1 00:00:01,129 --> 00:00:05,548
good afternoon and welcome back to

2 00:00:03,419 --> 00:00:07,798
NASA's Johnson Space Center today we're

3 00:00:05,549 --> 00:00:10,019
having the post mission management team

4 00:00:07,799 --> 00:00:13,440
briefing this is for flight day two of

5 00:00:10,019 --> 00:00:15,329
the sts-134 mission and with us we have

6 00:00:13,439 --> 00:00:17,789
Leroy Cain who was the chairman of that

7 00:00:15,329 --> 00:00:20,160
meeting and also is the deputy program

8 00:00:17,789 --> 00:00:22,099
manager for the space shuttle will open

9 00:00:20,160 --> 00:00:24,390
up with comments and then take questions

10 00:00:22,099 --> 00:00:26,310
okay thank you very much well good

11 00:00:24,390 --> 00:00:28,710
afternoon it's great to have endeavour

12 00:00:26,309 --> 00:00:31,279
back in orbit I think most of you

13 00:00:28,710 --> 00:00:33,960
probably saw the launch yesterday it was

14 00:00:31,280 --> 00:00:38,100
after very uneventful and flawless
launch countdown the launch itself and

the endeavours climb a Senate orbit was uneventful it was a completely nominal

and the performance of the vehicle to include all of the elements the the engines the solid rocket boosters the

orbiter of course endeavor and and the external tank was just outstanding we I want to say a few more words about the external tank you'll recall this was excuse me external tank 122 which has commonly been referred to as a Katrina tank the the performance of the tank as I said was outstanding we had to do some
work on that tank after it was damaged in hurricane and the credit goes to the entire team that that got that tank ready to fly again frankly there were some folks who questioned whether we would ever be able to fly that tank as a flight element in the early stages and there's just a lot of hard work by a lot of folks of course those that that execute the manufacturing the processing at the Michoud assembly facility just did an outstanding job getting that tank ready to fly a lot of engineering and integration work done as well as by the
safety teams and various risk based

00:01:57,868 --> 00:02:04,259
assessments were done and so just a lot

00:02:02,099 --> 00:02:06,599
of credit goes to to all those folks

00:02:04,259 --> 00:02:09,629
that work so hard on getting et 122

00:02:06,599 --> 00:02:13,318
ready to fly and as I said all of the

00:02:09,629 --> 00:02:15,780
all of the SDS elements performed

00:02:13,318 --> 00:02:18,089
standing yesterday and so endeavors

00:02:15,780 --> 00:02:21,718
on-orbit in the crew and endeavour are

00:02:18,090 --> 00:02:22,979
in great shape we had very little to

00:02:21,718 --> 00:02:26,908
talk about in the mission management

00:02:22,979 --> 00:02:30,268
team today the items of interest that we

00:02:26,908 --> 00:02:34,108
have are very very minor in and of

00:02:30,269 --> 00:02:36,750
themselves and present no no impact to

00:02:34,109 --> 00:02:38,459
any phase of the mission so the

00:02:36,750 --> 00:02:43,109
performance of the crew and the vehicle
is outstanding at this point we are the
crew of course when they got on over

yesterday did their normal flight day

one activities today they got up and and
did the normal flight day two activities
to include the inspection of the thermal

protection system the reinforced
carbon-carbon wing leading-edge all that
work has been complete and we're getting
all of that data to the ground and we'll
do our normal assessment of all that
data in the mission management team
today we we didn't review any of that
because it's not available yet the
preliminary assessments that we have is that everything looks really really good so far and we're not tracking any issues as far as that's concerned we will turn our attention here toward the rendezvous and docking which will occur starting tonight the crew gets up I think about 10 p.m. local time and gets into their run oven procedures in earnest shortly after that with the docking around 5:15 local time tomorrow so we're very much looking forward to getting back to Space Station this is an extremely important mission for us!
went down the hall in the control center

and talked to the Alpha Magnetic Spectrometer folks they have their own little shops set up there around the corner from the main Mission Control Center and they're very excited they're ready to get AMS safely onboard the space station and get it activated so that's an extremely important milestone for us not just the agency or not even just for our nation frankly and so a lot of folks around the world are watching intently and we look very much forward today to that activity so things are
going very well on orbit

and just as a programming note you may

know that this morning and today we

rolled out Atlantis roll out of the

orbiter processing facility and rolled

over to the Vehicle Assembly Building

and she's in the transfer aisle now in

the Vehicle Assembly Building will will

start the maid operations for for

Atlantis to to her stack in in

preparation for for the next and final

mission sts-135 so all right we

anticipate that will roll out to the

launch pad on May 31st if if the

schedule holds for where we are right
now and of course that's the day before

and it'd be in the evening of that day

that will be the day before our planned

in the mission for for this mission that

we have in orbit so a lot of activity

going on at the launch site obviously a

lot of activity going on here and in

orbit and that's the way we like it so

things are going really well Kylie and I

think that's all I have thank you start

with questions here at the Johnson Space

Center is written back and I just I

think followed you on the TPS

evaluations and just sort of looking at
a sense of when the MMT would like to be
able to clear or not clear the vehicle

so the rest of the mission activities
can follow the schedule you laid out

kind of have established is somewhere on
or about flight day five is when I would
like to know whether or not the team
thinks that we need any kind of focused
inspection starting tomorrow I think

that there's a good chance sometimes
doing tomorrow and in about the middle

of the day on Thursday we'll have our
answer that assumes that all the data
comes down as planned in our normal evaluation timeline is is that we're able to follow our normal time on in some cases the team is able to get through it more quickly but if not it's kind of in the Friday timeframe that that I'd like to be able to make a decision like that quite calm for the sillies undocking and impossible photo imagery on that what what's the timeline for the MMT in terms of making a final decision on it felt we're working on that timeline right now the the plan has changed a little bit
since long today in terms of what we
would like to do and how that lays out
and so we want the teams to be able to
have the time to evaluate that the
normal plan would be for any vehicle
undocking from the space station they
would do their normal process through
their ISS mmt and they would schedule it
the undocking gonna go for a couple of
days before that activity in this case
with undock on Monday they would
normally do that in this Saturday
timeframe they might like to move that
up a day so right now l anticipate that
we'll probably have that discussion on
Friday and leading up to Friday then we'll have our MMT discussion where the shuttle piece of this is concerned from a dual doc tops we call it dual tops because we're dock wall and other vehicle is is undocking if you will so we'll have those discussions this week I can't give you the detailed exactly when the meetings will occur because the team is off assessing how much more time they need and I've asked them to come back later today probably not later than tomorrow morning and let me know what that schedule looks like any more
questions here everything done I know we
have folks on the line so we'll start
with Bill harmlessly
celery there
let's try this sorry about that can you hear me now yes I'm here do you hear me
Cut yes hey I'm sorry I apologized you
hear me now
we can hear you bill I think I need to
sell telephones or something okay
Leroy let me just sign off on the last
question if I could I'm I'm confused as
to why you guys would even consider fly
around on short notice given all the
sleep shifting issues you have dual tops

everything that's on the plate it really seems like a hurried effort given all the time you've already put into this earlier and I just don't get it so I'm just hoping you can give me some rationale for why you need to do it now if you do it at all sure okay bill yeah we we have spent a great deal of time on on dual docked operations just generically for various different kinds of vehicle activities while the shuttle is presidenta Space Station we really leveraged off of all
that work which has been going on for a

couple of years and we leveraged off of

that pretty heavily when we had our

discussions during the last mission as

you know we talked about doing this this

fly about if you will sort of a pseudo

fly around and so a great deal of the

work that we had to perform from a

shuttle mission specific standpoint we

did in preparation for doing that flyby

on sts-133 what the team is proposing

that we do here on this mission is

really just a variation of that activity

and it's really not a fly about or even

a fly around per se as we've talked
00:10:23,389 --> 00:10:29,448
about before the Soyuz will undock we

00:10:27,078 --> 00:10:32,809
will do a small maneuver with the space

00:10:29,448 --> 00:10:35,120
station and then we'll take some some

00:10:32,809 --> 00:10:37,758
photographs from the Soyuz and then the

00:10:35,120 --> 00:10:41,028
station will dock and we'll maneuver

00:10:37,759 --> 00:10:43,970
back to attitude and that's really the

00:10:41,028 --> 00:10:46,458
extent of the activity so from a shuttle

00:10:43,970 --> 00:10:49,420
preparation standpoint we really just

00:10:46,458 --> 00:10:53,268
are going and reviewing the exact

00:10:49,419 --> 00:10:56,058
details of this plan to include as I

00:10:53,269 --> 00:10:59,688
said the attitude changes the profile of

00:10:56,058 --> 00:11:01,129
the Soyuz what the shuttle and station

00:10:59,688 --> 00:11:03,019
crew members are doing immediately

00:11:01,129 --> 00:11:03,580
before during and then following the
undock a cavity to be able to support it appropriately so it's really not a hurried up activity and and that's primarily because we are leveraging off of all of the work that's been done for literally a couple of years and then to include a lot of work that we did for sts-133 and then this is really kind of a variation of what we were going to do on 133 and it's actually what we're doing here is actually less complex in terms of the station maneuvers that we're going to do and what was going to
be a fly around on STS-133 okay thanks

and could you give me an update on ETN you talked about DP performance and

it was obviously I didn't see very much

but I know you guys are tracking a few objects that came off can you update us on what you guys saw in what time frame

facility and thanks we really only saw a handful of items in the print in the preliminary look at the essential data bill

and those times and those items have not changed they we did not brief that in detail at the mission management team

today I know we have those events
available and we can we can give those

to you but in summary there were a

couple of debris items from around the

ice Frost ramp and around the the liquid
{oxygen feed line that were inside of the}

ast T and there were a couple that were

outside of AST T for a total of I

believe five five items on what we're

calling four events because one of the

events had had two items so that's

unchanged from our preliminary report

that I think you got I think that bill

Gerstenmaier and Mike Moses reported on

after the launch yesterday what I would

what I would point out though again is
that the performance of this tank really

was outstanding the assessments that

were done were done in such a way as we

were able to evaluate where we thought

we would have some potential phone

losses both in terms of the area

and to some extent the the number of

losses and and perhaps most importantly

the size of those losses and that's how

we did our risk based assessment to be

able to go fly this tank safely and so

what the team assessed in terms of the

performance and the expectations for the

tank really we we exceeded that by by
quite a bit and what I mean by that specifically is we didn't have but only a few debris events and the events that we had of course were we believe preliminary less than the allowable in terms of size and mass and so we were we were well inside of of the risk that we were willing to accept and that we thought was acceptable in terms of debris from this tank so that's really the part I would highlight in the story about 80 122 and and as we go forward bill will have every single detail in every every event and we'll make that
available to you talking will move on to

assess Bernstein's Lee yes thank you

actually we were continuing on the

Katrina tank here could you say if you

look at it with only obviously is

preliminary but only five poem event did

that sort of outperform the normal tanks

especially the normal post Columbia 10th

you know the redesigned tanks yeah so

I've my I'm wondering nama did you

exceed your expectations

get to perform better than the

redesigned tanks well I I don't know

that I have enough data to say that and
it would be premature for me to say that

but certainly it performed better than

then what most of our expectation

was and our expectation was that it

would have very very good performance

and and that it was a perfectly good

safe tank to go fly because of the work

the team did not only the touch labor

and the actual modifications that we did

after the tank was damaged but all the

work that we did in putting it side by

side with with our return to flight

tanks and the various modifications that

we did some of which we did on e2 122

but not all as you know and so I'm not
quite it would be premature for me to
give you that kind of assessment that
would require me to have really all of
the data in hand but overall it's very
easy to say and very easy to see at this
point that the performance was
outstanding a second one a second
question and last one committee any word
from the Pat you know Pat damaged and
more importantly what does that mean for
scheduled it was there any
discussion
135 scheduled launch date argot date
will see the pad the preliminary
assessment of the pad that we got a verbal report on today is that it looks very good there's no major damage preliminary we're seeing the kinds of small very minor items that we typically see and we'll get a full report on that in a few days so that doesn't appear to be anything that's that's a lot of family or outside of the realm of what we expect for normal pad damage and as it relates to the schedule you may know that the pad turnaround is initially for Atlantis's flow once we
get out of the vertical integrated flow

and head toward the pad the

preliminary indications as I said the

preliminary indications are that the pad

looks really good so we didn't talk too

much about schedule in terms of the

launch date for 135 I can tell you that

in very broad terms we're probably

looking at somewhere in the area of the

first somewhere between the first and

second week of July but we have to lay

all that out

and look at all of the things that are

necessary in a normal vertical and pad

N/A
flow and then some things that are

386
00:17:47,730 --> 00:17:52,230
particularly

387
00:17:49,700 --> 00:17:55,529
there's a there one or two holidays of

388
00:17:52,230 --> 00:17:58,470
course we'd like to understand how many

389
00:17:55,529 --> 00:18:02,129
contingency days we have and then we're

390
00:17:58,470 --> 00:18:06,120
going to do the tanking tests in the in

391
00:18:02,130 --> 00:18:07,500
the post tanking tests and de and so all

392
00:18:06,119 --> 00:18:09,869
of those things we need a little bit

393
00:18:07,500 --> 00:18:11,369
more detail on before we can come up

394
00:18:09,869 --> 00:18:14,279
with a definitive one state that we'd

395
00:18:11,369 --> 00:18:17,039
like to target as an any T launch date

396
00:18:14,279 --> 00:18:18,329
and I anticipate maybe about but this

397
00:18:17,039 --> 00:18:23,460
time next week we'll be able to have

398
00:18:18,329 --> 00:18:28,829
that discussion if not sooner okay next

399
00:18:23,460 --> 00:18:32,309
is Robert Pollin High provide an update
on the SRB recovery and and when you expect to see the footage from the Minister weekend thanks okay Robert the Boosters are in tow we expect them to be in Port tonight is what was reported today and then and probably at hangar F within a day or so of then so somewhere in the probably 24 to 48 hours from now we'll have some video that that folks can transfer over to us and we can begin to take a look at it okay next is Denise channel hi I'm wondering if there is a need for focused
inspection how will that fit into the
time line it seems like a very packed
mission I'm just wondering what flight
data might occur on and if you fix any
problems the schedule I don't see any
problems with the schedule as you
know we had some additional capability
that we were looking at in terms of plus
two days on our previous launch attempt
and and as we move to this launch
attempt yesterday all of our assessments
said it would be best if we just go
ahead and add those two days so we
started out with a 16-day mission it's
really sixteen plus zero plus two the

plus to being on docked days at the end

of the mission two to give us our normal

capability for for Enda mission and

weather delays and systems problems we

have a lot of capability above that

on-orbit because we had an on-time

launch and because several other factors

are coming into play to include the AMS

power consumption is not what it was

anticipated and so we've got some

additional capability beyond all of that

we have some opportunity in this

timeline to be able to move things
around you know because of the launch

delay because of the two additional days

that we added the teams worked very hard
to come up with a timeline or they could
take individual flight days and kind of
plug and play them at various places
throughout the mission to be able to
optimize a performance of the crew the
shuttle and the station crew as well as
the guys on the ground so it's really a
pretty good set up in terms of us being
able to to change things as we go along
if we see a need for that
with respect to focus inspection I think
we have a pencil in on flight day six
457 00:21:08,799 --> 00:21:16,879
and depending on what the area is and

458 00:21:14,839 --> 00:21:19,869
why we think we need a folks inspection

459 00:21:16,880 --> 00:21:22,230
and all of the particulars around that

460 00:21:19,869 --> 00:21:23,668
you know we'll add as much time

461 00:21:22,230 --> 00:21:26,099
to that activity as we need because

462 00:21:23,669 --> 00:21:28,890
obviously at that point is it's a

463 00:21:26,099 --> 00:21:31,709
critical or at least a very important

464 00:21:28,890 --> 00:21:36,720
and high of high interest activity for

465 00:21:31,710 --> 00:21:40,110
so I think this timeline you know will

466 00:21:36,720 --> 00:21:44,339
accommodate will accommodate us if it

467 00:21:40,109 --> 00:21:46,079
comes to that and and beyond that I

468 00:21:44,339 --> 00:21:47,879
wouldn't want to speculate because I

469 00:21:46,079 --> 00:21:49,819
have to have some significant problem

470 00:21:47,880 --> 00:21:52,140
before that even becomes an issue so
we're in really very good shape

with respect to the timeline okay next

is dot todd halvorson please hi todd

halvorson uh for today Leroy I was wondering if you could speak in general

about about what the concerns are with

other vehicles docking or undocking with

a shuttle president the station and what

in particular makes the soyuz departure acceptable and i've got a

follow well the when when vehicles are

at Space Station and they undock and

then they have to do maneuvers and

separation and in some cases at least
some portion of a fly around to get on

their proper trajectory to depart from

the area they have to fire thrusters or

whatever attitude maneuvering system

that they have when you do that then you

just want to make sure that the the

other vehicle is to include the space

station frankly but in the solar arrays

and the other vehicles that are docked

there or our clear of the zones where

you might have any any plume impingement

or anything of that nature so that

that's one of the concerns so what you

have to begin to look at is for an
activity like this you know what port is

00:23:22,558 --> 00:23:27,269
the vehicle coming from on the space

00:23:24,569 --> 00:23:31,079
station relative to where the shuttle is

docked and what profile does it fly in

00:23:31,079 --> 00:23:35,769
other words when it

00:23:32,769 --> 00:23:37,960
undocks and then separates you know

00:23:35,769 --> 00:23:41,410
which direction does it go and then you

00:23:37,960 --> 00:23:43,840
have to analyze plumes and when we do

00:23:41,410 --> 00:23:45,788
that we don't just analyze the nominal

00:23:43,839 --> 00:23:47,529
trajectory we analyze in all phenomenal

00:23:45,788 --> 00:23:51,788
with an envelope around that with some

00:23:47,529 --> 00:23:55,808
uncertainty and so we do it in a way

00:23:51,788 --> 00:23:57,788
that's relatively conservative although

00:23:55,808 --> 00:24:01,660
that's how we that's where our

00:23:57,788 --> 00:24:03,279
confidence is derived from is that we
can handle that the you know the worst

case if you will if you want to think

about it that way in this case it's been

looked at extensively for us all use

undocking from this port with the

shuttle docked and and so again as I

mentioned earlier we've levered

leveraged off a lot of the dueled ops

activities has been done for the last

couple of years and and those are the

kinds of things that we look at

analytically and the areas that you

might have a concern thanks and just a

couple more from me I was wondering if
528
00:24:40,470 --> 00:24:45,970
clearances between docking ports are of

529
00:24:43,119 --> 00:24:49,719
any concern physical clearances between

530
00:24:45,970 --> 00:24:52,210
vehicles at this point and to follow one

531
00:24:49,720 --> 00:24:55,509
of mr. Harwood's questions you were

532
00:24:52,210 --> 00:24:58,509
talking about if you did decide to go do

533
00:24:55,509 --> 00:25:00,879
so you spy around that you would undock and

534
00:24:58,509 --> 00:25:03,849
then the station would make a small

535
00:25:00,880 --> 00:25:08,020
maneuver before pictures were taken is

536
00:25:03,849 --> 00:25:09,879
that a pose being taken by the space

537
00:25:08,019 --> 00:25:14,859
station or exactly why do you do that

538
00:25:09,880 --> 00:25:16,900
little maneuver let's even address your

539
00:25:14,859 --> 00:25:20,469
first question about vehicle separation

540
00:25:16,900 --> 00:25:23,490
it turns out when you go do these kind

541
00:25:20,470 --> 00:25:28,390
of activities at least from a shuttle

542
-centric standpoint if you have

enough capability and enough clearance

from a will just go back to plume and

pinion for a minute by the time you have the clearance and the capability

you need or if you want to think of it

the protection for the shuttle by

definition have enough physical supper

of the vehicles because what you find

out is when you begin to envelope and

then put some uncertainty on those

envelopes for the actual plume

environments you are physically

separated a pretty good distance from
one vehicle to the next so the actual

00:26:02.769 --> 00:26:06.930
you know how close to the vehicles get

00:26:04.750 --> 00:26:08.950
really doesn't become an issue because

00:26:06.930 --> 00:26:12.610
because of what you're doing to protect

00:26:08.950 --> 00:26:16.240
for the plume impingement with

00:26:12.609 --> 00:26:18.009
respect to the maneuver it's really as I

00:26:16.240 --> 00:26:19.809
understand the plan that the folks are

00:26:18.009 --> 00:26:23.140
working on it's really a maneuver that

00:26:19.809 --> 00:26:26.349
will just allow the from the soyuz

00:26:23.140 --> 00:26:27.780
vantage point it will allow the crew on

00:26:26.349 --> 00:26:30.129
the soyuz to get a little bit better

00:26:27.779 --> 00:26:33.750
photo in terms of getting a better

00:26:30.130 --> 00:26:37.150
perspective of the entire space station

00:26:33.750 --> 00:26:40.059
and the vehicles that are docked to

00:26:37.150 --> 00:26:43.540
it so rather than just looking straight
up or down one axis or or in plane if
you will it's just to get a little bit
better perspective and and to get a
little bit better photography overall in
terms of lighting and and all the things
all of the all the considerations in
that regard thanks at all that's all on
the line did we have any follow-up
question on the on the fly that i think
some of the discussion last week was
that that you might not be able to get
the quote high quality window view for
the photography that may have all
changed and i just know if there's
anything you might be able to update

with regard to that in other words it

was sort of like you could get a good

shot but it might not be of the highest

quality that maybe would have from

previous planning and I just wondered if

that's changed or yourselves your

goalless is the highest quality or a

good shot

well you're talking about details of

a plan that that you know frankly the

team still needs to brief to us I can

tell you that that

my understanding is obviously we want to
getting a high quality photograph there wouldn't be much point in going to any efforts on an activity like this if that wasn't our plan I think that in looking at it in a little bit greater depth the team was able to figure out a way that we can get the crew members in the NSO use in the right places at the right time to be able to take high-quality photos and so we're going to have a lot more detail on exactly what we're doing and how its timeline and and who's doing what and which vehicles and on and on and we can
report that out to you and I would

614 00:28:45,390 --> 00:28:49,530 intend to report that out to you before

615 00:28:47,308 --> 00:28:52,319 we get to that point now this is an

616 00:28:49,529 --> 00:28:54,899 activity that will be performed and we

617 00:28:52,319 --> 00:28:58,289 would execute this on Monday next week

618 00:28:54,900 --> 00:28:59,669 so we have a little bit of time and I

619 00:28:58,289 --> 00:29:08,909 anticipate we'll get some more details

620 00:29:08,910 --> 00:29:10,799 on those day 2 coverage and our

621 00:29:10,798 --> 00:29:11,850 briefings we'll send it back to Mission

622 00:29:11,849 --> 00:29:14,849 Control here momentarily

623 00:29:11,849 --> 00:29:16,859 and during the crew sleep shift will be

624 00:29:14,849 --> 00:29:19,409 playing the video highlights from flight

625 00:29:16,859 --> 00:29:21,149 day 2 at the top of the hour and then

626 00:29:19,410 --> 00:29:23,640 the crew the shuttle crew is scheduled

627 00:29:21,150 --> 00:29:25,890 to awaken at 956 p.m. Central time
tonight and start getting ready for
docking and Endeavour docking to the
International Space Station is scheduled
for 5:15 and Central Time Wednesday
morning
thank you for joining us