1
00:00:05,960 --> 00:00:03,590
well good afternoon everybody and

2
00:00:08,930 --> 00:00:05,970
welcome back to the Johnson Space Center

3
00:00:10,370 --> 00:00:08,940
here in Houston joining us is Leroy Cain

4
00:00:13,009 --> 00:00:10,380
he is the chairman of the mission

5
00:00:14,089 --> 00:00:13,019
management team he's also the deputy

6
00:00:16,129 --> 00:00:14,099
manager of the space shuttle program

7
00:00:18,620 --> 00:00:16,139
he'll talk to you about the events of

8
00:00:20,300 --> 00:00:18,630
the meeting today and then we'll take

9
00:00:21,910 --> 00:00:20,310
questions here and then out on the phone

10
00:00:24,800 --> 00:00:21,920
bridge I'll turn it over Leroy okay

11
00:00:26,359 --> 00:00:24,810
Thank You Kyle oh good afternoon it's

12
00:00:28,670 --> 00:00:26,369
good to be back with you again today the

13
00:00:30,950 --> 00:00:28,680

the crew is doing very well on orbit I

14
00:00:32,240 --> 00:00:30,960
don't have a lot to tell you with

15
00:00:34,670 --> 00:00:32,250
respect to the mission management team

16
00:00:39,619 --> 00:00:34,680
today we did talk only briefly about a

17
00:00:42,680 --> 00:00:39,629
few items the crew on orbit was busy

18
00:00:44,950 --> 00:00:42,690
today doing some transfer doing some

19
00:00:47,900 --> 00:00:44,960
preparation for their spacewalk tomorrow

20
00:00:50,330 --> 00:00:47,910
and just generally getting ready for

21
00:00:55,340 --> 00:00:50,340
flight day five today was a pretty busy

22
00:00:56,630 --> 00:00:55,350
in in Kevin day and so but we did have a

23
00:00:59,660 --> 00:00:56,640
couple of things to talk about in the

24
00:01:02,000 --> 00:00:59,670
mission management team meeting the the

25
00:01:03,740 --> 00:01:02,010
assessment teams had an opportunity to

26
00:01:07,039 --> 00:01:03,750
look over all the inspection data and

27
00:01:09,080 --> 00:01:07,049
they brought in their report and happy

28
00:01:11,359 --> 00:01:09,090
to report that there was really not very

29
00:01:14,510 --> 00:01:11,369
much to talk about at all literally we

30
00:01:19,280 --> 00:01:14,520
had just very few areas where they were

31
00:01:23,149 --> 00:01:19,290
able to detect any any kind of damage at

32
00:01:24,560 --> 00:01:23,159
all and maybe I'll bring the pictures in

33
00:01:28,249 --> 00:01:24,570
tomorrow I probably should have brought

34
00:01:30,050 --> 00:01:28,259
them today but for today I'll just give

35
00:01:31,910 --> 00:01:30,060
you an example we have a couple areas

36
00:01:34,429 --> 00:01:31,920
where we have some very minor blanket

37
00:01:37,660 --> 00:01:34,439
damage and these are things on the order

38
00:01:41,630 --> 00:01:37,670

of an inch by a fraction of an inch on

39
00:01:43,870 --> 00:01:41,640
an ohms pod a gap filler that that has a

40
00:01:46,219 --> 00:01:43,880
little bit of sleeving

41
00:01:47,420 --> 00:01:46,229
that you've seen around the gap filler

42
00:01:49,940 --> 00:01:47,430
is a little bit of this leaving is

43
00:01:54,319 --> 00:01:49,950
protruding and that's on one of the

44
00:01:55,940 --> 00:01:54,329
homes pod areas we had two tiles that

45
00:01:59,600 --> 00:01:55,950
they looked at on the bottom and the

46
00:02:01,580 --> 00:01:59,610
entire bottom side of the orbiter where

47
00:02:03,920 --> 00:02:01,590
we have thousands of tiles we have two

48
00:02:06,920 --> 00:02:03,930
tiles that they looked at and the damage

49
00:02:10,710 --> 00:02:06,930
is just coating damage on the order of a

50
00:02:17,700 --> 00:02:10,720
couple of inches by a couple of inches

51
00:02:20,970 --> 00:02:17,710
just phenomenal the the performance of

52
00:02:24,780 --> 00:02:20,980
the entire space shuttle system to

53
00:02:27,050 --> 00:02:24,790
result in in this kind of and this kind

54
00:02:29,940 --> 00:02:27,060
of a report from the inspection team so

55
00:02:33,870 --> 00:02:29,950
we it's true that we've gotten pretty

56
00:02:36,450 --> 00:02:33,880
used to and have enjoyed for a number of

57
00:02:38,550 --> 00:02:36,460
flights increasingly improved

58
00:02:39,960 --> 00:02:38,560
performance as a result of of all the

59
00:02:42,690 --> 00:02:39,970
work that the team has done on the

60
00:02:44,220 --> 00:02:42,700
vehicle and the vehicle elements to

61
00:02:47,790 --> 00:02:44,230
improve the overall performance of the

62
00:02:50,580 --> 00:02:47,800
system and it's not as though I'm

63
00:02:54,300 --> 00:02:50,590

surprised by this you know I'm not it is

64
00:02:56,340 --> 00:02:54,310
that I'm not sure we we generally talk

65
00:02:59,520 --> 00:02:56,350
about it in these terms and we like to

66
00:03:02,100 --> 00:02:59,530
show you we'd like to show you pictures

67
00:03:04,830 --> 00:03:02,110
of areas where we've had damage for

68
00:03:08,040 --> 00:03:04,840
example and and talk about why it's not

69
00:03:10,830 --> 00:03:08,050
a concern I decided not to bring the

70
00:03:13,110 --> 00:03:10,840
pictures today because it really is such

71
00:03:14,280 --> 00:03:13,120
trivial damage that I didn't think

72
00:03:15,810 --> 00:03:14,290
they'd be of interest and then it was

73
00:03:19,680 --> 00:03:15,820
pointed out to me that that might

74
00:03:23,190 --> 00:03:19,690
actually be a good point to make so at

75
00:03:24,690 --> 00:03:23,200
any rate we talk over all of the results

76
00:03:26,490 --> 00:03:24,700
with the team and their recommendation

77
00:03:27,840 --> 00:03:26,500
is that we don't have any requirement

78
00:03:30,960 --> 00:03:27,850
for a focused inspection that we

79
00:03:32,250 --> 00:03:30,970
typically talk a great deal about and as

80
00:03:35,550 --> 00:03:32,260
I mentioned to you the last time we were

81
00:03:37,290 --> 00:03:35,560
here so our decision officially is that

82
00:03:40,050 --> 00:03:37,300
we will not do a focused inspection we

83
00:03:41,610 --> 00:03:40,060
have no areas of concern to to require

84
00:03:43,110 --> 00:03:41,620
any kind of focused or more detailed

85
00:03:45,840 --> 00:03:43,120
inspection so we won't be doing any of

86
00:03:47,729 --> 00:03:45,850
that so again I can't say enough about

87
00:03:49,110 --> 00:03:47,739
the engineering team and the work that

88
00:03:52,199 --> 00:03:49,120

they did to get through all this data in

89
00:03:53,729 --> 00:03:52,209
the last couple of days I think it

90
00:03:56,310 --> 00:03:53,739
points out again something we talked

91
00:03:59,370 --> 00:03:56,320
about the other day where the team

92
00:04:01,380 --> 00:03:59,380
really has evolved as we've gotten more

93
00:04:03,000 --> 00:04:01,390
data on the ground and when you consider

94
00:04:05,060 --> 00:04:03,010
the volume of the data that the team

95
00:04:07,380 --> 00:04:05,070
goes through on any one of these flights

96
00:04:10,410 --> 00:04:07,390
it really is pretty phenomenal

97
00:04:12,840 --> 00:04:10,420
and even to the point of their processes

98
00:04:17,120 --> 00:04:12,850
for reviewing these data has evolved and

99
00:04:19,650 --> 00:04:17,130
been refined and and it's really pretty

100
00:04:21,539 --> 00:04:19,660
pretty fascinating to watch them go

101
00:04:25,050 --> 00:04:21,549
through their process and bring the

102
00:04:27,360 --> 00:04:25,060
results forward so the

103
00:04:30,690 --> 00:04:27,370
discovery continues to perform excellent

104
00:04:32,130 --> 00:04:30,700
we really only have very minor things to

105
00:04:34,890 --> 00:04:32,140
talk about from a system standpoint

106
00:04:39,390 --> 00:04:34,900
nothing significant at all nothing that

107
00:04:40,830 --> 00:04:39,400
we're concerned about it was the the

108
00:04:43,200 --> 00:04:40,840
team mentioned that the boosters are in

109
00:04:45,960 --> 00:04:43,210
tow matter of fact I think we expect

110
00:04:47,430 --> 00:04:45,970
them to be in the port tonight they'll

111
00:04:50,100 --> 00:04:47,440
be in the slip tomorrow

112
00:04:51,690 --> 00:04:50,110
on Monday and then we anticipate that

113
00:04:54,480 --> 00:04:51,700

we'll do open assessment on the Boosters

114
00:04:56,490 --> 00:04:54,490
on on Tuesday and so we look forward to

115
00:05:00,680 --> 00:04:56,500
those results we have a great deal of

116
00:05:03,240 --> 00:05:00,690
crowell margin on the order of two days

117
00:05:05,940 --> 00:05:03,250
and so as you know there are some things

118
00:05:07,950 --> 00:05:05,950
we want to do to include possibly a plus

119
00:05:09,750 --> 00:05:07,960
one day for the for the Soyuz fly around

120
00:05:14,400 --> 00:05:09,760
and some other transfer activity that we

121
00:05:16,440 --> 00:05:14,410
might want to do as well as we would

122
00:05:19,020 --> 00:05:16,450
like to transfer as much o2 as we can so

123
00:05:19,800 --> 00:05:19,030
we'll look at doing that and it looks

124
00:05:21,780 --> 00:05:19,810
like we're going to have every

125
00:05:25,440 --> 00:05:21,790
opportunity to transfer as much o2 as

126
00:05:28,500 --> 00:05:25,450
probably as the station can take so with

127
00:05:32,280 --> 00:05:28,510
that our plan is still that we will talk

128
00:05:34,740 --> 00:05:32,290
about Soyuz fly around in the in the mm

129
00:05:36,030 --> 00:05:34,750
teen and then the IMM T and then we'll

130
00:05:37,920 --> 00:05:36,040
make an integrated decision they're

131
00:05:40,409 --> 00:05:37,930
probably somewhere on the order of

132
00:05:41,760 --> 00:05:40,419
Tuesday morning coming out of the int I

133
00:05:43,080 --> 00:05:41,770
anticipate we'll have a decision about

134
00:05:45,420 --> 00:05:43,090
whether we're going to do fly around or

135
00:05:46,860 --> 00:05:45,430
not at least from the standpoint of

136
00:05:50,820 --> 00:05:46,870
whether it's technically feasible and

137
00:05:52,710 --> 00:05:50,830
whether or not we think we can we can go

138
00:05:55,670 --> 00:05:52,720

do it from from an operational

139
00:05:58,260 --> 00:05:55,680
standpoint so that's the plan forward

140
00:06:01,290 --> 00:05:58,270
it's been an out another outstanding day

141
00:06:04,620 --> 00:06:01,300
in space so far I was talking to one of

142
00:06:06,240 --> 00:06:04,630
my colleagues and I asked you know what

143
00:06:09,630 --> 00:06:06,250
I want to talk about today what can I

144
00:06:13,110 --> 00:06:09,640
tell folks and and and he said that I

145
00:06:14,960 --> 00:06:13,120
should tell him that we plan well and

146
00:06:17,490 --> 00:06:14,970
that we take one day at a time and

147
00:06:20,250 --> 00:06:17,500
clearly we're doing that on this mission

148
00:06:21,780 --> 00:06:20,260
is we have on previous one so with that

149
00:06:22,800 --> 00:06:21,790
I'll be happy to answer your questions

150
00:06:25,570 --> 00:06:22,810
okay

151
00:06:29,560 --> 00:06:25,580
we've got a few folks here and then Alan

152
00:06:30,400 --> 00:06:29,570
I'll start with Bill LR would CBS what

153
00:06:32,800 --> 00:06:30,410
the real quick learn I think you

154
00:06:34,270 --> 00:06:32,810
addressed this earlier in a different

155
00:06:36,640 --> 00:06:34,280
briefing but just to make sure if the

156
00:06:38,230 --> 00:06:36,650
fire round does not get approved you

157
00:06:40,900 --> 00:06:38,240
guys have any task that would make you

158
00:06:43,570 --> 00:06:40,910
want to add that day if the rest of the

159
00:06:46,480 --> 00:06:43,580
mission continues to go smoothly I think

160
00:06:49,540 --> 00:06:46,490
bill that we probably will because

161
00:06:52,870 --> 00:06:49,550
there's a great deal of outfitting where

162
00:06:54,430 --> 00:06:52,880
the PMM is concerned most of which the

163
00:06:56,350 --> 00:06:54,440

team has done an outstanding job of

164
00:06:59,140 --> 00:06:56,360
getting all that integrated into the

165
00:07:01,480 --> 00:06:59,150
timeline but what I find generally is

166
00:07:07,060 --> 00:07:01,490
that on these kinds of missions in

167
00:07:09,340 --> 00:07:07,070
particular we can usually find things

168
00:07:10,930 --> 00:07:09,350
for the crew to do if we're able to if

169
00:07:16,180 --> 00:07:10,940
we're able to see our way to stay in

170
00:07:17,680 --> 00:07:16,190
another day so I fully expect that that

171
00:07:20,770 --> 00:07:17,690
there's some good work that we can do on

172
00:07:23,410 --> 00:07:20,780
orbit with the station team if we stay

173
00:07:28,480 --> 00:07:23,420
for an additional day even the Soyuz fly

174
00:07:31,330 --> 00:07:28,490
around notwithstanding from me on debris

175
00:07:33,760 --> 00:07:31,340
assessment realizing that you don't see

176
00:07:36,670 --> 00:07:33,770
anything in the in the rpm photography

177
00:07:39,190 --> 00:07:36,680
um if you've learned anything that lets

178
00:07:41,470 --> 00:07:39,200
you modify or change how you think about

179
00:07:42,910 --> 00:07:41,480
the timing of debris events not in terms

180
00:07:44,770 --> 00:07:42,920
of when things come off but when things

181
00:07:46,810 --> 00:07:44,780
pose a threat to the shield I mean

182
00:07:48,460 --> 00:07:46,820
obviously these guys had some contact

183
00:07:50,550 --> 00:07:48,470
and didn't do anything which would fit

184
00:07:52,450 --> 00:07:50,560
your your theory going in about

185
00:07:53,920 --> 00:07:52,460
aerodynamically since it transports on

186
00:07:55,840 --> 00:07:53,930
all that is there anything he's saying

187
00:07:57,640 --> 00:07:55,850
that it makes you modify any of that or

188
00:08:00,610 --> 00:07:57,650

is it all pretty much by the book at

189
00:08:03,700 --> 00:08:00,620
this point that's a good question I

190
00:08:04,870 --> 00:08:03,710
would say I'd probably say it and maybe

191
00:08:06,600 --> 00:08:04,880
let's get this we'll get to your

192
00:08:10,570 --> 00:08:06,610
question in a slightly different way

193
00:08:12,610 --> 00:08:10,580
what we have seen I would say in many

194
00:08:14,680 --> 00:08:12,620
ways substantiates what we think is

195
00:08:16,560 --> 00:08:14,690
happening for example the other day when

196
00:08:21,040 --> 00:08:16,570
I was here we talked about three or four

197
00:08:23,110 --> 00:08:21,050
events or debris events and as it turns

198
00:08:25,000 --> 00:08:23,120
out and and our thinking was that those

199
00:08:26,830 --> 00:08:25,010
the ones that we had seen up to that

200
00:08:30,910 --> 00:08:26,840
point were ones that they occurred well

201
00:08:32,680 --> 00:08:30,920
outside of ast t the area of aerodynamic

202
00:08:35,530 --> 00:08:32,690
sensitivity where we you can actually

203
00:08:36,480 --> 00:08:35,540
put some energy into a particle and do

204
00:08:39,269 --> 00:08:36,490
some damage

205
00:08:40,620 --> 00:08:39,279
these all occurred outside of a stt so

206
00:08:42,570 --> 00:08:40,630
you wouldn't expect that even if they

207
00:08:44,100 --> 00:08:42,580
did come in contact with a vehicle that

208
00:08:46,470 --> 00:08:44,110
there's enough energy there to do any

209
00:08:49,250 --> 00:08:46,480
damage well in fact we're not seeing any

210
00:08:52,050 --> 00:08:49,260
damage and we do know that we had some

211
00:08:54,800 --> 00:08:52,060
albeit a very small number from what we

212
00:08:59,160 --> 00:08:54,810
could see in the imagery particles

213
00:09:01,050 --> 00:08:59,170

flying around and again late in the

214
00:09:03,900 --> 00:09:01,060
profile' late enough that it's outside

215
00:09:07,650 --> 00:09:03,910
of our area of concern so that sort of

216
00:09:10,740 --> 00:09:07,660
reinforces the way we look at areas of

217
00:09:14,970 --> 00:09:10,750
concern and in times of of debris

218
00:09:16,769 --> 00:09:14,980
liberation so bill I would say what

219
00:09:18,269 --> 00:09:16,779
we've seen substantiates the theories

220
00:09:20,820 --> 00:09:18,279
that we've been putting forward and it

221
00:09:22,440 --> 00:09:20,830
substantiates the areas that we've put

222
00:09:24,180 --> 00:09:22,450
the most emphasis on in terms of trying

223
00:09:26,340 --> 00:09:24,190
to make modification to the vehicle so

224
00:09:29,250 --> 00:09:26,350
that we can minimize not only minimize

225
00:09:31,470 --> 00:09:29,260
debris liberation but minimizing the the

226
00:09:32,820 --> 00:09:31,480
effects of debris when it when it does

227
00:09:34,800 --> 00:09:32,830
liberate in areas where we just have

228
00:09:40,050 --> 00:09:34,810
done everything we can but we can't make

229
00:09:42,960 --> 00:09:40,060
it zero thanks mark Carreau for Aviation

230
00:09:45,569 --> 00:09:42,970
Week I think I just want to be clear has

231
00:09:48,780 --> 00:09:45,579
the image team that sort of finished its

232
00:09:52,380 --> 00:09:48,790
assessment of all the launch imagery and

233
00:09:54,470 --> 00:09:52,390
the wing scans and the rpm photography I

234
00:09:58,050 --> 00:09:54,480
mean as far as you guys are concerned

235
00:10:00,389 --> 00:09:58,060
discovery has a good TPS system right I

236
00:10:02,519 --> 00:10:00,399
mean I just didn't what its final or

237
00:10:05,639 --> 00:10:02,529
there's some formal process that yet

238
00:10:08,310 --> 00:10:05,649

that has to yet take place yeah we're

239
00:10:12,170 --> 00:10:08,320
we're several steps into the process and

240
00:10:14,340 --> 00:10:12,180
and we just passed the step where we

241
00:10:16,350 --> 00:10:14,350
like to be able to make a decision about

242
00:10:19,199 --> 00:10:16,360
focused inspection and the reason that

243
00:10:23,730 --> 00:10:19,209
step is where it is in in a sequence is

244
00:10:25,590 --> 00:10:23,740
because while we do book keep some time

245
00:10:28,440 --> 00:10:25,600
for focused inspection it's a very

246
00:10:30,630 --> 00:10:28,450
nominal amount of time and we never know

247
00:10:33,569 --> 00:10:30,640
pre-flight how much you're going to need

248
00:10:38,490 --> 00:10:33,579
for a focused inspection and so you like

249
00:10:40,350 --> 00:10:38,500
to keep those kind of issues you like to

250
00:10:41,790 --> 00:10:40,360
keep enough runway in front of you to

251
00:10:43,530 --> 00:10:41,800
deal with anything like that so

252
00:10:46,980 --> 00:10:43,540
therefore we front-load

253
00:10:49,530 --> 00:10:46,990
the process with this screening such

254
00:10:50,879 --> 00:10:49,540
that we can get as early as possible

255
00:10:53,009 --> 00:10:50,889
a decision about whether or not there's

256
00:10:56,670 --> 00:10:53,019
some area that we want to go look at in

257
00:10:59,220 --> 00:10:56,680
a more detailed fashion however that

258
00:11:00,900 --> 00:10:59,230
isn't in fact the end of their work it

259
00:11:03,150 --> 00:11:00,910
isn't the end of the process for

260
00:11:04,920 --> 00:11:03,160
reviewing imagery for reviewing

261
00:11:07,110 --> 00:11:04,930
inspection data for reviewing the data

262
00:11:11,730 --> 00:11:07,120
from the wing leading edge impact

263
00:11:13,379 --> 00:11:11,740

detection system that goes on for a

264
00:11:14,699 --> 00:11:13,389
couple of more days and in the case of

265
00:11:16,769 --> 00:11:14,709
the wing leading edge system we have it

266
00:11:18,600 --> 00:11:16,779
on and off periodically throughout the

267
00:11:21,990 --> 00:11:18,610
orbit operations so that will go on

268
00:11:24,540 --> 00:11:22,000
through the end but back to the imagery

269
00:11:27,749 --> 00:11:24,550
and the analysis of the imagery and the

270
00:11:30,930 --> 00:11:27,759
respective inspection data that goes on

271
00:11:35,430 --> 00:11:30,940
and it will continue to be reviewed at

272
00:11:37,680 --> 00:11:35,440
the next level if you will and then more

273
00:11:40,139 --> 00:11:37,690
peer review happens after that and at

274
00:11:45,720 --> 00:11:40,149
some point here in the next 24 to 48

275
00:11:49,170 --> 00:11:45,730
hours I anticipate that that will make a

276
00:11:51,120 --> 00:11:49,180
decision to clear the vehicle for safety

277
00:11:57,120 --> 00:11:51,130
or main entry and so that's kind of the

278
00:11:59,879 --> 00:11:57,130
timeframe that we're looking at Phillip

279
00:12:01,470 --> 00:11:59,889
sauce with NASA Space Flight comm just a

280
00:12:03,629 --> 00:12:01,480
quick question on the car margins is

281
00:12:06,389 --> 00:12:03,639
that above the nominal docked timeline

282
00:12:09,960 --> 00:12:06,399
or would that be above the nominal plus

283
00:12:12,600 --> 00:12:09,970
the extension day right now that's above

284
00:12:15,329 --> 00:12:12,610
the nominal and so the one-day will come

285
00:12:18,750 --> 00:12:15,339
out of that and then if we if we did

286
00:12:19,889 --> 00:12:18,760
anything beyond the to transfer that we

287
00:12:26,370 --> 00:12:19,899
currently have planned it would also

288
00:12:28,290 --> 00:12:26,380

come out of that Robert Robert problem

289
00:12:32,160 --> 00:12:28,300
with collect space comm with regards to

290
00:12:34,559 --> 00:12:32,170
the Soyuz fly about has the actual

291
00:12:36,480 --> 00:12:34,569
flight plan over what you're considering

292
00:12:39,980 --> 00:12:36,490
right now reached a solid point where

293
00:12:42,540 --> 00:12:39,990
you're now just reviewing just one one

294
00:12:46,949 --> 00:12:42,550
flight path for it or is it still in

295
00:12:49,259 --> 00:12:46,959
flux and to your knowledge I have early

296
00:12:52,019 --> 00:12:49,269
plans been sent up to the to Scott Kelly

297
00:12:52,330 --> 00:12:52,029
and the crew to start reviewing in the

298
00:12:55,260 --> 00:12:52,340
case

299
00:12:58,840 --> 00:12:55,270
if it is approved they can perform it

300
00:13:01,060 --> 00:12:58,850
yeah good questions both on the second

301
00:13:02,890 --> 00:13:01,070
one first we have been talking to the

302
00:13:05,260 --> 00:13:02,900
owner about crew since the inception of

303
00:13:07,269 --> 00:13:05,270
this so going on through somewhere

304
00:13:10,570 --> 00:13:07,279
between three and four weeks now to

305
00:13:13,780 --> 00:13:10,580
include at first very rudimentary plans

306
00:13:15,880 --> 00:13:13,790
and as of late more detailed discussion

307
00:13:17,470 --> 00:13:15,890
about the actual timeline of the events

308
00:13:20,260 --> 00:13:17,480
and the sequence of choreography of

309
00:13:23,320 --> 00:13:20,270
things so so yes very much the orbit

310
00:13:27,760 --> 00:13:23,330
crew has been integral in this since we

311
00:13:30,010 --> 00:13:27,770
started talking about it the the to your

312
00:13:33,880 --> 00:13:30,020
first question we have pretty well

313
00:13:36,640 --> 00:13:33,890

potted the plan for what we do on flight

314
00:13:39,760 --> 00:13:36,650
day 10 the plus one day with respect to

315
00:13:41,380 --> 00:13:39,770
the Soyuz fly on so we no wait at a

316
00:13:42,850 --> 00:13:41,390
timeline we would do it the sequence of

317
00:13:45,250 --> 00:13:42,860
events leading up to it in the morning

318
00:13:46,360 --> 00:13:45,260
when it finishes what the other orbit

319
00:13:49,019 --> 00:13:46,370
crew members are doing during that

320
00:13:51,030 --> 00:13:49,029
timeframe what we do with hatches

321
00:13:53,050 --> 00:13:51,040
afterwards and getting crew members

322
00:13:55,780 --> 00:13:53,060
situated in the vehicles and things of

323
00:13:58,180 --> 00:13:55,790
the like so it's it's pretty firmly in

324
00:13:59,410 --> 00:13:58,190
place I won't say that we won't tweak it

325
00:14:01,570 --> 00:13:59,420
between now then because I'm a hundred

326
00:14:05,010 --> 00:14:01,580
percent sure we will because that's what

327
00:14:09,000 --> 00:14:05,020
we do but it's pretty well ready to go

328
00:14:11,980 --> 00:14:09,010
and with regards to the crew on orbit

329
00:14:14,020 --> 00:14:11,990
have they taken any steps that started

330
00:14:16,990 --> 00:14:14,030
in start in terms of starting to set up

331
00:14:19,540 --> 00:14:17,000
the Soyuz to support it I'm not sure how

332
00:14:21,280 --> 00:14:19,550
much they've done in the actual swedes

333
00:14:24,579 --> 00:14:21,290
vehicle i know they've done some things

334
00:14:26,730 --> 00:14:24,589
in terms of laying out equipment and and

335
00:14:29,980 --> 00:14:26,740
procedures and talk about techniques and

336
00:14:31,540 --> 00:14:29,990
seating positions and and timing of

337
00:14:32,920 --> 00:14:31,550
things but i don't know what they've i

338
00:14:42,040 --> 00:14:32,930

don't know how much if anything they've

339
00:14:46,460 --> 00:14:44,840
and she came with Harvard journalism if

340
00:14:48,080 --> 00:14:46,470
you do get to do the flyover and you

341
00:14:54,950 --> 00:14:48,090
take that wonderful image in your own

342
00:15:01,100 --> 00:14:57,380
I probably should have thought about

343
00:15:02,390 --> 00:15:01,110
this question before you asked me the

344
00:15:04,880 --> 00:15:02,400
truth is I've been thinking about that

345
00:15:06,500 --> 00:15:04,890
since we started talking about it not

346
00:15:08,090 --> 00:15:06,510
how I would answer this question but

347
00:15:11,740 --> 00:15:08,100
what what it would mean what it might

348
00:15:16,550 --> 00:15:11,750
mean not to me but to to all of us and

349
00:15:20,060 --> 00:15:16,560
you know the the space station is an

350
00:15:25,900 --> 00:15:20,070
amazing research laboratory and if you

351
00:15:29,200 --> 00:15:25,910
think about what it took to get the

352
00:15:34,180 --> 00:15:29,210
modules in orbit to get them constructed

353
00:15:38,750 --> 00:15:34,190
and to build this facility that we have

354
00:15:44,300 --> 00:15:38,760
orbiting and man 24/7 and now six crew

355
00:15:46,550 --> 00:15:44,310
members it's it's pretty eye watering

356
00:15:49,970 --> 00:15:46,560
and mind boggling and I think that

357
00:15:52,090 --> 00:15:49,980
perhaps because those of us who have

358
00:15:55,100 --> 00:15:52,100
been around it and been a part of it

359
00:16:01,580 --> 00:15:55,110
still believe and are still fascinated

360
00:16:02,990 --> 00:16:01,590
by how amazing it is that that we the

361
00:16:06,800 --> 00:16:03,000
broader team have been able to

362
00:16:11,270 --> 00:16:06,810
accomplish this in the on the

363
00:16:14,450 --> 00:16:11,280

international stage and with all that is

364
00:16:16,880 --> 00:16:14,460
required in order to do that I think the

365
00:16:20,780 --> 00:16:16,890
fact that we are still pretty fascinated

366
00:16:25,160 --> 00:16:20,790
and amazed by it tells me that if the

367
00:16:27,620 --> 00:16:25,170
average person in the public who

368
00:16:33,200 --> 00:16:27,630
probably is not as familiar with most of

369
00:16:36,020 --> 00:16:33,210
it as as we are arguably any opportunity

370
00:16:37,700 --> 00:16:36,030
and we have to help them see what it is

371
00:16:41,030 --> 00:16:37,710
we've really done it what it means to us

372
00:16:43,540 --> 00:16:41,040
as in not just as a nation but as an

373
00:16:47,780 --> 00:16:43,550
international family of space

374
00:16:49,970 --> 00:16:47,790
communities that can be that can only be

375
00:16:50,660 --> 00:16:49,980
a good thing I really truly believe that

376
00:16:55,460 --> 00:16:50,670
can only be

377
00:16:57,410 --> 00:16:55,470
thing I think there's probably a lot of

378
00:17:00,650 --> 00:16:57,420
folks who who maybe really just don't

379
00:17:02,330 --> 00:17:00,660
they hear us talk about it they

380
00:17:05,150 --> 00:17:02,340
understand on some level what it is

381
00:17:06,500 --> 00:17:05,160
we're talking about with respect to

382
00:17:08,900 --> 00:17:06,510
whether it's a space shuttle mission to

383
00:17:11,320 --> 00:17:08,910
the station or the station itself

384
00:17:14,240 --> 00:17:11,330
orbiting 24/7 doing important research

385
00:17:19,870 --> 00:17:14,250
big laboratory a lot of complicated

386
00:17:23,090 --> 00:17:19,880
structures etc they probably don't have

387
00:17:25,520 --> 00:17:23,100
an appreciation that we might like for

388
00:17:28,370 --> 00:17:25,530

them to have and something like this

389
00:17:31,220 --> 00:17:28,380
this image might go on ways toward

390
00:17:36,550 --> 00:17:31,230
improving that overall understanding now

391
00:17:38,870 --> 00:17:36,560
having said that while I do admittedly

392
00:17:41,180 --> 00:17:38,880
very much like the fact that we might

393
00:17:44,270 --> 00:17:41,190
actually capture some of these images if

394
00:17:47,900 --> 00:17:44,280
we're able to do this fly around it

395
00:17:50,720 --> 00:17:47,910
really will be important and valuable

396
00:17:52,340 --> 00:17:50,730
for us from an engineering and technical

397
00:17:55,850 --> 00:17:52,350
understanding of the of the entire

398
00:17:58,520 --> 00:17:55,860
station standpoint we're motivated to do

399
00:18:00,350 --> 00:17:58,530
it because we're going to get some some

400
00:18:01,820 --> 00:18:00,360
views and some perspectives and submit

401
00:18:03,620 --> 00:18:01,830
some engineering data on the station

402
00:18:06,350 --> 00:18:03,630
that we we've yet to do now you might

403
00:18:08,150 --> 00:18:06,360
think after 10 or 12 or 13 years we

404
00:18:14,090 --> 00:18:08,160
probably would have done some of this by

405
00:18:16,190 --> 00:18:14,100
now but we haven't for a broad marideth

406
00:18:18,410 --> 00:18:16,200
reasons and we could go into but rather

407
00:18:20,360 --> 00:18:18,420
than do that I'll just tell you this

408
00:18:22,640 --> 00:18:20,370
will provide us some pretty unique views

409
00:18:25,340 --> 00:18:22,650
it's a pretty unique engineering data

410
00:18:29,480 --> 00:18:25,350
and it would be extremely valuable for

411
00:18:32,570 --> 00:18:29,490
us to have that and yes it would be very

412
00:18:34,910 --> 00:18:32,580
neat and I think valuable for me

413
00:18:36,470 --> 00:18:34,920

personally obviously but but much much

414
00:18:38,930 --> 00:18:36,480
much more importantly than that for the

415
00:18:42,130 --> 00:18:38,940
country and and for all of the nations

416
00:18:45,230 --> 00:18:42,140
who are involved to to have it and and

417
00:18:46,850 --> 00:18:45,240
be able to look back on on what I

418
00:18:49,060 --> 00:18:46,860
believe will be one of the greatest

419
00:18:53,820 --> 00:18:49,070
legacies of the space shuttle system

420
00:18:58,710 --> 00:18:56,580
okay let's go to the phone bridge I

421
00:19:09,810 --> 00:18:58,720
think we got two folks online will go

422
00:19:15,479 --> 00:19:09,820
with Marsha done first whether all four

423
00:19:18,239 --> 00:19:15,489
were so I only call part of your

424
00:19:23,399 --> 00:19:18,249
question Marsha but I think I know what

425
00:19:25,710 --> 00:19:23,409
you've asked and no I don't have any

426
00:19:29,359 --> 00:19:25,720
more information for you on the four

427
00:19:34,529 --> 00:19:31,979
for it to do a good number have that

428
00:19:38,210 --> 00:19:34,539
happen is that the extent of what's been

429
00:19:38,220 --> 00:19:46,609
that's correct Marsha okay Irene Klotz

430
00:19:53,729 --> 00:19:50,820
out of box question Leroy is um April

431
00:19:57,210 --> 00:19:53,739
still looking like a good target launch

432
00:20:02,759 --> 00:19:57,220
for sts-134 or are you guys looking at

433
00:20:04,080 --> 00:20:02,769
moving that to June yes April looks

434
00:20:10,979 --> 00:20:04,090
really good for us for the endeavor

435
00:20:12,930 --> 00:20:10,989
mission sts-134 and we feel really good

436
00:20:15,239 --> 00:20:12,940
about the schedule while going forward

437
00:20:18,299 --> 00:20:15,249
and and actually we have quite a quite

438
00:20:23,220 --> 00:20:18,309

an extensive launch period in that mid

439
00:20:27,210 --> 00:20:23,230
mid April to early May time frame so we

440
00:20:30,629 --> 00:20:27,220
feel pretty good about that okay that's

441
00:20:33,180 --> 00:20:30,639
it for the phone bridge so Jeremiah

442
00:20:35,519 --> 00:20:33,190
let's see we'll get Pete right here and

443
00:20:36,840 --> 00:20:35,529
then mark and we'll wrap it up except

444
00:20:38,970 --> 00:20:36,850
eat spots with the Christian Science

445
00:20:40,440 --> 00:20:38,980
Monitor I wonder if you would just sort

446
00:20:42,090 --> 00:20:40,450
of give an example of the kind of

447
00:20:43,769 --> 00:20:42,100
engineering data you think you you

448
00:20:45,989 --> 00:20:43,779
engineering insights you might be able

449
00:20:48,690 --> 00:20:45,999
to glean from images I think when people

450
00:20:50,099 --> 00:20:48,700
tend to think of engineering analyses

451
00:20:51,200 --> 00:20:50,109
they think of the emplacing sensors

452
00:20:53,120 --> 00:20:51,210
somewhere

453
00:20:55,580 --> 00:20:53,130
two measurements what can you give an

454
00:21:00,230 --> 00:20:55,590
example of what the funds might think

455
00:21:01,700 --> 00:21:00,240
sure yeah as you know when typically

456
00:21:04,130 --> 00:21:01,710
when we approach the station as a

457
00:21:05,600 --> 00:21:04,140
shuttle or when we leave or same thing

458
00:21:06,919 --> 00:21:05,610
for some of the other visiting vehicles

459
00:21:10,490 --> 00:21:06,929
whether it be Soyuz or one of the other

460
00:21:14,419 --> 00:21:10,500
vehicles the vehicle approaches and/or

461
00:21:17,240 --> 00:21:14,429
leaves in plane with the long axis of

462
00:21:21,529 --> 00:21:17,250
the station where the solar arrays are

463
00:21:23,210 --> 00:21:21,539

out of plane and so for example in this

464
00:21:24,500 --> 00:21:23,220
case when we do the fly around we're

465
00:21:26,389 --> 00:21:24,510
going to get a vantage point that's

466
00:21:29,840 --> 00:21:26,399
going to look kind of down the long axis

467
00:21:33,740 --> 00:21:29,850
of the truss and have a different view

468
00:21:36,110 --> 00:21:33,750
of the solar arrays and of the entire of

469
00:21:39,590 --> 00:21:36,120
the entire long axis of the station that

470
00:21:41,529 --> 00:21:39,600
we haven't had before so if you think

471
00:21:44,180 --> 00:21:41,539
about some of the things that that

472
00:21:47,120 --> 00:21:44,190
station program has had to be concerned

473
00:21:50,889 --> 00:21:47,130
with in the past to include radiator

474
00:21:52,970 --> 00:21:50,899
panel damage or you know mmod damage

475
00:21:54,740 --> 00:21:52,980
we're going to get a different vantage

476
00:21:58,820 --> 00:21:54,750
point I think that's going to offer them

477
00:22:00,440 --> 00:21:58,830
some new data that may suggest you know

478
00:22:02,180 --> 00:22:00,450
this is this is another different

479
00:22:05,029 --> 00:22:02,190
another area we should be looking at

480
00:22:06,799 --> 00:22:05,039
differently than what we have been or

481
00:22:08,600 --> 00:22:06,809
here we had some shielding and appears

482
00:22:10,039 --> 00:22:08,610
to have been a really good idea to have

483
00:22:11,919 --> 00:22:10,049
shielding in this area maybe we should

484
00:22:16,370 --> 00:22:11,929
have some more in another different area

485
00:22:19,130 --> 00:22:16,380
things of that nature for sure will will

486
00:22:22,130 --> 00:22:19,140
be I think provided with this rather

487
00:22:25,669 --> 00:22:22,140
unique vantage point so in that sense

488
00:22:28,250 --> 00:22:25,679

that's one example of some data that

489
00:22:33,680 --> 00:22:28,260
could be used some good engineering data

490
00:22:36,169 --> 00:22:33,690
for the station team thank you again

491
00:22:38,389 --> 00:22:36,179
mark Carreau for Aviation Week and I

492
00:22:40,870 --> 00:22:38,399
just want to touch back on the the cryo

493
00:22:43,159 --> 00:22:40,880
margin is it likely to grow even more

494
00:22:46,190 --> 00:22:43,169
two days at this point it's pretty

495
00:22:48,980 --> 00:22:46,200
healthy and if it did would you look at

496
00:22:51,830 --> 00:22:48,990
more than one day extra at the station

497
00:22:53,169 --> 00:22:51,840
if you found something to do or is that

498
00:22:56,480 --> 00:22:53,179
kind of tops

499
00:23:00,160 --> 00:22:56,490
let's see mark I I don't expect it to

500
00:23:01,840 --> 00:23:00,170
grow much more one of the reasons why

501
00:23:03,790 --> 00:23:01,850
and a lot of times we do see a little

502
00:23:05,500 --> 00:23:03,800
bit of growth first couple of days after

503
00:23:07,750 --> 00:23:05,510
we get on orbit and we really look at

504
00:23:10,540 --> 00:23:07,760
the performance of the fuel cells with

505
00:23:13,360 --> 00:23:10,550
the power transfer system hooked up and

506
00:23:14,860 --> 00:23:13,370
then the and then the power experts will

507
00:23:17,350 --> 00:23:14,870
go in and the folks that manage the fuel

508
00:23:19,450 --> 00:23:17,360
cells on the ground excuse me uh they'll

509
00:23:21,340 --> 00:23:19,460
they'll make some changes to their

510
00:23:23,320 --> 00:23:21,350
calibration curves that they use in

511
00:23:27,700 --> 00:23:23,330
their models for predicting performance

512
00:23:30,400 --> 00:23:27,710
and for predicting cryogenic margins and

513
00:23:32,770 --> 00:23:30,410

when they do that it usually gives us a

514
00:23:34,030 --> 00:23:32,780
plus up because we're that were more

515
00:23:36,700 --> 00:23:34,040
conservative with the Cal's

516
00:23:39,010 --> 00:23:36,710
initially so that's part of what you're

517
00:23:43,270 --> 00:23:39,020
seeing is that plus up as a result of

518
00:23:46,690 --> 00:23:43,280
the normal calibration tweaking that we

519
00:23:50,050 --> 00:23:46,700
we oftentimes do in addition to that

520
00:23:53,320 --> 00:23:50,060
we're going to start using using it up

521
00:23:57,280 --> 00:23:53,330
because of transfer at some point here

522
00:24:00,400 --> 00:23:57,290
in the not-too-distant future and and in

523
00:24:02,590 --> 00:24:00,410
addition to that we're kind of at the

524
00:24:06,400 --> 00:24:02,600
point where we usually usually otherwise

525
00:24:08,860 --> 00:24:06,410
a level off so I won't be shocked if we

526
00:24:10,840 --> 00:24:08,870
if we have some some additional small

527
00:24:13,990 --> 00:24:10,850
increase but I I don't I don't really

528
00:24:17,740 --> 00:24:14,000
expect it to your other question if we

529
00:24:19,510 --> 00:24:17,750
do have margin that would allow us to do

530
00:24:22,210 --> 00:24:19,520
something beyond you know or in addition

531
00:24:26,200 --> 00:24:22,220
to a plus one that is to say at a second

532
00:24:28,330 --> 00:24:26,210
plus one day I don't know whether we

533
00:24:30,280 --> 00:24:28,340
will do that or not certainly if we had

534
00:24:32,080 --> 00:24:30,290
a need for it after we had already used

535
00:24:34,060 --> 00:24:32,090
up the first plus one if we determine we

536
00:24:35,440 --> 00:24:34,070
have a need for it and we have a krile

537
00:24:37,690 --> 00:24:35,450
for it

538
00:24:39,850 --> 00:24:37,700

we'll make that trade as we always do

539
00:24:42,670 --> 00:24:39,860
and do a risk versus risk based

540
00:24:44,110 --> 00:24:42,680
assessment and they make the decision

541
00:24:48,880 --> 00:24:44,120
based on that so wouldn't be out of the

542
00:24:51,100 --> 00:24:48,890
question by any means I think if if the

543
00:24:53,170 --> 00:24:51,110
way if the performance of the vehicles

544
00:24:54,700 --> 00:24:53,180
and the mission to this point is any

545
00:24:56,950 --> 00:24:54,710
indication of the rest of the mission

546
00:24:59,380 --> 00:24:56,960
would probably I wouldn't anticipate us

547
00:25:00,910 --> 00:24:59,390
doing that but we both know that's not

548
00:25:05,770 --> 00:25:00,920
an indication of the rest of the mission

549
00:25:07,680 --> 00:25:05,780
so all right let's see well close with

550
00:25:11,190 --> 00:25:07,690
the usual couple of programming notes

551
00:25:12,899 --> 00:25:11,200
crew heads to bed about 9:30 tonight and

552
00:25:14,789 --> 00:25:12,909
and we'll begin our flight day

553
00:25:17,279 --> 00:25:14,799
highlights package replay starting at

554
00:25:20,399 --> 00:25:17,289
ten this is Central Time crew wakes up

555
00:25:23,009 --> 00:25:20,409
tomorrow morning at 5:23 to begin the

556
00:25:26,549 --> 00:25:23,019
preparations for EBA number one that

557
00:25:28,200 --> 00:25:26,559
starts around 6 a.m. and then the EBA is

558
00:25:30,210 --> 00:25:28,210
scheduled to start a little after 10

559
00:25:32,610 --> 00:25:30,220
o'clock a six and a half hour excursion

560
00:25:34,649 --> 00:25:32,620
and then our next briefing in here will

561
00:25:37,560 --> 00:25:34,659
be after the EBA of course and that will

562
00:25:41,159 --> 00:25:37,570
be about 7 p.m. tomorrow tied to the end

563
00:25:44,009 --> 00:25:41,169

of the EBA so head back here for that

564
00:25:46,110 --> 00:25:44,019
briefing all of its on the NASA

565
00:25:50,909 --> 00:25:46,120
television schedule out on the web so

566
00:25:54,029 --> 00:25:50,919
take a look for that wwas a govt shuttle

567
00:25:55,560 --> 00:25:54,039
TV and with that we'll thank everybody

568
00:25:57,779 --> 00:25:55,570
for coming have a great rest of your