well good afternoon everybody and

welcome back to the Johnson Space Center

here in Houston joining us is Leroy Cain

he is the chairman of the mission

management team he's also the deputy

manager of the space shuttle program

he'll talk to you about the events of

the meeting today and then we'll take

questions here and then out on the phone

bridge I'll turn it over Leroy okay

Thank You Kyle oh good afternoon it's

good to be back with you again today the

the crew is doing very well on orbit I

don't have a lot to tell you with
respect to the mission management team
today we did talk only briefly about a few items the crew on orbit was busy
today doing some transfer doing some preparation for their spacewalk tomorrow and just generally getting ready for flight day five today was a pretty busy in in Kevin day and so but we did have a couple of things to talk about in the mission management team meeting the the assessment teams had an opportunity to look over all the inspection data and they brought in their report and happy to report that there was really not very
much to talk about at all literally we had just very few areas where they were able to detect any kind of damage at all and maybe I'll bring the pictures in tomorrow I probably should have brought them today but for today I'll just give you an example we have a couple areas where we have some very minor blanket damage and these are things on the order of an inch by a fraction of an inch on an ohms pod a gap filler that that has a little bit of sleeving that you've seen around the gap filler is a little bit of this leaving is
protruding and that's on one of the

00:01:49,950 --> 00:01:55,950 homes pod areas we had two tiles that

00:01:54,328 --> 00:01:59,609 they looked at on the bottom and the

00:01:55,950 --> 00:02:01,590 entire bottom side of the orbiter where

00:01:59,609 --> 00:02:03,930 we have thousands of tiles we have two

00:02:01,590 --> 00:02:06,930 tiles that they looked at and the damage

00:02:03,930 --> 00:02:10,719 is just coating damage on the order of a

00:02:06,930 --> 00:02:17,710 couple of inches by a couple of inches

00:02:10,719 --> 00:02:20,979 just phenomenal the the performance of

00:02:17,710 --> 00:02:24,790 the entire space shuttle system to

00:02:20,979 --> 00:02:27,060 result in in this kind of and this kind

00:02:24,789 --> 00:02:29,949 of a report from the inspection team so

00:02:27,060 --> 00:02:33,879 we it's true that we've gotten pretty

00:02:29,949 --> 00:02:36,459 used to and have enjoyed for a number of

00:02:33,879 --> 00:02:38,560 flights increasingly improved
performance as a result of all the work that the team has done on the vehicle and the vehicle elements to improve the overall performance of the system and it's not as though I'm surprised by this you know I'm not it is that I'm not sure we we generally talk about it in these terms and we like to show you we'd like to show you pictures of areas where we've had damage for example and and talk about why it's not a concern I decided not to bring the pictures today because it really is such trivial damage that I didn't think
they'd be of interest and then it was

pointed out to me that that might actually be a good point to make so at any rate we talk over all of the results with the team and their recommendation is that we don't have any requirement for a focused inspection that we typically talk a great deal about and as I mentioned to you the last time we were here so our decision officially is that we will not do a focused inspection we have no areas of concern to to require any kind of focused or more detailed inspection so we won't be doing any of
that so again I can't say enough about

the engineering team and the work that

they did to get through all this data in

the last couple of days I think it

points out again something we talked

about the other day where the team

really has evolved as we've gotten more

data on the ground and when you consider

the volume of the data that the team

goes through on any one of these flights

it really is pretty phenomenal

and even to the point of their processes

for reviewing these data has evolved and

been refined and it's really pretty
pretty fascinating to watch them go

through their process and bring the

discovery continues to perform excellent

we really only have very minor things to talk about from a system standpoint

nothing significant at all nothing that

we're concerned about it was the the

team mentioned that the boosters are in

tow matter of fact I think we expect them to be in the port tonight they'll

be in the slip tomorrow

on Monday and then we anticipate that

we'll do open assessment on the Boosters

on Tuesday and so we look forward to
those results we have a great deal of
crowell margin on the order of two days
and so as you know there are some things
we want to do to include possibly a plus
one day for the for the Soyuz fly around
and some other transfer activity that we
might want to do as well as we would
like to transfer as much o2 as we can so
we'll look at doing that and it looks
like we're going to have every
opportunity to transfer as much o2 as
probably as the station can take so with
that our plan is still that we will talk
about Soyuz fly around in the in the mm
teen and then the IMM T and then we'll

make an integrated decision they're

probably somewhere on the order of

Tuesday morning coming out of the int I

anticipate we'll have a decision about

whether we're going to do fly around or

not at least from the standpoint of

whether it's technically feasible and

whether or not we think we can we can go

do it from from an operational

standpoint so that's the plan forward

it's been an out another outstanding day

in space so far I was talking to one of

my colleagues and I asked you know what
I want to talk about today what can I tell folks and and and he said that I should tell him that we plan well and that we take one day at a time and clearly we're doing that on this mission is we have on previous one so with that I'll be happy to answer your questions okay we've got a few folks here and then Alan I'll start with Bill LR would CBS what the real quick learn I think you addressed this earlier in a different briefing but just to make sure if the fire round does not get approved you
guys have any task that would make you

00:06:38,240 --> 00:06:43,579
want to add that day if the rest of the

00:06:40,910 --> 00:06:46,490
mission continues to go smoothly I think

00:06:43,579 --> 00:06:49,550
bill that we probably will because

00:06:46,490 --> 00:06:52,879
there's a great deal of outfitting where

00:06:49,550 --> 00:06:54,439
the PMM is concerned most of which the

00:06:52,879 --> 00:06:56,360
team has done an outstanding job of

00:06:54,439 --> 00:06:59,149
getting all that integrated into the

00:06:56,360 --> 00:07:01,490
timeline but what I find generally is

00:06:59,149 --> 00:07:07,069
that on these kinds of missions in

00:07:01,490 --> 00:07:09,350
particular we can usually find things

00:07:07,069 --> 00:07:10,939
for the crew to do if we're able to if

00:07:09,350 --> 00:07:16,189
we're able to see our way to stay in

00:07:10,939 --> 00:07:17,689
another day so I fully expect that that

00:07:16,189 --> 00:07:20,779
there's some good work that we can do on
orbit with the station team if we stay for an additional day even the Soyuz fly

around notwithstanding from me on debris

assessment realizing that you don't see anything in the in the rpm photography

um if you've learned anything that lets you modify or change how you think about the timing of debris events not in terms of when things come off but when things pose a threat to the shield I mean

obviously these guys had some contact and didn't do anything which would fit your your theory going in about aerodynamically since it transports on
all that is there anything he's saying

that it makes you modify any of that or

is it all pretty much by the book at

this point that's a good question I

would say I'd probably say it and maybe

let's get this we'll get to your

question in a slightly different way

what we have seen I would say in many

ways substantiates what we think is

happening for example the other day when

I was here we talked about three or four

events or debris events and as it turns

out and and our thinking was that those

the ones that we had seen up to that
00:08:25,009 --> 00:08:30,920
point were ones that they occurred well

201
00:08:26,839 --> 00:08:32,689
outside of ast t the area of aerodynamic

202
00:08:30,920 --> 00:08:35,539
sensitivity where we you can actually

203
00:08:32,690 --> 00:08:36,490
put some energy into a particle and do

204
00:08:35,539 --> 00:08:39,278
some damage

205
00:08:36,490 --> 00:08:40,629
these all occurred outside of a stt so

206
00:08:39,278 --> 00:08:42,580
you wouldn't expect that even if they

207
00:08:40,629 --> 00:08:44,110
did come in contact with a vehicle that

208
00:08:42,580 --> 00:08:46,480
there's enough energy there to do any

209
00:08:44,110 --> 00:08:49,259
damage well in fact we're not seeing any

210
00:08:46,480 --> 00:08:52,060
damage and we do know that we had some

211
00:08:49,259 --> 00:08:54,809
albeit a very small number from what we

212
00:08:52,059 --> 00:08:59,169
could see in the imagery particles

213
00:08:54,809 --> 00:09:01,059
flying around and again late in the

214
00:08:59,169 --> 00:09:03,909
profile' late enough that it's outside

00:09:01,059 --> 00:09:07,659
of our area of concern so that sort of

00:09:03,909 --> 00:09:10,750
reinforces the way we look at areas of

00:09:07,659 --> 00:09:14,980
concern and in times of of debris

00:09:10,750 --> 00:09:16,778
liberation so bill I would say what

00:09:14,980 --> 00:09:18,278
we've seen substantiates the theories

00:09:16,778 --> 00:09:20,830
that we've been putting forward and it

00:09:18,278 --> 00:09:22,450
substantiates the areas that we've put

00:09:20,830 --> 00:09:24,190
the most emphasis on in terms of trying

00:09:22,450 --> 00:09:26,350
to make modification to the vehicle so

00:09:24,190 --> 00:09:29,260
that we can minimize not only minimize

00:09:26,350 --> 00:09:31,480
debris liberation but minimizing the the

00:09:29,259 --> 00:09:32,830
effects of debris when it when it does

00:09:31,480 --> 00:09:34,810
liberate in areas where we just have

00:09:32,830 --> 00:09:40,060
done everything we can but we can't make
00:09:34,809 --> 00:09:42,969
it zero thanks mark Carreau for Aviation

00:09:40,059 --> 00:09:45,578
Week I think I just want to be clear has

00:09:42,970 --> 00:09:48,790
the image team that sort of finished its

00:09:45,578 --> 00:09:52,389
assessment of all the launch imagery and

00:09:48,789 --> 00:09:54,480
the wing scans and the rpm photography I

00:09:52,389 --> 00:09:58,059
mean as far as you guys are concerned

00:09:54,480 --> 00:10:00,399
discovery has a good TPS system right I

00:09:58,059 --> 00:10:02,528
mean I just didn't what its final or

00:10:00,399 --> 00:10:05,649
there's some formal process that yet

00:10:02,528 --> 00:10:08,320
that has to yet take place yeah we're

00:10:05,649 --> 00:10:12,179
we're several steps into the process and

00:10:08,320 --> 00:10:14,350
and we just passed the step where we

00:10:12,179 --> 00:10:16,359
like to be able to make a decision about

00:10:14,350 --> 00:10:19,209
focused inspection and the reason that
step is where it is in a sequence is

because while we do book keep some time

for focused inspection it's a very

nominal amount of time and we never know

pre-flight how much you're going to need

for a focused inspection and so you like

to keep those kind of issues you like to

keep enough runway in front of you to

deal with anything like that so

therefore we front-load

the process with this screening such

that we can get as early as possible

a decision about whether or not there's

some area that we want to go look at in
a more detailed fashion however that

isn't in fact the end of their work it

isn't the end of the process for

reviewing imagery for reviewing

inspection data for reviewing the data

from the wing leading edge impact

detection system that goes on for a

couple of more days and in the case of

the wing leading edge system we have it

on and off periodically throughout the

orbit operations so that will go on

through the end but back to the imagery

and the analysis of the imagery and the

respective inspection data that goes on
and it will continue to be reviewed at

00:11:30,940 --> 00:11:37,690
the next level if you will and then more

00:11:35,440 --> 00:11:40,149
peer review happens after that and at

00:11:37,690 --> 00:11:45,730
some point here in the next 24 to 48

00:11:40,149 --> 00:11:49,179
hours I anticipate that that will make a

00:11:45,730 --> 00:11:51,129
decision to clear the vehicle for safety

00:11:49,179 --> 00:11:57,129
or main entry and so that's kind of the

00:11:51,129 --> 00:11:59,889
timeframe that we're looking at Phillip

00:11:57,129 --> 00:12:01,480
sauce with NASA Space Flight comm just a

00:11:59,889 --> 00:12:03,639
quick question on the car margins is

00:12:01,480 --> 00:12:06,399
that above the nominal docked timeline

00:12:03,639 --> 00:12:09,970
or would that be above the nominal plus

00:12:06,399 --> 00:12:12,610
the extension day right now that's above

00:12:09,970 --> 00:12:15,339
the nominal and so the one-day will come

00:12:12,610 --> 00:12:18,759
out of that and then if we if we did
anything beyond the to transfer that we currently have planned it would also come out of that Robert Robert problem with collect space comm with regards to the Soyuz fly about has the actual flight plan over what you're considering right now reached a solid point where you're now just reviewing just one one flight path for it or is it still in flux and to your knowledge I have early plans been sent up to the to Scott Kelly and the crew to start reviewing in the case if it is approved they can perform it
yeah good questions both on the second
one first we have been talking to the
owner about crew since the inception of
this so going on through somewhere
between three and four weeks now to
include at first very rudimentary plans
and as of late more detailed discussion
about the actual timeline of the events
and the sequence of choreography of
things so so yes very much the orbit
crew has been integral in this since we
started talking about it the the to your
first question we have pretty well
potted the plan for what we do on flight
day 10 the plus one day with respect to

the Soyuz fly on so we no wait at a

timeline we would do it the sequence of

events leading up to it in the morning

when it finishes what the other orbit

crew members are doing during that

timeframe what we do with hatches

afterwards and getting crew members

situated in the vehicles and things of

the like so it's it's pretty firmly in

place I won't say that we won't tweak it

between now then because I'm a hundred

percent sure we will because that's what

we do but it's pretty well ready to go
and with regards to the crew on orbit

00:14:09,009 --> 00:14:14,029 have they taken any steps that started

00:14:11,990 --> 00:14:17,000 in start in terms of starting to set up

00:14:14,029 --> 00:14:19,549 the Soyuz to support it I'm not sure how

00:14:17,000 --> 00:14:21,289 much they've done in the actual swedes

00:14:19,549 --> 00:14:24,589 vehicle i know they've done some things

00:14:21,289 --> 00:14:26,740 in terms of laying out equipment and and

00:14:24,589 --> 00:14:29,990 procedures and talk about techniques and

00:14:26,740 --> 00:14:31,549 seating positions and and timing of

00:14:29,990 --> 00:14:32,930 things but i don't know what they've i

00:14:31,549 --> 00:14:40,929 don't know how much if anything they've

00:14:32,929 --> 00:14:40,929 actually done in sitting right over

00:14:42,049 --> 00:14:46,469 and she came with Harvard journalism if

00:14:44,850 --> 00:14:48,090 you do get to do the flyover and you

00:14:46,470 --> 00:14:54,590 take that wonderful image in your own
words what does that image say oh wow

I probably should have thought about

this question before you asked me the

truth is I’ve been thinking about that

since we started talking about it not

how I would answer this question but

what it would mean what it might

mean not to me but to to all of us and

you know the the space station is an

amazing research laboratory and if you

think about what it took to get the

modules in orbit to get them constructed

and to build this facility that we have

orbiting and man 24/7 and now six crew
members it's it's pretty eye watering

and mind boggling and I think that

perhaps because those of us who have

been around it and been a part of it

still believe and are still fascinated

by how amazing it is that that we the

broader team have been able to

accomplish this in the on the

international stage and with all that is

required in order to do that I think the

fact that we are still pretty fascinated

and amazed by it tells me that if the

average person in the public who

probably is not as familiar with most of
it as as we are arguably any opportunity

and we have to help them see what it is

we've really done it what it means to us

as in not just as a nation but as an international family of space

communities that can be that can only be

a good thing I really truly believe that

can only be

thing I think there's probably a lot of folks who who maybe really just don't

they hear us talk about it they understand on some level what it is

we're talking about with respect to whether it's a space shuttle mission to


the station or the station itself

orbiting 24/7 doing important research

big laboratory a lot of complicated structures etc they probably don't have

an appreciation that we might like for them to have and something like this

this image might go on ways toward improving that overall understanding now

having said that while I do admittedly very much like the fact that we might actually capture some of these images if

we're able to do this fly around it

really will be important and valuable for us from an engineering and technical understanding of the entire
station standpoint we're motivated to do it because we're going to get some some views and some perspectives and submit some engineering data on the station that we we've yet to do now you might think after 10 or 12 or 13 years we probably would have done some of this by now but we haven't for a broad marideth reasons and we could go into but rather than do that I'll just tell you this will provide us some pretty unique views it's a pretty unique engineering data and it would be extremely valuable for us to have that and yes it would be very
neat and I think valuable for me personally obviously but but much more importantly than that for the country and and for all of the nations who are involved to to have it and and be able to look back on on what I believe will be one of the greatest legacies of the space shuttle system that in fact be in the space station okay let's go to the phone bridge I think we got two folks online will go with Marsha done first whether all four were so I only call part of your question Marsha but I think I know what
you've asked and no I don't have any more information for you on the four events than what we had the other day

for it to do a good number have that happen is that the extent of what's been found so far

that's correct Marsha okay Irene Klotz

out of box question Leroy is um April still looking like a good target launch

for sts-134 or are you guys looking at moving that to June yes April looks really good for us for the endeavor

mission sts-134 and we feel really good about the schedule while going forward
and actually we have quite a quite

an extensive launch period in that mid

mid April to early May time frame so we

feel pretty good about that okay that's

it for the phone bridge so Jeremiah

let's see we'll get Pete right here and

then mark and we'll wrap it up except

eat spots with the Christian Science

Monitor I wonder if you would just sort

of give an example of the kind of

engineering data you think you you

engineering insights you might be able

to glean from images I think when people

tend to think of engineering analyses

they think of the emplacing sensors
somewhere.

two measurements. What can you give an example of what the funds might think?

sure yeah as you know when typically when we approach the station as a shuttle or when we leave or same thing for some of the other visiting vehicles whether it be Soyuz or one of the other vehicles the vehicle approaches and/or leaves in plane with the long axis of the station where the solar arrays are out of plane and so for example in this case when we do the fly around we're going to get a vantage point that's
going to look kind of down the long axis

of the truss and have a different view

of the solar arrays and of the entire of

the entire long axis of the station that

we haven't had before so if you think

about some of the things that that

station program has had to be concerned

with in the past to include radiator

panel damage or you know mmod damage

we're going to get a different vantage

point I think that's going to offer them

some new data that may suggest you know

this is another different

another area we should be looking at
differently than what we have been or

here we had some shielding and appears

to have been a really good idea to have

shielding in this area maybe we should

have some more in another different area

things of that nature for sure will will

be I think provided with this rather

unique vantage point so in that sense

that's one example of some data that

could be used some good engineering data

for the station team thank you again

mark Carreau for Aviation Week and I

just want to touch back on the the cryo

margin is it likely to grow even more


two days at this point it's pretty
healthy and if it did would you look at
more than one day extra at the station
if you found something to do or is that
kind of tops
let's see mark I I don't expect it to
grow much more one of the reasons why
and a lot of times we do see a little
bit of growth first couple of days after
we get on orbit and we really look at
the performance of the fuel cells with
the power transfer system hooked up and
then the and then the power experts will
go in and the folks that manage the fuel
cells on the ground excuse me uh they'll
they'll make some changes to their calibration curves that they use in their models for predicting performance and for predicting cryogenic margins and when they do that it usually gives us a plus up because we're that were more conservative with the Cal's initially so that's part of what you're seeing is that plus up as a result of the normal calibration tweaking that we oftentimes do in addition to that we're going to start using using it up because of transfer at some point here in the not-too-distant future and and in
addition to that we're kind of at the point where we usually usually otherwise.

a level off so I won't be shocked if we

if we have some some additional small increase but I I don't I don't really

expect it to your other question if we do have margin that would allow us to do

something beyond you know or in addition
to a plus one that is to say at a second

plus one day I don't know whether we will do that or not certainly if we had

a need for it after we had already used

up the first plus one if we determine we have a need for it and we have a krile
for it

we'll make that trade as we always do

and do a risk versus risk based

assessment and they make the decision

based on that so wouldn't be out of the

question by any means I think if if the

way if the performance of the vehicles

and the mission to this point is any

indication of the rest of the mission

would probably I wouldn't anticipate us

doing that but we both know that's not

an indication of the rest of the mission

so all right let's see well close with

the usual couple of programming notes
crew heads to bed about 9:30 tonight and

00:25:11,200 --> 00:25:14,798
and we'll begin our flight day

00:25:12,909 --> 00:25:17,289
highlights package replay starting at

00:25:14,798 --> 00:25:20,408
ten this is Central Time crew wakes up

00:25:17,288 --> 00:25:23,019
tomorrow morning at 5:23 to begin the

00:25:20,409 --> 00:25:26,559
preparations for EBA number one that

00:25:23,019 --> 00:25:28,210
starts around 6 a.m. and then the EBA is

00:25:26,558 --> 00:25:30,220
scheduled to start a little after 10

00:25:28,210 --> 00:25:32,620
o'clock a six and a half hour excursion

00:25:30,220 --> 00:25:34,659
and then our next briefing in here will

00:25:32,619 --> 00:25:37,569
be after the EBA of course and that will

00:25:34,659 --> 00:25:41,169
be about 7 p.m. tomorrow tied to the end

00:25:37,569 --> 00:25:44,019
of the EBA so head back here for that

00:25:41,169 --> 00:25:46,120
briefing all of its on the NASA

00:25:44,019 --> 00:25:50,919
television schedule out on the web so
take a look for that was a govt shuttle

TV and with that we'll thank everybody

for coming have a great rest of your Sunday thanks Leroy and we'll head back

to Mission Control and back to space