work force here at these two facilities and the impact of this work force.

From a facilities standpoint, both Stennis and Michoud fared pretty well. A tornado seemed to have hit one of the headquarters buildings here at Stennis, took off part of the roof, caused some water damage. We have a little bit of water damage here and there. We have some trees down and a few facilities that need some work, but overall Stennis Space Center fared very well from a facilities standpoint.

Michoud, again, some roof damage on some facilities. Some of the facilities in the outlying areas that really weren't hardware critical took more damage. Some of the facilities that housed our flight hardware took
some roof damage. There was a little bit of the concrete roofing that fell and impacted one of the external tanks. We haven't been able to evaluate that yet. It is still on going. We need to save that facility.

As you can imagine, the Michoud facility is pretty much surrounded by water, and we have had a hard time getting any kind of heavy equipment support in there so we could do some of this work. So all we have done really is try to cover with tarps and kind of stem the flow of damage that was occurring.

I would say up until last night, the Michoud facility was cut off, and the only way we could get there was by air. We were using both Army helicopters from Red Stone Arsenal and the Kennedy Space Center helicopters to provide support. They do not have fresh water, other than what was already there, and they had it stored. That is just water that they can use for showers and for flushing the commodes and things like that.

They do not have electrical power, but they do have generator power. They do not have natural gas, and so they were pretty much cut off. So everything we were doing in support of them was by helicopter.
At the Stennis Space Center, we have brought back temporary power into the center. It is only about half of what we normally have, but it has been sufficient to get some of the facilities up.

A large portion of the facility where the Army ammunition plant is -- and that is where FEMA and a lot of people are locating do not have power, but we are powering that by generators right now in support of their effort.

At Michoud, again, we broke through last night with a convoy. That sounds a little funny, but it's what it felt like as you ride this. There was a Navy convoy going to Michoud where the Marines are located as well as they go do search-and-rescue out of the Michoud facility. The Navy was resupplying the Marines. We followed behind them, and we were able to get supplies and things into the Michoud facility. Now we kind of have an open road in there, and we are starting to supply them by truck, so a little helicopter support now and a lot more convoy support, truck support into the Michoud facility.

They are estimating power at Michoud probably -- you know, it's hard to tell. We really have not been able to get to the power people, but let's say it may be as long
as 3 weeks. It could be even longer than that, but again, we have generator power, and we are able to get the facilities [inaudible] and do things like that.

Let's see. Huge supports from everybody in this agency. I won't even go through that, just to tell you that if you've ever seen the way we came together when the Columbia disaster occurred, you can imagine how this agency has come together to support Stennis and Michoud. And I have to have a special thanks to the Marshall Space Flight Center since they provide a lot of support to Michoud. They have really stepped up, and I also have to say headquarters has met all of our needs and enabled us to be able to do everything we needed to do, to aid the recovery of our -- or the relief to our employees and recovery to our facilities.

Right now, we probably have about 1,500 relief workers located at the Stennis Space Center. That may grow to as many as 3- to 5,000.

Also, they have a joint task force, that the communications link is operating out of here at Stennis, and at one time, we had the two-star Marine general located here that was providing security from Mobile to New
Orleans. I think he has moved forward again and engaged himself in a different place. Maybe he is at Michoud. He tends to move around a lot, but the bottom line is not only the Mississippi National Guard, Army units, Marine Corps units, Navy units, the Navy Seabees, we have a lot of folks coming in and out of Stennis, a lot of supplies coming in and out of Stennis that are providing relief and recovery to this community, and it is going to be required for quite some time.

So, with that, there is plenty more I could add, and I could just tell you that we have one heck of an operation going on here, and I am just glad I could be of some help here in this major disaster.

So I'm done.

MODERATOR: Okay. Mr. Gerstenmaier?

MR. GERSTENMAIER: From the Space Operations standpoint, I really want to thank the employees that stayed at MAF and the employees that stayed at Stennis to protect our assets. They did a tremendous job of really taking care of our facilities. They are in as good a shape and as great shape really only because of their dedication and their preparedness.
It wasn't only the employees, but we had good plans in place. We had good procedures in place. They knew what they needed to do to execute. We kept the minimum amount of personnel around to keep our facilities safe. They were able to take care of their families, but they still felt a tremendous dedication to take care of our hardware.

Keeping the pumps running at Michoud was extremely important to keep the water and the flooding out of the area, and again, they have done a tremendous job.

The Administrator said in his remarks to the agency personnel today, you know, what a privilege it is to be part of that team that has that same dedication to the baseline business that these folks have evidenced for us, and they have just done a phenomenal job.

So, again, we thank all the folks that have been on the ground and have really made huge sacrifices for the agency both at Stennis and Michoud.

Also, another thing we are kind of watching now is there is another tropical storm, Ophelia, off the coast of KSC. It doesn't look like it is going to be a problem to us. It looks like it is probably going to go offshore,
but again, in the spirit of being prepared, we have been tracking that. We haven't taken any -- we are in Hurricane -- I think -- Status 2 or 3 or 4 for that preparedness. We really have not heard anything. We are just doing general cleanup at KSC being prepared.

If it looks like it may be coming towards KSC, we will do some more intrusive kind of shutdown of equipment and board some things up and get prepared for potentially a tropical storm or a hurricane. So, again, throughout this season, we are still continuing to be vigilant and do the planning that we need to go do.

If you take a look at what the Michoud impacts and the Stennis impacts are overall to the program -- and we are really not sure what they are -- we have done some things to try to mitigate the problems or concerns for the program from those facilities, but we had our Marshall teams down at Michoud doing the external tank investigation activities. We moved those folks to Marshall well in advance of the storm. So they were in Marshall, and they didn't have access to some of their computer information. They got that today. Again, the people at Michoud were able to get some computers up and got the data systems up,
so they could actually get access to some of their data.

They are looking at that.

We have done some contingency planning of looking at doing some nondestructive evaluation of some of the tanks in Florida. We will do some of that evaluation in Florida. That is a good thing to go do.

Where we do processing, where we do follow-on work, we really don't know yet from an overall standpoint. It kind of changes on a daily basis.

I think, again, the teams have done a phenomenal job at Michoud. They have got tarps over some of the buildings, as Bill described. We have got air-conditioning on in a couple of the buildings. We are starting to get climate control back in, drop the humidity down, and we are doing that with our own diesel generator power.

We have offered some support to the local energy community to help them with some of the wiring that comes in the facility. So that may shorten some of the times for getting power back on. Again, they have done a great job of just being prepared, and we will see kind of how this plays out, but I would tell you in recent days, the progress has been really good and much faster than we had
been predicting in the fast.

The fact that Highway 11 is now open and we can get some trucks in and out is a big plus to us from an overall processing standpoint. It will help us get back online.

We have got some reverse osmosis units delivered from Ames that will allow us to produce potable water. About 6,000 gallons of water per hour can be generated with these reverse osmosis units. We will figure out a way to get those powered up, so we will get some potable water back for folks to drink and use and whatever.

So, again, I think the teams have done a great job of protecting the facilities. They are doing a good job in the recovery efforts. It is too early to say how that all impacts. We will see how it plays out. We have done the smart things immediately to protect schedule where we can and see where they are.

I look forward to your questions.

MODERATOR: Okay. With that, we will open it up to questions. Since we have a lot of people on the line, I want to make sure we get to everyone with at least one question. So please start out with just one question, and
then we will go back around if time permits.

I will call on you in the order you RSVP'd. So we will start off with Mark Carreau, Houston Chronicle.

QUESTIONER: Thanks. Mine is probably for Mr. Gerstenmaier.

Before the storm dealt you this blow, you were looking at March as a potential -- well, no-earlier-than launch date. Given what you know now, is that still possible, or are you really sort of looking more towards the end of next year, or is it just really totally a mystery?

MR. GERSTENMAIER: I think it is really too difficult to predict.

You know, when I talked to you before from Washington, I mentioned that we had kind of established the March date, and then we were going to spend a couple weeks building a scheduling to see if we could really support March or if there were some other things that might push us out.

We never really got through with that schedule evaluation before the hurricane hit, and that kind of has thrown all of that activity kind off kilter a little bit.
So we are looking now kind of at options. They kind of change daily, depending on how we want to go do things. We are looking at big swings about where we do processing, where we may do foam spray-on. We could do some of this NDE investigation in Florida which helps us. That keeps the schedule moving forward. We were able to do a lot of testing at Marshall. We got the teams located at Marshall. So, again, that helps us.

So I think we have got a good near-term plan, but we still are nowhere near being able to have enough of a plan put together to say with any concrete certainty about when the launch date would be, and it would be just speculation. It is probably better not to speculate now.

Let's see what happens in terms of when power gets established. Let's see where we are in terms of getting water in the facility. Let's see what the workers want to go do. Some folks may want to come back to the area and start work. Others may want to stay away and do some other things, and we will try to respect some of the workers' wishes as much as we can and figure that into our schedule. So it is too early to tell at this point.

MODERATOR: Marsha Dunn, Associated Press.
QUESTIONER: Yes. Hi. Can you hear me?

MODERATOR: Yes, ma'am.

QUESTIONER: Gees, I guess for Bill Gerstenmaier again.

You know, you are probably pretty familiar with the Wayne Hale memo in which he said even before the hurricane, March was infeasible, maybe unlikely, and I am just wondering if you could comment on that. Hurricane aside, was March overly optimistic?

MR. GERSTENMAIER: Again, the Wayne memo was a thing that he gave to me last week. It was a piece of paper we used to discuss future planning and schedule stuff, and we looked at it as a preliminary discussion. Even during those meetings, after we got done with the discussion, some of the initial points that Wayne put down in the memo, we're not sure that those were right. Wayne and I kind of agreed that, well, we'll just continue to work it and see where it falls out.

We are looking at some things in terms of -- you know, the PAL ramp is one of the pacing items for us and what we are going to do with the PAL ramp. We have discussed some options about maybe trimming the PAL ramp to
down maybe half size and not totally removing the PAL ramp, but doing that. That doesn't require any spray-on of foam. I don't know if that is feasible or not. We need to let the teams go work and look at that. So there's lots of options that are being investigated.

So I would say that what you got to see in the Wayne memo -- "memo" is too strong of a word. It was officially kind of a note -- not officially. It was kind of a preliminary note that Wayne and I used to just discuss overall schedule planning.

I would tell you, in talking to Wayne today, he shares my opinion. We are not really sure exactly where things are, and we will just wait and see what happens.

So I would not say that March is feasible, infeasible, or not. I would just say we are in the processing of evaluating it, and we will see where we are in the next couple of weeks after we see what actually comes about.

MODERATOR: Okay. Frank Morring, Aviation Week.

QUESTIONER: Thank you.

On that same subject, can you say where you were in understanding the foam loss on STS-114 before the storm
came up?

MR. GERSTENMAIER: Again, kind of where we are is we have identified the five areas of foam loss.

One that probably paces most things is the PAL ramp area, the protuberance air load ramp area. In that one, we are still kind of searching at root cause. We have three or four potential root causes identified.

We have some testing at Marshall that we are going to go do to try to validate and verify those potential root causes. That testing is unimpacted by the hurricane activity. So we will still get that testing, and it will help close some of the legs of the fault tree down.

We are also going to do some NDE, non-destructive evaluation, of the tanks in Florida. That will also give us some data that will help also isolate some of the legs of the fault tree. Again, that is on our original plan and pretty much not affected also by the hurricane. So this kind of preliminary work is to narrow down what we think the root cause was for the PAL ramp loss, and once we look at that, we will look at options on how we can put another PAL ramp on or modify the existing PAL ramp to fly it safely.
MR. PARSONS: And Gerst, I would add one thing -- is one of the first things we did is we got all of the data tapes downloaded, and we air-lifted them out and took them up to Marshall, so that the folks could continue their work to look into the PAL ramp and all of that. So the investigation team has all the data that was at Michoud, and they are using that to continue with the work they are doing.

MODERATOR: Brian Berger, Space News.

QUESTIONER: Thanks. I guess this question is for Gerstenmaier.

Now, Bill, I heard you say that Wayne has actually backed off some of his estimates about the hurricane's impact, but what about this part of the white paper here that references the best pre-hurricane estimate? Did he back off that as well, that March was infeasible and May looked unlikely?

MR. GERSTENMAIER: Again, I think he -- when we discussed it all, we laid it all out, and we think there's still a lot of options there that we need to go look at.

It is going to be key determining what we think the potential root cause is, and then once we know what the
potential root cause is and how we have to protect for it, then that is going to kind of set the path we need to go back to get the tank ready to fly.

What we got out of our discussion was there is still a lot of uncertainty about those potential root causes. We don't know which ones they are. There may be and likely we will probably end up with a couple of these root causes still open, and then we will have to protect for all three of those from a design standpoint or four of those initial root causes.

But we still have a lot of work to go do with that. Wayne and I think at this point that it is a little premature to kind of pick a date. Let the teams go ahead and work. Let them go work their root-cause stuff. Let the folks get their answers together. Then we will start flowing that back in with what we can do from a facilities standpoint, and then at that point, then we are ready to talk with a little bit of certainty -- or not certainty, but a little more assurance of what the schedule might be.

MODERATOR: A.J. Hostetler, Richmond Times Dispatch.

QUESTIONER: For either Mr. Parsons or Mr.
Gerstenmaier, what is the crew of the STS-121 working on at this point? Are they involved in the hurricane efforts, or what?

MR. GERSTENMAIER: Again, I think from an overall training standpoint, they are still doing some training for their mission.

We backed off initially when we moved to the large kind of time frame or using that for a planning date. So we are not keeping them in as intensive a training as we were before, but they are still off essentially doing training and getting prepared for their mission, and we are looking at overall kind of refining things.

I would add along those same lines, we had a Progress vehicle launch today from Baikonur. That Progress vehicle, we amended a little bit, the manifest. We put a little more food and some other items on there because we know the Shuttle schedule will move a little bit into the March time frame. So we have protected for that.

That Progress is scheduled to dock on Saturday, and now we are in flight preparation for the Expedition 12 crew launch on October 1st from Baikonur. We are in kind of the flight review process where we go through and make
sure that all the systems are ready and the Space Station
is ready to go oversee that crew.

The 121 crew is kind of in maintenance training,
but the Expedition 12 crew is getting ready to go fly on
the Soyuz in October.

MODERATOR: Randy Sigel [ph] from WTSU Radio.

QUESTIONER: S-T-U.

MODERATOR: I'm sorry?

QUESTIONER: S-T-U.

The drop-dead date -- Bill Gerstenmaier, the
drop-dead date I understand is November to have the ET at
Kennedy Space Center, and if we don't do that, how is that
going to impact the actual retirement of the Shuttle,
enabling us to complete the ISS by 2010, or is there any
consideration being given to extending that retirement
date?

MR. GERSTENMAIER: First of all, in terms of the
drop-dead date for the tank to Florida, that has a lot of
assumptions in it. It had a lot of work-processing
assumptions at the Cape, but it protected for a bunch of
holidays over the holiday time frame, et cetera. But I
think there is a lot of softness in that November date,
maybe on the order of 30, 40, 50 days or so, and so I wouldn't hang my hat on that November date.

When we looked at the overall sequence and the impacts there, we looked at kind of the number of flights that we were kind of thinking, that we have talked about for Station, and they are really not impacted by a move from where we were going to launch in September to kind of the March, later, next-year time frame. So, again, we still are going to be able to accommodate basically the number of flights that we need to get Station in a good configuration for the partners and to leave Station in a good configuration for Shuttle retirement.

Right now, we don't see any need nor will we want to move that Shuttle retirement date in 2010, and we will just leave that where it is. I don't see any threat to that right now.

In our scheduling and planning, we assumed that we would have some Shuttle problems along the way. We didn't assume that everything would go perfectly. So our baseline schedules has got some margin in them already. Then when we picked this hurricane up, we used a little bit of that margin, but there is still plenty of margin left to
go ahead and give us a good viable program to meet our commitments to the partners.

MODERATOR: Ivan [inaudible].

QUESTIONER: Yes. Well, my question is could you please tell us what kind of operations at Stennis and Michoud on the Space Shuttle program were actually disrupted because of the hurricane.

MR. PARSONS: I will take a little bit of that, and, Bill, you can add on.

At Stennis right now, our test facilities have been saved. They are in a standby mode. Of course, right now, that's not the most important thing to us. Let's just there was no hurricane or it had passed through and people's lives weren't impacted the way they were here. I would believe Stennis Space Center could support a test just in the very, very near future.

So, from a test standpoint at the Stennis Space Center, our facilities are ready to go. Again, that would be there is a huge other effort going on that impacts that up and the fact that the people aren't ready right now, and until we get the recovery from the hurricane, we wouldn't be able to test.
From a Michoud standpoint, some of the facilities suffered some roof damage. We will get that put back together, but really the major impact of those facilities is just power and water and sewerage treatment, and a lot of those services come out of the City of New Orleans to the Michoud facility. We know that they are going to be impacted for some time.

Now, we have temporary ways to work around that, and we are working around that. I think that you just have to see the effort that is going on there, again, as we put back power, bring up facilities, bring up air-conditioning, and get the facilities back in order, and that is ongoing. We continue to be able to do work around for water and for sewerage treatment and everything else. So thing tends to go -- or are going in a good direction, but we are going to have to wait and see how the recovery for some of the utilities for the City of New Orleans goes before we can tell you where we are going to be at on long-term fixes for that facility.

MR. PARSONS: Again, kind of the work we had planned at Michoud was we were going to do some nondestructive evaluation of some of the tank. That work
was going to be done in Michoud. It will now be done in Florida, and so I think, again, from an overall schedule standpoint, we didn't lose much schedule at all there. We will just do that work in a different location.

MODERATOR: Jim Hodges, Newport News Daily Press.

QUESTIONER: Yes. Gentlemen -- and this is for either of you -- the impact of Stennis and Michoud, how does this impact the rest of NASA's centers down the line as far as their contributions to the mission, to the Shuttle mission?

MR. PARSONS: Well, I don't know. I don't think it really does very much at all.

The other centers have helped us in this recovery effort, but to be quite honest, we are kind of coming back. Even though the tempo here is still a very high operational tempo for the recovery effort, for the relief effort, it has come to a more normal high tempo effort. I mean, we are not in the emergency mode anymore, although we stayed in that mode probably longer at any point in time that we have dealt with a disaster.

I would say that the other centers now are back to their business. We will call upon them for very specific
kinds of things that we might need from them, but I don't think at this point in time we are impacting the other centers' ability to support the Shuttle program, if that is what you meant.

Gerst, you may have some other thoughts, too.

MR. GERSTENMAIER: I think that is a good characterization. I think the thing that was neat was that each one of the centers have figured out their unique way to help.

As Bill said in his opening remarks, Marshall was closest to these two, and Marshall helped a lot with supplies and various items they could. JSC did the same thing.

KSC also looked at what they could bring in, and again, they are very familiar with what it is like to go through hurricanes. They figured out what supplies they could most likely need and figured out ways to get them into Stennis and to Michoud, and that was a great effort from Kennedy. Ames, again, helped with this reverse osmosis unit for water supply.

For each one of the NASA centers in their own way tried to figure out their little piece of how they could
help out down there, and they figured out a way they could
contribute through our plans and processes to help out the
folks in the area. So, again, the NASA centers all pulled
together kind of as a real team to help out.

MR. PARSONS: And I would add, too, after the
Columbia accident, we realized there was an agency-wide
kind of disaster relief plan that we needed to put into
place. We did that. We really went and worked the plan,
as Bill Gerstenmaier said, and so what we really saw was
that a really good plan had been put together.

We will improve upon that plan upon incorporating
the lessons learned that we have learned through this
experience, but the fact is Columbia and the things that we
learned having to deal with all of the centers
participating and the relief of that really helped us come
together very quickly, and then our familiarity with FEMA
and other -- United States Forest Service and those kind of
organizations helped a great deal as well. So I think that
that was a real plus in how we have conducted our business
here in the last 10 days.

MODERATOR: Let me apologize up front if I
mispronounce this time. Brian Nelson, Newsday.
QUESTIONER: Bryn Nelson.

MODERATOR: Bryn. Sorry.

QUESTIONER: That's fine.

I am wondering if you could just talk a little bit more about -- you had mentioned some damage from the roof concrete onto one of the external fuel tanks. Has there been any more sense as to that damage and how that may impact the program?

MR. PARSONS: I talked to the guy who went up and looked at it. Right now, from where they can see, it is pretty superficial. Can't even tell it really -- to be quite honest, there are a few little marks. You can't tell that it really impacted that much, but we know a large chunk came off. It was laying off to the side. It may have missed it, or pieces of it may have hit. The bottom line is we need to get up there when we can and get the right people, which they are not currently at Michoud right now, to do that evaluation.

So what I would say is it doesn't appear to be very bad. It is also on the opposite side of the tank that is against the orbiter, which is good. We are going to have to evaluate it with the right people, but right now,
it doesn't look like there is anything we need to be overly concerned about.

MODERATOR: Robin Shelton, Orlando Sentinel.

QUESTIONER: Mr. Parsons, if you could go back over the numbers of folk who don't have homes or livable homes. I heard two different numbers, and I am just trying to nail that down better, if you have that both for Stennis and Michoud.

MR. PARSONS: Well, I will start with Michoud. I don't really have a good number for Michoud. So I am going to just have to give you kind of [inaudible].

We know that we have only been able to contact -- or Lockheed Martin has only been able to contact about 50 percent of their employees. So they are still trying to find their employees, and by the way, I haven't talked to them in 6 or 8 hours and that means they probably could have contacted many more since then because it is ongoing. We are always getting contacts from employees.

I don't know the number that are without homes at Michoud because, again, until we contact all of the employees -- and the fact is some of them have no idea because they have not been able to find out the status on
their homes or that they are under water or anything like that.

At Stennis, we have accounted for all of our civil servants, which is around 300 people, and we have accounted for about 95 percent of our contractors. That continues to improve every hour.

Of those, we have about 180 to 200 of the NASA and NASA contractors that are without homes, but at the Stennis Space Center, there is a number of resident agencies to the number of about 5,000 people that work here. Some of them were with the Navy, EPA, United States Geological Survey, agencies like that, and we know right now that as many as 8- to 900 people within this community at the Stennis Space Center that work here are without homes. I was just trying to give you a feel of the magnitude of the number of people that work here. So almost 20 percent of our employees here at the Stennis Space Center are without homes.

MODERATOR: June Santini, AFP.

QUESTIONER: Jean-Louis Santini.

How many people worked at the Michoud factory?

MR. PARSONS: It is about 2,000 Lockheed Martin
folks. There is only about 14 or 15 NASA folks. So that is about the numbers.

It was quick to come to grips with the 14 or 15 NASA folks. It is much harder to find all the 2,000 Lockheed Martin workers, especially since so many of them live in the New Orleans area.

MODERATOR: [Inaudible], Space.com.

QUESTIONER: Yes. Thank you. I have a question for Bill Parsons.

Based on what you have seen both at Stennis and Michoud, what is your estimate on just the ultimate cost in terms of the recovery effort that it is going to cost NASA to rebuild these centers?

MR. PARSONS: Well, you know, I really can't -- I would be shooting in the dark a little bit here.

We have facility assessment teams that have already been to Michoud, and they are now putting those numbers together back at Marshall. They came in. They spent a couple of days reviewing all of the damage, and then they went back and they are pulling those numbers together.

Today, we have a facilities assessment team
pulled together by NASA headquarters under Gene Hubbard that is here. They will spend a full day. They will take all the data that we had already collected here and then do their own assessment. They will take that data back, and then they will put together those numbers.

That is ongoing right now, and so I can't have just an actual number for you, but we probably will have something pulled together here in a week or two.

MR. GERSTENMAIER: Kind of for planning purposes from a headquarters standpoint, we have estimated, a preliminary estimate, for about 1.1 billion and above that, and that breaks down to about 600 million for Stennis and 500 million for Michoud. And again, that was extremely preliminary. It is based on some of the pictures we have seen without really looking at the actual facilities and actually looking at the damage.

So what Bill described to you is the process we will go to refine that, but our estimate, just kind of a ball-park number, it has just been a rough order-of-magnitude guess. We estimated 1.1 billion.

MODERATOR: Irene Klotz, Reuters.

QUESTIONER: Thanks very much. My question is for
Bill Gerstenmaier.

Between investigations into the Government's response to the hurricane and the Supreme Court nominee hearings and all kinds of other things, NASA is clearly not at the top of the priority list these days at Congress, and I am just wondering if you could talk a little bit about how comfortable you are with the idea of launching an astronaut to the Space Station in less than a month when you don't have a ride home for him.

MR. GERSTENMAIER: Again, we will work out with our Russian partners a plan for that as part of the Flight Readiness Review process.

Again, I think our partners understand what we are doing and what we are going through. We have talked to them daily about where we are in the [inaudible] process. I think they understand where we are going, and I think, again, in the spirit of cooperation, they are taking the higher ground. They know what has occurred with the hurricane. They know what is happening in the bigger sense of things, and they are willing to support us where we are.

We will make sure we have a plan in place and a contingency scenario to go support them before we go launch
a crew member, and we will be comfortable with that and in
agreement with our partners to work that out before we go
commit.

MODERATOR: Bill Harwood, CBS.

QUESTIONER: Yeah. Hi. It's Bill Harwood. Make
sure you hear me?

MODERATOR: Yes, sir. Go ahead.

QUESTIONER: Thanks.

For Bill Gerstenmaier, I guess in the last
teleconference and this briefing today or last news
conference and this briefing, you are very careful not to
address any schedule issues, and I certainly understand
that, given all of the unknowns involved. But just the
reality of the work force, the number of people out of
homes, the lack of a root cause for the PAL ramp separation
or repair that you could do, the tanks that are still at
KSC that have to be served, I mean regardless of softness
in the drop-dead date, I don't understand the reluctance to
say the March window is gone.

I mean, are you really telling us that you think
you really can launch in March? I mean, is that a real
option at this point? I just don't understand the -- I
understand there is no definitive answer to these questions, but I don't understand keeping a window open, that I don't know anyone who think you can make it.

MR. GERSTENMAIER: Again, maybe you are smarter than I am, but --

QUESTIONER: No, no. No, no, no. I don't say that.

MR. GERSTENMAIER: But from the data that I have got laid in front of me, we don't even have a tentative plan to say with any certainty where we are.

We were in the process of doing that evaluation. We didn't complete it. We have got liens against things, but also some major things have changed. I can take a path and pick particular failures on the fault tree, pick particular schedules that look like you can get to March. So I can't say definitively what the probabilities of those are. We need to spend a little more time to get some understanding of what the probabilities of those particular events occurring, and then I can talk to you with some definitiveness about what the schedule is.

And I am not trying to be -- I don't know -- to avoid the question or not pick a date. I honestly don't
have the data to talk to you intelligently about what the
date would be because, as soon as I lay it out, you are
going to start asking, well, what about this, and I will
tell you I don't know about that schedule constraint, or
what about this piece, I don't know that.

So, rather than pick some arbitrary thing and
then be criticized for how we either deliver to it or we
don't deliver to it or we change it, I would rather just
say we don't have a schedule, let the teams do what they
are supposed to go do, lay out all the constraints, look at
the probabilities of achieving these things, and then
understand where we are and then make some definitive
statements.

It is not going to affect any of our near-term
work. We are clearly not in the fall. We don't have
anything that is driving us from an overall standpoint
where, sometime in the spring, picking one answer or
another answer can actually hurt us from a planning
standpoint. I would rather just let it float until we got
some more real data to go talk to.

One of the key pieces is what our work force can
do from a support standpoint in Michoud. The facility is
in pretty good shape. The question is what does the work
force want to do and where are they ready to go support,
and I want to actually get a chance to involve them in the
decision rather than pick an arbitrary decision one way or
the other and then have that dictate a solution. So we are
going to work with our work force, figure out the right
thing to go do, and then when we get a schedule that kind
of makes sense and I can talk to it intelligently, I will
talk to you about it. Even if it is not certain, I will
start discussing it with you when I have got enough to come
talk to you, but at this point, it is so uncertain. There
are so many variables there. I think it is foolish for us
to try to speculate on a particular date.

MR. PARSONS: I want to add something. I have
been out there to see the Michoud workers out there and
listened to them and talked to them, and I can tell you
something. These guys are motivated. These men and women
are ready to support this program in any way they possibly
can. They will do whatever it takes to ensure that they
provide us with the best tank possible.

I can just tell you that they want to get this
thing going as soon as they possibly can. So, when we give
them a chance to get their feet underneath them and do a little recovery, I think you will find out that things that seem very, very difficult, they will find ways to do work around and find ways to support this program.

I just wanted to add that. This work force is just tremendous, and you just can't believe it when you go out there and see what they have done so far.

MODERATOR: Sharish Date [ph], Palm Beach Post.

QUESTIONER: Yes. Thanks. I guess this is for Mr. Gerstenmaier.

I had a question on the doing of the work at the Cape. Do you need the work force that is out in Louisiana, or is this stuff that can be done also by people if you train them in Florida? What were you looking at here if people who have lost their homes are asked then to come 1,500 miles away from there and do this work.

And second, if you could elaborate on the PAL ramp, the data that Wayne Hale mentioned, was that basically from the camera, the video camera that was there, or is there some other data?

Thanks.

MR. GERSTENMAIER: In terms of the work force
that will do the work, some of this NDE work can be done
with the work forces in place in Kennedy, but again, my
idea is I kind of want to leave it up to the workers that
are involved. They have been through a tremendous tragedy.
Many of them don't have homes. So we want to have a
chance to let Lockheed and the other folks work with the
people involved and let them kind of tell us what they
would like to do.

I can imagine some folks might want to go
someplace and have a little more stability to go and get
back to work again. Others may want to stay where they are
and then work.

We talked about potentially bringing some
trailers in to help with homes, but then where do their
kids go to school, those kind of things. There's lots of
personal issues that need to be worked by the family
members, and rather than me dictate some solution from a
headquarters perspective, I don't want to do that.

I want the people to help us figure out the right
thing to go do, and we will move the right folks to the
right location and do the right work in the right location.
So, again, that is why I am hesitant on the schedule
thing.

I want folks to kind of actually weigh in and help us build a plan as a team, and then we have got a schedule. Then we can talk about it.

So, in terms of specifics, we can do some of the NDE work without impacting the workers at all in Michoud, but then some of the other work that comes later in the next couple of weeks, then we need to start thinking about where that work is going to be done and who is going to go do it. But I want the actual workers to help us make that decision and not us dictate it.

The day you talked about on the PAL ramp removal was there was some instrumentation that we flew on the area of the press lines, up on the LO2, the liquid oxygen tank. We flew some instrumentation up there, [inaudible] gage-type data. That was the data that came back that was different than what our wind tunnel results had shown us.

It turns out that that is a very complicated flow field up in that area, and the data wasn't exactly consistent with what our models and some of our wind tunnel tests had shown.

What we are doing now is we are going to take
that actual flight data we got off of STS-114, put that
back into our models, look at the wind tunnel again with
the real flight data in place, and then that will give us
some insight into whether we know enough about that region
to remove a PAL ramp and fly without it or not.

The initial indications were the data was
different enough that it says it is a very complicated
area, the flow fields. It is very difficult to predict.
So we want to be very careful about taking the step of
removing a PAL ramp and thinking we understand that
environment. The data shows us that based on our first
assessment from the models, we don't understand the
environment. Now we got to take the data, put it back in
our models, and spend some time analyzing that.

That analysis is ongoing, and that should
complete probably by the end of this month. So we will be
a lot smarter again by the end of this month. Understand
where we are from a transport phenomena, where foam can go
and hit the orbiter. We will also be a lot smarter in
taking that flight data from STS-114 and seeing what it is
really telling us. So that is the data that we alluded to
in Wayne's paper that he gave.

QUESTIONER: Yeah. Hi. Can you guys hear me okay?

MODERATOR: Yes, sir.

QUESTIONER: Yeah. Probably for Bill Parsons.

You talked about people who have lost their homes. Do you have any idea what percent of your workers, both at Stennis and Michoud, have moved out of the area, what it will take to get them back, and what are your housing contingency plans, if any, if you want to get either of these plans up and running if and when you can?

MR. PARSONS: Well, I am going to try to let you get with Lockheed Martin and probably talk a little bit more about their employees. I wouldn't want to go and talk about Michoud and what Lockheed Martin has been trying to do. I can tell you what we have been doing here at Stennis working with the FEMA and everybody else.

Most of the employees are in the area for the Stennis Space Center. The ones that are without homes are the ones that were, of course, closer down on the coast. Of course, in Mississippi, the coastal area was the worst-hit area. There was some flooding that took some
homes, but mostly, if you were close to the water, you
don't have a home anymore.

In the case of those employees here at Stennis
and to include the resident agencies, the first order of
business is can we find apartments or anything that is
available and get those folks in there, and we are making a
huge effort to do that.

And you know what, we found some. There have
been new apartment buildings that were built that had some
openings, and we are getting those employees there and
going those folks in there as best we can and place them.

That is the first order.

The second order is when we can't find that, of
course, we are looking at other options. What we are
working with right now with FEMA and with the Navy here is
to put some of these tent cities, much like what they
build, these self-sufficient tent cities that were used in
the operation in Iraq. We are looking at could we use some
of those here on the site as temporary housing for a few
months, and again, these are options. These aren't what we
are doing. It is just one of the options we are doing.

Then using Government land well away from the
center here, but not -- when I say "well away," you know, a mile, 2 miles away, using some Government land, clearing it, letting the Navy Seabees and FEMA work to clear that land and put in trailers, so that we could put our employees in there temporarily while they rebuild their lives.

All of our employees are kind of aware of where we are headed and what we are trying to do. We are going to have an all-hands with the employees about Wednesday of next week. We are going to start trying to give them all the options that are available to them because FEMA has options as well.

We are doing everything we can to add on or supplement whatever FEMA would do, and we are going to see -- we are also offering employees -- again, if they have lost everything and they wish to relocate, which maybe a couple will, we would move them to a different center if that was what they wanted to do.

But in most cases, people have family here. They have built their lives here, and they want to remain here. They will suffer a little bit of housing discomfort and whatever they might have to do to maintain their jobs here
and to be a part of this great agency.

So far, people are really showing resiliency, and I can only tell you that this is the beginning phase of us talking with FEMA and looking at those different ways that we may help our employees, but I have great hope that whatever solutions we come up with will work and that these folks will be able to get the job done.

I am going to assume that Michoud has very similar kinds of conversations ongoing with their employees. You know, Michoud is only about 30 miles from Stennis, and so, I mean, the bottom line is we could house those folks here. We could hope those folks in any way and allow them to go to work and go over there and do the things they need to do. So, in many ways, they have a safe haven in this direction, and that is a good thing. As we get more information, we will do whatever we can to help the Michoud work force to be able to get back to work and to their jobs, too.

I hope that answered your question.

MODERATOR: Tracy Watson, USA Today.

QUESTIONER: Hi. Thank you.

For Mr. Gerstenmaier, the memo from Wayne Hale
says it would take approximately 13 months to do a full-scale wind tunnel and computer CFD analysis to provide you with the right options for engineering rework, and I am wondering if you think that estimate is correct or not.

MR. GERSTENMAIER: Again, that estimate was associated with the analysis and the work to conclusively and 100 percent remove the PAL ramp from the rank. I think that is probably a reasonable estimate for that.

We had some discussions about that, and the discussion was maybe we do some pieces or maybe we remove a portion of the PAL ramp, not all the PAL ramp, which might help us.

We also talked about instrumenting the cable trays and the press lines. Again, we really haven't made an official -- Wayne hasn't made an official program position on whether we need to remove the PAL ramp or not remove the PAL ramp.

What he was doing in that paper was essentially laying out in a preliminary sense for me what the discussion points were back and forth and the items to be traded and what the likely outcome was from these things. So what you got to see in Wayne's paper, effectively it is
kind of an informal discussion that Wayne and I and the team were having about what our future planning was. So we weren't making decisions. They weren't concrete answers. We didn't hold those as hard dates. This is an internal planning kind of document, and the way we discuss things back and forth, we put pros and cons, kind of extreme positions, on both sides. We trade them back and forth, and then out of that, we start formulating a plan on how we want to put together a schedule and where we want to go.

What you kind of get from that is it looks like it is very unlikely that we are going to be able to just remove a PAL ramp and fly without a PAL ramp. So that was kind of the discussion we had, and I agree with that.

Whether it is the number of days that you stated or number of months, I don't know specifically, but it looks like it is not going to be easy, that coupled with the data that we got from the [inaudible] tank region. Unless something changes dramatically there, it doesn't look like it would make sense.

So, again, that was kind of our discussion that there wasn't an easy path that said we could fly without a PAL ramp, and that was kind of the discussion we had based
on that data.

MODERATOR: Todd Halvorsen, Florida Today.

QUESTIONER: Thanks. Can you hear me?

MODERATOR: Yes, sir.

QUESTIONER: Okay. For either of the guys who
wants to field this -- I don't know, maybe Bill -- KSC is
getting ready to accommodate about 150 to 200 people from
Stennis and Michoud, and I was wondering is that part of
like a large agency-wide humanitarian effort to provide
people with a place to live and work should they decide
that they want to go to another center, or is this part of
an effort to maybe put in place workers, should you decide
to do ET MOD work of any type down here? I am just trying
to get a handle on what the options are for people moving
from center to center and whether those numbers are right.

MR. PARSONS: Hey, Todd, this is Bill.

That was just the agency saying this is what we
could do, and as we asked -- you know, when you started
watching this disaster unfold, it looked like from a -- if
everything along the entire length of this disaster was
like New Orleans, well, you know, something like that might
have to happen, but it turns out the NASA facilities, even
though we had that planning in place. The NASA facilities have fared pretty well, and we have plans.

So, initially, what it was, is each center was just saying if you needed to send displaced employees here, it was a humanitarian effort.

To be quite honest, now that I look at the numbers and the people and what kind of options we have open to us, those were just people pouring their hearts out, saying that we could do everything, this is what we can do for you, and I don't think that kind of housing requirement -- not even close to that -- is going to be required at any of the centers.

So it is down into the tens and twenties, not into the hundreds and hundreds, but it does show you the great hearts that this NASA family has, and I just can't tell you, for people in this situation, they just knew that they had something to go to if they had to, was just enough to get them going again and looking at their other options.

So I can just tell you it really was just kind of a spiritual thing, you know, to know that your family was reaching out to you and saying we will take care of you, and again, I don't believe that is going to be required at
all. We are going to be able to take care of almost
everything we have right here.

MODERATOR: Richard Harris, NPR.

QUESTIONER: Thanks.

I am a little confused. Maybe I just
misunderstood, but I thought I heard Mr. Gerstenmaier say
that you are talking about over a billion dollars in an
obviously very vaguely guessed-at figure for repairs, but
the damage that I heard described didn't sound like that
magnitude. Did I misunderstand, or could you help me
understand this a little bit more?

MR. GERSTENMAIER: I guess I would couch it this
way, that just based on the photograph evidence we have,
without any detailed inspection or looking, we estimated
that that's what it could be, and it was just a rough
estimate. Sometimes the pictures don't look so bad, but
then when you actually get in and you start looking at the
underlying structure -- this is what we learned from the
KSC activities. We start getting in and look at underlying
structure. There is some foundation problems or other
things below the roof, other things that need more work.
So this is kind of just, I would say, a first estimate that
we floated out there.

As Bill Parsons said, they will go do the
detailed analysis. They will do the actual assessment to
actually go looking, and then that number will refined.

So, for planning purposes, we put that number
into some discussions we had external to the agency, and
again, it was 600 million for Stennis and 500 million for
Michoud, but a very, very rough estimate, and it was based
on the pictures we saw and our experience that we gained
from KSC.

MR. PARSONS: In addition to that, folks, that is
not just the facilities' cost either. What Bill is talking
about is there is just going to be a lot of other costs
involved in just the travel and -- I mean all the different
things that we are going to have to do in this effort to
take care of our people. I just use that as a term, but
whatever it takes. So there is some facilities' cost in
here, but there is just some loss of work and different
things that we are going to have to try to make up and do.

I am not using the right terminology, but there
are just other factors that are involved other than the
facilities' cost that have gone into that, into that number
that -- into that estimate.

MODERATOR:  [Inaudible] Lutz [ph], ABC.

QUESTIONER: Hello?

MODERATOR: Yes.

QUESTIONER: No questions actually. Thank you.

MODERATOR: Okay. Thanks.

Jim Oberg, NBC.

QUESTIONER: Am I on here?

MODERATOR: You are, indeed.

QUESTIONER: Okay. I am going to go back to Bill about your answer to Irene's question on how does McArthur get home because you are saying that it has been a long time before you have any reliable schedules for next year. Well, in about 2 weeks of FRR time, you are going to have to know whether or not you can count on a Shuttle coming up in time to pick up Bill or fly in some way to get the Russian to bring him home on the Soyuz in April. You don't have a whole -- correct me on this, Bill, but I don't see that you have a whole lot of options.

You got to rely on coming home on the Russians, and you got to find a way to let them carry Bill home, and do you see any other option, any option that you can trust?
MR. PARSONS: Hey, Jim, can I make an observation here?

MODERATOR: Yeah.

MR. PARSONS: This is Bill Parsons, Bill Gerstenmaier, Bill McArthur. [Inaudible] tell us which Bill.

That was a joke.

MR. GERSTENMAIER: Again, we'll get a ride home for McArthur on the Soyuz, and we will have that as one of our plans. And we will be prepared again to execute that, and we will go do that before we go launch. So we will have a way for him home.

MODERATOR: Okay. Dan [inaudible], WESH.

TELECONFERENCE OPERATOR: And he has disconnected from the call, sir.

MODERATOR: Okay. Well, that leaves us to our last person, Ken Chang, New York Times.

QUESTIONER: Yes. Hi. I guess I was confused about the estimates again.

Are you including lost work time now in that 1 billion?

MR. GERSTENMAIER: Again, I think we got to be
careful. We just did a rough-order estimate, and I think it includes everything in there that we could think of. Again, it is subject to a lot of update and refinement once we get in the area and understand it.

So, as Bill described it, we put it in. It was based on essentially what we saw from KSC for our costs associated with what we had for KSC. It includes some of the support, some of the other travel, some of the other things, but it is in there. It is our first ball-park estimate.

You know, I would be careful, again, couching that number as the definitized numbers. Let us go work through it again, but it is kind of all-encompassing.

MODERATOR: Okay. That is pretty much all the time we have. Thank you, gentlemen.

I would ask media, if possible -- we have been trying to get this word out in as many channels as possible for employees to check in, so we can do ourselves an actual accurate count of where people are and make sure that they are well, and if you can get this information out through your publications or broadcast facilities, that would be helpful.
The number is 877-470-5240. 877-470-5240. That toll-free number we have been basically advertising for the better part of a week now, it is on all of our websites, including where you can get the latest information on the impacts from the Hurricane Katrina on our facilities and the latest images from both Stennis and Michoud, www.nasa.gov/hurricane. That is the repository of all -- at least it links and whatnot relative to the hurricane and its impact to NASA.

So thank you for joining us, and we will have later updates as soon as we get more information. Thanks, guys.

[End of media teleconference.]