



1
00:00:04,870 --> 00:00:02,470
good afternoon everybody and welcome to

2
00:00:06,869 --> 00:00:04,880
nasa's johnson space center for today's

3
00:00:08,790 --> 00:00:06,879
post mission management team briefing

4
00:00:10,549 --> 00:00:08,800
joining us once again is leroy kane he's

5
00:00:13,270 --> 00:00:10,559
the deputy manager of the space shuttle

6
00:00:15,430 --> 00:00:13,280
program and of course he also chairs the

7
00:00:17,269 --> 00:00:15,440
on-orbit mission management team meeting

8
00:00:19,670 --> 00:00:17,279
which is joint with the international

9
00:00:21,830 --> 00:00:19,680
space station program and all the other

10
00:00:24,390 --> 00:00:21,840
elements associated with atlantis

11
00:00:25,589 --> 00:00:24,400
mission to the iss uh leroy will have

12
00:00:27,589 --> 00:00:25,599
some opening comments and then we'll

13
00:00:28,870 --> 00:00:27,599

take questions here and out on the phone

14

00:00:31,669 --> 00:00:28,880

bridge so with that i'll turn it over to

15

00:00:33,430 --> 00:00:31,679

leroy okay thank you kyle

16

00:00:35,430 --> 00:00:33,440

it is uh my pleasure to be back here

17

00:00:37,510 --> 00:00:35,440

with you this afternoon and it's also my

18

00:00:38,950 --> 00:00:37,520

pleasure to tell you we've had another

19

00:00:40,950 --> 00:00:38,960

uh very good

20

00:00:43,270 --> 00:00:40,960

24 hours in space

21

00:00:45,750 --> 00:00:43,280

the all of the mplm operations went

22

00:00:47,510 --> 00:00:45,760

extremely smoothly the crew continues to

23

00:00:49,350 --> 00:00:47,520

be ahead of the timeline in pretty much

24

00:00:50,950 --> 00:00:49,360

every activity that they're

25

00:00:53,670 --> 00:00:50,960

executing on board and of course same

26
00:00:54,869 --> 00:00:53,680
thing with the team on the ground

27
00:00:56,470 --> 00:00:54,879
the

28
00:00:58,790 --> 00:00:56,480
space walk is tomorrow of course and we

29
00:01:00,709 --> 00:00:58,800
look forward to that and so the crew is

30
00:01:02,630 --> 00:01:00,719
finishing it up they'll do their final

31
00:01:04,869 --> 00:01:02,640
normal evening before spacewalk kind of

32
00:01:05,910 --> 00:01:04,879
preparations on board right now

33
00:01:08,310 --> 00:01:05,920
um

34
00:01:11,670 --> 00:01:08,320
in the mmt today it was it was a kind of

35
00:01:13,350 --> 00:01:11,680
a big day for us we had a couple of of

36
00:01:14,789 --> 00:01:13,360
more significant items to disposition

37
00:01:17,910 --> 00:01:14,799
and then we course got our overall

38
00:01:20,630 --> 00:01:17,920

status and progress of as we normally do

39

00:01:22,789 --> 00:01:20,640

where the plus one day is concerned the

40

00:01:26,310 --> 00:01:22,799

uh the space station program did review

41

00:01:28,149 --> 00:01:26,320

that in the immt this morning and they

42

00:01:31,109 --> 00:01:28,159

brought in

43

00:01:34,230 --> 00:01:31,119

the entire list of activities that they

44

00:01:36,550 --> 00:01:34,240

would like to complete in a plus one day

45

00:01:39,990 --> 00:01:36,560

that list will change they will iterate

46

00:01:42,069 --> 00:01:40,000

on that but suffice it to to say it is a

47

00:01:43,270 --> 00:01:42,079

is a significant list of activities and

48

00:01:45,429 --> 00:01:43,280

it's um

49

00:01:47,109 --> 00:01:45,439

it's very clear to see that that it will

50

00:01:49,030 --> 00:01:47,119

not be a problem for us to keep the crew

51
00:01:50,950 --> 00:01:49,040
busy and doing very productive and

52
00:01:52,310 --> 00:01:50,960
useful and and much needed work on the

53
00:01:55,590 --> 00:01:52,320
station so

54
00:01:58,069 --> 00:01:55,600
we reviewed the cryogenics

55
00:02:00,789 --> 00:01:58,079
consumables from a shuttle standpoint

56
00:02:02,149 --> 00:02:00,799
and with the cryo h2 be the limiting

57
00:02:04,469 --> 00:02:02,159
consumable

58
00:02:05,429 --> 00:02:04,479
we are currently at one day six hours of

59
00:02:09,430 --> 00:02:05,439
margin

60
00:02:11,110 --> 00:02:09,440
to grow somewhere in the order of uh one

61
00:02:12,710 --> 00:02:11,120
to two hours a day

62
00:02:13,430 --> 00:02:12,720
for the remainder of the docked period

63
00:02:14,229 --> 00:02:13,440

so

64

00:02:15,830 --> 00:02:14,239

um

65

00:02:17,430 --> 00:02:15,840

we went around the room and and talked

66

00:02:19,110 --> 00:02:17,440

to each one of the uh

67

00:02:20,470 --> 00:02:19,120

the projects and elements and the

68

00:02:21,270 --> 00:02:20,480

members of the mission management team

69

00:02:23,430 --> 00:02:21,280

and

70

00:02:24,550 --> 00:02:23,440

reviewed

71

00:02:29,589 --> 00:02:24,560

the

72

00:02:30,949 --> 00:02:29,599

recommendation and uh

73

00:02:34,550 --> 00:02:30,959

everyone was

74

00:02:35,830 --> 00:02:34,560

was go to to add a day i personally

75

00:02:37,990 --> 00:02:35,840

didn't have any problems seeing that

76

00:02:39,670 --> 00:02:38,000

this is exactly the right thing to do

77

00:02:41,430 --> 00:02:39,680

on this mission there's a lot of good

78

00:02:42,949 --> 00:02:41,440

work that we can help the space station

79

00:02:45,190 --> 00:02:42,959

program with

80

00:02:47,270 --> 00:02:45,200

if we had more time to give them we we

81

00:02:48,309 --> 00:02:47,280

probably would do that as well

82

00:02:49,509 --> 00:02:48,319

and so

83

00:02:51,589 --> 00:02:49,519

we

84

00:02:53,350 --> 00:02:51,599

approved the one uh the plus one day and

85

00:02:55,990 --> 00:02:53,360

so we're currently at

86

00:02:58,229 --> 00:02:56,000

13 plus zero plus two days is is our

87

00:02:59,750 --> 00:02:58,239

mission as it stands today and i expect

88

00:03:01,430 --> 00:02:59,760

to have somewhere between six and eight

89

00:03:02,830 --> 00:03:01,440

hours of margin above that

90

00:03:06,149 --> 00:03:02,840

by about this time

91

00:03:09,110 --> 00:03:06,159

tomorrow the other item that we talked a

92

00:03:10,949 --> 00:03:09,120

lot about was the dat results the damage

93

00:03:12,949 --> 00:03:10,959

assessment team came in and gave us

94

00:03:15,990 --> 00:03:12,959

their results and

95

00:03:17,110 --> 00:03:16,000

they only had five items a total of five

96

00:03:18,390 --> 00:03:17,120

items

97

00:03:20,070 --> 00:03:18,400

on the orbiter

98

00:03:21,830 --> 00:03:20,080

that they were reviewing

99

00:03:23,750 --> 00:03:21,840

and four of those items are associated

100

00:03:24,869 --> 00:03:23,760

with blankets and they're very very

101
00:03:27,430 --> 00:03:24,879
minor

102
00:03:28,949 --> 00:03:27,440
items the one item the one other item

103
00:03:31,270 --> 00:03:28,959
was a tile

104
00:03:33,430 --> 00:03:31,280
damage site and it was

105
00:03:36,390 --> 00:03:33,440
relatively minor also

106
00:03:38,149 --> 00:03:36,400
and so they were able to

107
00:03:39,750 --> 00:03:38,159
to recommend that we do not need any

108
00:03:41,750 --> 00:03:39,760
focused inspection

109
00:03:43,350 --> 00:03:41,760
uh when i was here yesterday i think i

110
00:03:46,229 --> 00:03:43,360
told you that we have

111
00:03:47,830 --> 00:03:46,239
uh the leading edge support system team

112
00:03:49,430 --> 00:03:47,840
the wing leading edge team that is to

113
00:03:50,869 --> 00:03:49,440

say the folks that worry about the the

114

00:03:53,270 --> 00:03:50,879

wing leading edge and the nose cap all

115

00:03:55,110 --> 00:03:53,280

of the rcc the things that we inspect on

116

00:03:56,789 --> 00:03:55,120

flight day two

117

00:03:58,550 --> 00:03:56,799

they have no issues

118

00:04:01,509 --> 00:03:58,560

and so

119

00:04:03,910 --> 00:04:01,519

while we did not have our final overall

120

00:04:05,910 --> 00:04:03,920

assessment of all of the tps and the mmt

121

00:04:07,030 --> 00:04:05,920

today i anticipate we'll do that

122

00:04:09,429 --> 00:04:07,040

tomorrow

123

00:04:12,309 --> 00:04:09,439

and i'm anticipating no issues

124

00:04:14,470 --> 00:04:12,319

but in the meantime we did approve

125

00:04:16,550 --> 00:04:14,480

the decision for no focused inspection

126

00:04:18,550 --> 00:04:16,560

so there will be no focus inspection

127

00:04:19,670 --> 00:04:18,560

needed and so that's really good news

128

00:04:21,270 --> 00:04:19,680

and obviously

129

00:04:27,749 --> 00:04:21,280

that

130

00:04:38,469 --> 00:04:29,189

the

131

00:04:41,350 --> 00:04:38,479

mission

132

00:04:45,189 --> 00:04:41,360

et 138 our final tank

133

00:04:46,790 --> 00:04:45,199

and all of the work that has gone into

134

00:04:47,909 --> 00:04:46,800

the work that we've done on the external

135

00:04:51,030 --> 00:04:47,919

tank

136

00:04:52,710 --> 00:04:51,040

to preclude the generation of debris

137

00:04:54,950 --> 00:04:52,720

and if you look at sort of the proof in

138

00:04:55,909 --> 00:04:54,960

the pudding now the vehicle atlantis on

139

00:04:57,510 --> 00:04:55,919

orbit

140

00:04:59,270 --> 00:04:57,520

and the

141

00:05:00,390 --> 00:04:59,280

the minimal damage

142

00:05:02,310 --> 00:05:00,400

um

143

00:05:04,469 --> 00:05:02,320

almost can't even say minimal damage

144

00:05:07,189 --> 00:05:04,479

because it's it's almost non-existent

145

00:05:09,670 --> 00:05:07,199

damage to only have one side on the on

146

00:05:11,909 --> 00:05:09,680

the underside tiles that has any kind of

147

00:05:13,670 --> 00:05:11,919

indication at all in and of itself it is

148

00:05:15,909 --> 00:05:13,680

extremely minor

149

00:05:17,350 --> 00:05:15,919

um i think speaks volumes for the work

150

00:05:18,790 --> 00:05:17,360

that this team has done in the last

151
00:05:19,749 --> 00:05:18,800
several years

152
00:05:22,629 --> 00:05:19,759
and

153
00:05:25,270 --> 00:05:22,639
we have been tireless

154
00:05:27,749 --> 00:05:25,280
and very committed at ensuring that we

155
00:05:30,469 --> 00:05:27,759
continued to improve and that we

156
00:05:34,150 --> 00:05:30,479
continued to evolve and we continued to

157
00:05:35,110 --> 00:05:34,160
learn and we continued to be determined

158
00:05:37,270 --> 00:05:35,120
that

159
00:05:39,510 --> 00:05:37,280
each and every flight was going to be

160
00:05:41,110 --> 00:05:39,520
safer than the next flight and we were

161
00:05:43,430 --> 00:05:41,120
very determined to finish strong and i

162
00:05:46,710 --> 00:05:43,440
think at least for the launch ascent and

163
00:05:49,189 --> 00:05:46,720

orbit insertion portion of this mission

164

00:05:50,710 --> 00:05:49,199

the performance itself of the vehicle

165

00:05:54,150 --> 00:05:50,720

the systems

166

00:05:56,230 --> 00:05:54,160

on orbit now and as well as uh uh the

167

00:05:58,870 --> 00:05:56,240

teams on the ground i think speaks

168

00:06:00,950 --> 00:05:58,880

volumes for itself and so

169

00:06:03,029 --> 00:06:00,960

uh a very hearty congratulations was in

170

00:06:05,270 --> 00:06:03,039

order at the mmt and and

171

00:06:06,950 --> 00:06:05,280

and so uh that's some of what i talked

172

00:06:08,629 --> 00:06:06,960

to the team about today i want them to

173

00:06:10,070 --> 00:06:08,639

pause and think about

174

00:06:12,070 --> 00:06:10,080

all of the hard work that they've put

175

00:06:14,870 --> 00:06:12,080

into these systems in the last several

176
00:06:15,830 --> 00:06:14,880
years and they can feel very very proud

177
00:06:19,350 --> 00:06:15,840
of

178
00:06:21,350 --> 00:06:19,360
so

179
00:06:22,950 --> 00:06:21,360
with that we we did review a couple

180
00:06:23,990 --> 00:06:22,960
other items in the mmt

181
00:06:27,350 --> 00:06:24,000
um

182
00:06:28,950 --> 00:06:27,360
the uh the srbs at the cape uh

183
00:06:30,469 --> 00:06:28,960
the uh

184
00:06:32,950 --> 00:06:30,479
we're experiencing some weather in

185
00:06:34,390 --> 00:06:32,960
florida and i look out and i see some

186
00:06:36,230 --> 00:06:34,400
folks who know exactly what i'm talking

187
00:06:38,070 --> 00:06:36,240
about

188
00:06:40,469 --> 00:06:38,080

the we are having some rain and some

189

00:06:42,390 --> 00:06:40,479

lightning and and so that delays our

190

00:06:44,469 --> 00:06:42,400

operations the slip operations as well

191

00:06:45,830 --> 00:06:44,479

as uh leading on to open assessment of

192

00:06:49,110 --> 00:06:45,840

the boosters so

193

00:06:50,870 --> 00:06:49,120

all of that has been delayed about a day

194

00:06:53,189 --> 00:06:50,880

it was reported that it's still possible

195

00:06:55,029 --> 00:06:53,199

that we might get the srb video

196

00:06:56,550 --> 00:06:55,039

data from the boosters sometime tomorrow

197

00:06:59,189 --> 00:06:56,560

and of course if we do then then we

198

00:07:00,710 --> 00:06:59,199

bring that and process it and

199

00:07:02,150 --> 00:07:00,720

and kyle and the public affairs team

200

00:07:04,390 --> 00:07:02,160

will have that available to you as soon

201
00:07:06,150 --> 00:07:04,400
as they're able to to catalog all that

202
00:07:08,790 --> 00:07:06,160
information and get it out to you so

203
00:07:10,230 --> 00:07:08,800
we're anxious to see it and we know that

204
00:07:11,589 --> 00:07:10,240
you all are anxious to see it as well

205
00:07:12,710 --> 00:07:11,599
and get that to you just as soon as we

206
00:07:13,990 --> 00:07:12,720
can

207
00:07:16,469 --> 00:07:14,000
but just a little bit of delay there

208
00:07:18,950 --> 00:07:16,479
because of because of weather

209
00:07:21,029 --> 00:07:18,960
i'm much happier to delay slip-ops due

210
00:07:24,070 --> 00:07:21,039
to weather than than launch

211
00:07:28,710 --> 00:07:26,230
in the area of systems and just kind of

212
00:07:30,950 --> 00:07:28,720
other items we talked about gpc3 a

213
00:07:32,390 --> 00:07:30,960

little bit and i told you that i thought

214

00:07:34,550 --> 00:07:32,400

that that was going to be a switch tease

215

00:07:36,629 --> 00:07:34,560

kind of item and it turns out the team

216

00:07:39,830 --> 00:07:36,639

brought up the gpc

217

00:07:41,189 --> 00:07:39,840

they did a a they did a re-ipl and a

218

00:07:43,270 --> 00:07:41,199

dump which is to say they essentially

219

00:07:45,270 --> 00:07:43,280

rebooted it dumped it looked at all the

220

00:07:46,950 --> 00:07:45,280

error logs looked at all the data and

221

00:07:48,469 --> 00:07:46,960

gpc3 is perfectly healthy there's

222

00:07:50,070 --> 00:07:48,479

nothing wrong with it we don't consider

223

00:07:53,110 --> 00:07:50,080

it an anomaly we're not tracking it as

224

00:07:55,110 --> 00:07:53,120

an anomaly it was a it was a it was a

225

00:07:57,350 --> 00:07:55,120

switch tease item and so that one's

226

00:08:00,230 --> 00:07:57,360

that one's cleared

227

00:08:02,469 --> 00:08:00,240

the when we took the mplm out of the bay

228

00:08:05,110 --> 00:08:02,479

there was a one microswitch on one of

229

00:08:07,589 --> 00:08:05,120

the payload retention latch

230

00:08:12,469 --> 00:08:07,599

retention latch mechanisms

231

00:08:14,790 --> 00:08:12,479

and it was a microswitch a on perla 3

232

00:08:16,869 --> 00:08:14,800

failed to indicate open when in fact the

233

00:08:19,270 --> 00:08:16,879

latch was open and that's a redundant

234

00:08:20,390 --> 00:08:19,280

microswitch

235

00:08:22,950 --> 00:08:20,400

there's no

236

00:08:24,869 --> 00:08:22,960

intended use for that microswitch or

237

00:08:26,469 --> 00:08:24,879

that aspect of the latch system for the

238

00:08:28,790 --> 00:08:26,479

remainder of the mission it won't impact

239

00:08:30,710 --> 00:08:28,800

anything when we go to put the the mplm

240

00:08:33,670 --> 00:08:30,720

back in the payload bay

241

00:08:35,670 --> 00:08:33,680

in fact even if for some

242

00:08:38,389 --> 00:08:35,680

far out contingency reason we wanted to

243

00:08:40,550 --> 00:08:38,399

then take it back out of the payload bay

244

00:08:41,990 --> 00:08:40,560

it's no issue even if we

245

00:08:44,710 --> 00:08:42,000

even if we had a problem with the other

246

00:08:46,630 --> 00:08:44,720

microswitch so no issue whatsoever on

247

00:08:48,150 --> 00:08:46,640

the on the perla

248

00:08:50,470 --> 00:08:48,160

with respect to the conjunction that i

249

00:08:52,470 --> 00:08:50,480

talked about yesterday and i said that

250

00:08:54,630 --> 00:08:52,480

we didn't have good state vectors and

251
00:08:55,910 --> 00:08:54,640
the perturbations during rendezvous and

252
00:08:57,910 --> 00:08:55,920
docking

253
00:09:00,389 --> 00:08:57,920
uh was playing into that

254
00:09:02,470 --> 00:09:00,399
in fact those perturbations have

255
00:09:04,630 --> 00:09:02,480
essentially moved the vehicles

256
00:09:06,470 --> 00:09:04,640
enough such that there's no issue with

257
00:09:09,509 --> 00:09:06,480
the conjunction whatsoever so we don't

258
00:09:10,949 --> 00:09:09,519
have a conjunction anymore it's uh it's

259
00:09:12,790 --> 00:09:10,959
off of our radar screen in terms of

260
00:09:15,350 --> 00:09:12,800
anything that we need to go work or

261
00:09:16,790 --> 00:09:15,360
worry about for for tomorrow

262
00:09:19,030 --> 00:09:16,800
so in summary

263
00:09:20,710 --> 00:09:19,040

as i said the the crew on orbit the team

264

00:09:22,230 --> 00:09:20,720

on the ground are continuing to perform

265

00:09:24,150 --> 00:09:22,240

at a very high level i couldn't be more

266

00:09:25,590 --> 00:09:24,160

pleased in terms of the progress of the

267

00:09:26,310 --> 00:09:25,600

mission so far

268

00:09:31,350 --> 00:09:26,320

and

269

00:09:34,550 --> 00:09:31,360

the systems in the vehicle

270

00:09:36,230 --> 00:09:34,560

is again a huge tribute to the team

271

00:09:38,310 --> 00:09:36,240

around the country that has worked so

272

00:09:41,190 --> 00:09:38,320

hard on these vehicles

273

00:09:44,230 --> 00:09:41,200

during the course of this program

274

00:09:47,590 --> 00:09:45,829

two items that we talked about from the

275

00:09:49,350 --> 00:09:47,600

mmt the two major items of course we

276

00:09:51,829 --> 00:09:49,360

approve the plus one day and and there's

277

00:09:53,430 --> 00:09:51,839

no focus inspection required and so with

278

00:09:55,110 --> 00:09:53,440

that we are looking forward to the

279

00:09:56,630 --> 00:09:55,120

spacewalk tomorrow

280

00:09:59,590 --> 00:09:56,640

and uh

281

00:10:02,550 --> 00:09:59,600

another great uh great day in orbit so

282

00:10:04,470 --> 00:10:02,560

i'd be happy to answer any questions

283

00:10:06,310 --> 00:10:04,480

okay as usual we'll start here and then

284

00:10:07,590 --> 00:10:06,320

go out to the other centers and phone

285

00:10:09,030 --> 00:10:07,600

bridge and

286

00:10:10,630 --> 00:10:09,040

you'll have to come up to the microphone

287

00:10:11,910 --> 00:10:10,640

so everybody out on the

288

00:10:12,949 --> 00:10:11,920

network can hear you and we'll start

289

00:10:15,430 --> 00:10:12,959

with mark

290

00:10:18,630 --> 00:10:15,440

oh thank you uh mark caro for aviation

291

00:10:20,630 --> 00:10:18,640

week i think i can add but one day is

292

00:10:22,069 --> 00:10:20,640

probably all you can extend this mission

293

00:10:23,030 --> 00:10:22,079

is that

294

00:10:27,670 --> 00:10:23,040

correct

295

00:10:32,470 --> 00:10:29,990

uh gina sincere abc news so what will

296

00:10:33,910 --> 00:10:32,480

you do the crew do with that extra day i

297

00:10:34,949 --> 00:10:33,920

mean were they already backed up as it

298

00:10:36,790 --> 00:10:34,959

was

299

00:10:38,870 --> 00:10:36,800

what will happen on that day

300

00:10:40,150 --> 00:10:38,880

uh gina they were not backed up in fact

301
00:10:41,750 --> 00:10:40,160
they've been ahead of the timeline of

302
00:10:43,829 --> 00:10:41,760
course we haven't really started the

303
00:10:45,430 --> 00:10:43,839
transfer activities in earnest yet we

304
00:10:47,190 --> 00:10:45,440
just now have the mplm on onboard the

305
00:10:49,350 --> 00:10:47,200
station we have the hatch open and we

306
00:10:51,110 --> 00:10:49,360
have the crew beginning to work those

307
00:10:53,590 --> 00:10:51,120
uh the preliminary aspects of the

308
00:10:55,190 --> 00:10:53,600
transfers from the mplm we had done

309
00:10:56,790 --> 00:10:55,200
several hours of mid deck transfer by

310
00:10:59,430 --> 00:10:56,800
this time

311
00:11:02,550 --> 00:10:59,440
by the time of the mmt today

312
00:11:05,030 --> 00:11:02,560
but there are additional

313
00:11:07,110 --> 00:11:05,040

unstow unpack and then put in the right

314

00:11:08,550 --> 00:11:07,120

place on station kind of activities that

315

00:11:09,750 --> 00:11:08,560

will be very helpful for the space

316

00:11:11,509 --> 00:11:09,760

station

317

00:11:13,269 --> 00:11:11,519

they have a couple of systems items that

318

00:11:14,550 --> 00:11:13,279

they're going to ask for some some help

319

00:11:16,310 --> 00:11:14,560

working

320

00:11:18,870 --> 00:11:16,320

they have their constituents analyzer

321

00:11:20,230 --> 00:11:18,880

that's had a failure and they're they're

322

00:11:23,110 --> 00:11:20,240

going to ask for some help working on

323

00:11:24,630 --> 00:11:23,120

that and in fact we have an entire list

324

00:11:27,509 --> 00:11:24,640

most of it is in

325

00:11:29,670 --> 00:11:27,519

space station systems kind of language

326

00:11:31,030 --> 00:11:29,680

that i'm not as well versed in as some

327

00:11:33,430 --> 00:11:31,040

other people are but we can certainly

328

00:11:34,870 --> 00:11:33,440

publish that for folks and show you the

329

00:11:37,350 --> 00:11:34,880

kinds of things that we're planning to

330

00:11:39,430 --> 00:11:37,360

work on but as i talked about yesterday

331

00:11:41,910 --> 00:11:39,440

it's certainly some some some unpack and

332

00:11:43,670 --> 00:11:41,920

stowage on the station side items

333

00:11:45,509 --> 00:11:43,680

and setup and configuration of some of

334

00:11:49,430 --> 00:11:45,519

the cargo that we're bringing up it's

335

00:11:52,870 --> 00:11:50,870

some of the smaller systems but

336

00:11:54,230 --> 00:11:52,880

certainly in any case items that they

337

00:11:55,590 --> 00:11:54,240

want to work off

338

00:11:57,670 --> 00:11:55,600

in the near term

339

00:11:59,590 --> 00:11:57,680

in addition to some general job jar

340

00:12:01,030 --> 00:11:59,600

items on the space station

341

00:12:03,590 --> 00:12:01,040

that they could use some help with

342

00:12:07,350 --> 00:12:03,600

before our four-person crew leaves so

343

00:12:10,150 --> 00:12:07,360

they had some 70 items in total

344

00:12:11,750 --> 00:12:10,160

and so they are off prioritizing that

345

00:12:13,190 --> 00:12:11,760

list with the mission operations team

346

00:12:15,190 --> 00:12:13,200

and the crew on board

347

00:12:16,949 --> 00:12:15,200

and by the time we get to the point

348

00:12:19,750 --> 00:12:16,959

where those things would be implemented

349

00:12:22,230 --> 00:12:19,760

we'll have a very good prioritized list

350

00:12:24,310 --> 00:12:22,240

and as i was yesterday i'm

351

00:12:26,389 --> 00:12:24,320

i'm even more confident today if that's

352

00:12:30,550 --> 00:12:26,399

possible that we won't have any trouble

353

00:12:34,790 --> 00:12:32,629

phillips loss with nasaspaceflight.com

354

00:12:36,790 --> 00:12:34,800

um just to follow mark's question a

355

00:12:38,629 --> 00:12:36,800

little bit um

356

00:12:40,310 --> 00:12:38,639

how close would you get in in terms of

357

00:12:41,910 --> 00:12:40,320

car margins to

358

00:12:43,990 --> 00:12:41,920

how close would you approach to an

359

00:12:46,550 --> 00:12:44,000

additional day or are you expecting to

360

00:12:48,629 --> 00:12:46,560

sort of stabilize at some point

361

00:12:51,350 --> 00:12:48,639

what i expect is is we'll end up toward

362

00:12:54,150 --> 00:12:51,360

the end of the docked mission

363

00:12:55,030 --> 00:12:54,160

somewhere just maybe uh above a half of

364

00:12:56,870 --> 00:12:55,040

a day

365

00:13:00,230 --> 00:12:56,880

so we're not going to be anywhere near

366

00:13:02,790 --> 00:13:00,240

being able to to go an additional day

367

00:13:04,150 --> 00:13:02,800

you know between now and when we undock

368

00:13:05,590 --> 00:13:04,160

and so

369

00:13:06,790 --> 00:13:05,600

i feel very fortunate we were able to

370

00:13:08,470 --> 00:13:06,800

get this day

371

00:13:10,230 --> 00:13:08,480

it required us to launch on time

372

00:13:11,430 --> 00:13:10,240

essentially on on the initial launch

373

00:13:15,750 --> 00:13:11,440

attempt

374

00:13:17,829 --> 00:13:15,760

it required us to to have our power

375

00:13:19,430 --> 00:13:17,839

predictions be pretty much

376

00:13:20,710 --> 00:13:19,440

right down the line in terms of what we

377

00:13:22,150 --> 00:13:20,720

were expecting

378

00:13:23,829 --> 00:13:22,160

and as you can see we knew we were going

379

00:13:25,750 --> 00:13:23,839

to be close to a day and given that

380

00:13:27,430 --> 00:13:25,760

we're into our fourth day third to

381

00:13:28,870 --> 00:13:27,440

fourth day on orbit and we're only six

382

00:13:30,710 --> 00:13:28,880

hours above that the predicts were

383

00:13:32,150 --> 00:13:30,720

pretty good so

384

00:13:34,069 --> 00:13:32,160

i don't expect much more than about

385

00:13:36,470 --> 00:13:34,079

another half a day by the time we undock

386

00:13:38,710 --> 00:13:36,480

maybe slightly more than that

387

00:13:41,110 --> 00:13:38,720

thanks and then um

388

00:13:42,310 --> 00:13:41,120

for the end mission opportunities on the

389

00:13:43,990 --> 00:13:42,320

21st

390

00:13:45,990 --> 00:13:44,000

do you know looking ahead might be

391

00:13:47,430 --> 00:13:46,000

looking at a little bit too far but do

392

00:13:49,110 --> 00:13:47,440

you know if there's going to be any

393

00:13:50,949 --> 00:13:49,120

orbit adjust that you need to do to

394

00:13:53,189 --> 00:13:50,959

bring in like cross range or anything

395

00:13:55,670 --> 00:13:53,199

like that into kennedy preliminarily

396

00:13:57,350 --> 00:13:55,680

there isn't um but we'll let the flight

397

00:13:59,509 --> 00:13:57,360

dynamics team evaluate that over the

398

00:14:01,509 --> 00:13:59,519

course of the next week i can tell you

399

00:14:03,189 --> 00:14:01,519

that the first opportunity on the 24th

400

00:14:05,990 --> 00:14:03,199

on the 21st

401
00:14:07,430 --> 00:14:06,000
is uh just a few minutes before 6 a.m

402
00:14:09,590 --> 00:14:07,440
eastern time

403
00:14:11,110 --> 00:14:09,600
and at for kennedy space center landing

404
00:14:12,870 --> 00:14:11,120
first opportunity

405
00:14:14,550 --> 00:14:12,880
and that would be i think it's somewhere

406
00:14:15,670 --> 00:14:14,560
on the order of 40 minutes before

407
00:14:17,269 --> 00:14:15,680
sunrise

408
00:14:18,629 --> 00:14:17,279
and there will be a second opportunity

409
00:14:20,550 --> 00:14:18,639
that day as well

410
00:14:22,230 --> 00:14:20,560
and neither of those i think at this

411
00:14:24,389 --> 00:14:22,240
time we think we need an orbit adjust to

412
00:14:26,470 --> 00:14:24,399
bring in and cross range is good

413
00:14:28,710 --> 00:14:26,480

thanks

414

00:14:31,590 --> 00:14:28,720

yeah david hirsch with nhk could you in

415

00:14:34,629 --> 00:14:31,600

practical terms give an idea of why

416

00:14:36,790 --> 00:14:34,639

the cryogenics is a constraining factor

417

00:14:39,030 --> 00:14:36,800

when considering adding a day and how

418

00:14:40,550 --> 00:14:39,040

you do your your calculations

419

00:14:42,870 --> 00:14:40,560

sure i'd be happy to

420

00:14:45,350 --> 00:14:42,880

cryogenics of course

421

00:14:46,230 --> 00:14:45,360

the consumable that we use

422

00:14:48,150 --> 00:14:46,240

um

423

00:14:50,230 --> 00:14:48,160

to provide power

424

00:14:52,230 --> 00:14:50,240

basically the reactants that that allow

425

00:14:53,990 --> 00:14:52,240

the fuel cell to run and and the fuel

426

00:14:55,990 --> 00:14:54,000

cells provide power to the

427

00:14:59,030 --> 00:14:56,000

to the buses on orbit for for the

428

00:15:00,550 --> 00:14:59,040

shuttle power systems the

429

00:15:02,550 --> 00:15:00,560

they are consumable we have other

430

00:15:05,350 --> 00:15:02,560

consumables we have the lyell the co2

431

00:15:07,910 --> 00:15:05,360

scrubbing consumable we have n2 we have

432

00:15:10,629 --> 00:15:07,920

o2 in this case we have h2 is the

433

00:15:14,150 --> 00:15:10,639

limiting consumable in the cryogenics

434

00:15:15,910 --> 00:15:14,160

and so we know how much power therefore

435

00:15:17,910 --> 00:15:15,920

reactants required to generate that

436

00:15:19,990 --> 00:15:17,920

power

437

00:15:22,150 --> 00:15:20,000

we need for the systems that we plan to

438

00:15:24,310 --> 00:15:22,160

have operating for the remainder of our

439

00:15:26,790 --> 00:15:24,320

time on over while we're docked

440

00:15:28,470 --> 00:15:26,800

and so we can compute

441

00:15:31,350 --> 00:15:28,480

exactly how much reactants we're going

442

00:15:33,030 --> 00:15:31,360

to need and when we run that out to

443

00:15:34,310 --> 00:15:33,040

include

444

00:15:42,790 --> 00:15:34,320

the

445

00:15:44,629 --> 00:15:42,800

so we were at 12 plus zero plus two

446

00:15:46,790 --> 00:15:44,639

that cryogenic

447

00:15:48,790 --> 00:15:46,800

calculation the consumables calculation

448

00:15:50,550 --> 00:15:48,800

assumes that we have those two days as

449

00:15:52,470 --> 00:15:50,560

well of course because we we need to

450

00:15:54,790 --> 00:15:52,480

have those two days in the bank

451
00:15:57,110 --> 00:15:54,800
and so it's just a pure straight

452
00:15:59,030 --> 00:15:57,120
consumables calculation based on

453
00:16:01,110 --> 00:15:59,040
um if you think about a spreadsheet that

454
00:16:02,870 --> 00:16:01,120
shows you which systems are powered on

455
00:16:03,829 --> 00:16:02,880
when and for what duration and what

456
00:16:06,949 --> 00:16:03,839
their

457
00:16:09,350 --> 00:16:06,959
kilowatt hour requirements are and then

458
00:16:10,550 --> 00:16:09,360
have that for each day of the mission

459
00:16:12,470 --> 00:16:10,560
and then it's simply a matter of

460
00:16:14,230 --> 00:16:12,480
calculating that the cryogenics required

461
00:16:17,829 --> 00:16:14,240
to generate that much power in the field

462
00:16:21,829 --> 00:16:20,150
dan bergano with usa today uh you talked

463
00:16:23,269 --> 00:16:21,839

a little bit about what orbital

464

00:16:24,470 --> 00:16:23,279

adjustment may or may not be needed for

465

00:16:25,910 --> 00:16:24,480

the extra day could you just go a little

466

00:16:27,829 --> 00:16:25,920

more detail about what sort of planning

467

00:16:29,670 --> 00:16:27,839

takes place now give it an extra day is

468

00:16:31,189 --> 00:16:29,680

it already mostly done and you just have

469

00:16:33,829 --> 00:16:31,199

to fill in some blanks or is there a bit

470

00:16:36,870 --> 00:16:33,839

of a scramble to account for all that

471

00:16:39,590 --> 00:16:36,880

sure it's uh well won't be a scramble um

472

00:16:40,949 --> 00:16:39,600

because the team's plan for this

473

00:16:42,230 --> 00:16:40,959

eventuality

474

00:16:43,509 --> 00:16:42,240

in this case this is something we were

475

00:16:46,389 --> 00:16:43,519

hoping to be able to do before we

476
00:16:48,870 --> 00:16:46,399
launched so what you'll see happen now

477
00:16:51,269 --> 00:16:48,880
is the flight planners will generate the

478
00:16:52,870 --> 00:16:51,279
plus one day flight plan this day will

479
00:16:54,870 --> 00:16:52,880
be added after

480
00:16:57,430 --> 00:16:54,880
what what was and what will remain

481
00:16:59,509 --> 00:16:57,440
flight day eight in this flight plan

482
00:17:01,749 --> 00:16:59,519
and you'll see a few items move ahead of

483
00:17:04,870 --> 00:17:01,759
that a few items move behind it

484
00:17:06,870 --> 00:17:04,880
as a function of which tasks

485
00:17:08,789 --> 00:17:06,880
on the space station program list that

486
00:17:10,549 --> 00:17:08,799
we implement on which days

487
00:17:11,750 --> 00:17:10,559
and exactly what the priority of those

488
00:17:13,270 --> 00:17:11,760

are so

489

00:17:15,189 --> 00:17:13,280

there will be some puts and takes to

490

00:17:16,949 --> 00:17:15,199

that there will be some iteration of

491

00:17:18,870 --> 00:17:16,959

that but certainly the initial

492

00:17:21,669 --> 00:17:18,880

publication of the

493

00:17:23,909 --> 00:17:21,679

quote plus one day timeline is i'd be

494

00:17:26,069 --> 00:17:23,919

surprised if not already being reviewed

495

00:17:27,590 --> 00:17:26,079

by the flight control team uh

496

00:17:30,070 --> 00:17:27,600

for uh for uplink to the crew for

497

00:17:31,669 --> 00:17:30,080

consideration so again it'll be iterated

498

00:17:34,630 --> 00:17:31,679

on but we iterate on the nominal

499

00:17:37,190 --> 00:17:34,640

timeline every day

500

00:17:39,990 --> 00:17:37,200

and so it's really not a

501
00:17:41,350 --> 00:17:40,000
a big delta for the team in particular

502
00:17:43,750 --> 00:17:41,360
in this case

503
00:17:45,830 --> 00:17:43,760
they had an expectation it was coming so

504
00:17:47,430 --> 00:17:45,840
they were already looking ahead at which

505
00:17:48,549 --> 00:17:47,440
days we would slightly move which things

506
00:17:50,710 --> 00:17:48,559
around

507
00:17:52,470 --> 00:17:50,720
which things might move ahead of

508
00:17:53,909 --> 00:17:52,480
the what was flight to eight and which

509
00:17:55,830 --> 00:17:53,919
things might go on the other side of it

510
00:17:58,150 --> 00:17:55,840
so it's a fairly straightforward thing

511
00:17:59,029 --> 00:17:58,160
the team is is very well versed in doing

512
00:18:00,390 --> 00:17:59,039
this

513
00:18:05,590 --> 00:18:00,400

and

514

00:18:07,590 --> 00:18:05,600

over the course of the next couple days

515

00:18:09,110 --> 00:18:07,600

eric berger with the houston chronicle

516

00:18:10,710 --> 00:18:09,120

you've used the word flawless a couple

517

00:18:13,270 --> 00:18:10,720

times to talk about this mission and

518

00:18:15,110 --> 00:18:13,280

really from the the launch day

519

00:18:16,470 --> 00:18:15,120

forward it's just been really smooth you

520

00:18:18,150 --> 00:18:16,480

had the lightning strike issue that you

521

00:18:19,669 --> 00:18:18,160

were able to investigate very quickly

522

00:18:21,750 --> 00:18:19,679

and clear that

523

00:18:23,750 --> 00:18:21,760

one in the past has taken more time and

524

00:18:25,830 --> 00:18:23,760

you had a clean launch and it just seems

525

00:18:27,750 --> 00:18:25,840

like the shuttle program is really

526

00:18:30,390 --> 00:18:27,760

a well-oiled machine right now it looks

527

00:18:32,230 --> 00:18:30,400

like that from the outside

528

00:18:33,669 --> 00:18:32,240

maybe you could talk a little bit about

529

00:18:35,830 --> 00:18:33,679

the mood

530

00:18:37,590 --> 00:18:35,840

among your team or among the you know

531

00:18:40,630 --> 00:18:37,600

the people a lot of whom are going to be

532

00:18:42,230 --> 00:18:40,640

losing their jobs is this bittersweet

533

00:18:44,390 --> 00:18:42,240

that you sort of built the program up to

534

00:18:46,070 --> 00:18:44,400

this point where it it's really moving

535

00:18:48,070 --> 00:18:46,080

along very efficiently you're getting

536

00:18:49,669 --> 00:18:48,080

the cleanest vehicles ever

537

00:18:51,110 --> 00:18:49,679

you know you're doing these long complex

538

00:18:52,710 --> 00:18:51,120

missions and and you know you're

539

00:18:55,510 --> 00:18:52,720

performing them like again outside

540

00:18:57,270 --> 00:18:55,520

observers it looks easy to us talk about

541

00:18:59,350 --> 00:18:57,280

the mood of people sort of dealing with

542

00:19:01,350 --> 00:18:59,360

those two situations

543

00:19:03,590 --> 00:19:01,360

okay sure

544

00:19:05,590 --> 00:19:03,600

it is true of course just on launch day

545

00:19:07,110 --> 00:19:05,600

alone we had the uh

546

00:19:10,310 --> 00:19:07,120

the weather that we were challenged with

547

00:19:11,909 --> 00:19:10,320

we had the gox vent hood um at hold us

548

00:19:14,870 --> 00:19:11,919

at 31 seconds and the team did an

549

00:19:15,990 --> 00:19:14,880

outstanding job working through that and

550

00:19:17,990 --> 00:19:16,000

and

551
00:19:19,270 --> 00:19:18,000
allowing us to have enough launch window

552
00:19:21,190 --> 00:19:19,280
and performance remaining to be able to

553
00:19:23,909 --> 00:19:21,200
go fly friday

554
00:19:26,230 --> 00:19:23,919
we had several balloon issues that

555
00:19:28,230 --> 00:19:26,240
as it turns out many more than

556
00:19:29,430 --> 00:19:28,240
than we've had on some previous launch

557
00:19:31,430 --> 00:19:29,440
attempts

558
00:19:33,110 --> 00:19:31,440
every single item while in and of itself

559
00:19:34,470 --> 00:19:33,120
may not have been all that significant

560
00:19:36,789 --> 00:19:34,480
could have potentially kept us from

561
00:19:39,110 --> 00:19:36,799
launching on friday but the team worked

562
00:19:40,630 --> 00:19:39,120
through all these things seamlessly

563
00:19:41,909 --> 00:19:40,640

and that continues to be the case

564

00:19:43,830 --> 00:19:41,919

through

565

00:19:45,350 --> 00:19:43,840

our time on orbit here as we sit here in

566

00:19:46,470 --> 00:19:45,360

flight day four

567

00:19:47,990 --> 00:19:46,480

um

568

00:19:52,549 --> 00:19:48,000

the

569

00:19:55,029 --> 00:19:52,559

very committed to

570

00:19:56,950 --> 00:19:55,039

this idea of finishing strong and it's

571

00:19:58,870 --> 00:19:56,960

not just a mantra for us

572

00:20:00,549 --> 00:19:58,880

it if you look at the performance of

573

00:20:02,310 --> 00:20:00,559

this vehicle and of the previous several

574

00:20:04,470 --> 00:20:02,320

vehicles you can see

575

00:20:05,590 --> 00:20:04,480

that it's proof in the pudding that

576

00:20:07,430 --> 00:20:05,600

we've been putting our nose to the

577

00:20:09,990 --> 00:20:07,440

grindstone and trying to make good on

578

00:20:12,070 --> 00:20:10,000

our word of of finishing strong

579

00:20:14,630 --> 00:20:12,080

and i think maybe more importantly than

580

00:20:17,029 --> 00:20:14,640

the than than the mood right now which

581

00:20:18,070 --> 00:20:17,039

is certainly very much i cannot tell a

582

00:20:19,430 --> 00:20:18,080

difference when i walk around the

583

00:20:21,590 --> 00:20:19,440

control room when i when i'm in the

584

00:20:24,230 --> 00:20:21,600

mission management team and when we're

585

00:20:26,870 --> 00:20:24,240

executing i cannot tell a difference

586

00:20:28,789 --> 00:20:26,880

in in that any of this is

587

00:20:31,029 --> 00:20:28,799

is is going on relative to a last

588

00:20:33,190 --> 00:20:31,039

mission kind of scenario

589

00:20:34,630 --> 00:20:33,200

i'm undoubtedly we'll be able to post

590

00:20:37,350 --> 00:20:34,640

we'll stop

591

00:20:39,510 --> 00:20:37,360

and and that is to be expected these are

592

00:20:40,789 --> 00:20:39,520

we're all human beings and and there are

593

00:20:43,190 --> 00:20:40,799

aspects of

594

00:20:45,430 --> 00:20:43,200

of our lives that that that will affect

595

00:20:47,510 --> 00:20:45,440

us in ways that'll be

596

00:20:49,590 --> 00:20:47,520

different for individuals

597

00:20:51,909 --> 00:20:49,600

but i think again more importantly what

598

00:20:53,350 --> 00:20:51,919

i would say is that

599

00:20:55,350 --> 00:20:53,360

this team

600

00:20:56,470 --> 00:20:55,360

has a tremendous amount of momentum

601
00:20:58,950 --> 00:20:56,480
right now

602
00:21:01,029 --> 00:20:58,960
and our intention is to

603
00:21:04,070 --> 00:21:01,039
to leverage that momentum

604
00:21:06,950 --> 00:21:04,080
leverage the skill base that we have

605
00:21:09,270 --> 00:21:06,960
leverage the

606
00:21:11,669 --> 00:21:09,280
lessons that we will take away from the

607
00:21:15,110 --> 00:21:11,679
shuttle program and play those things

608
00:21:19,350 --> 00:21:16,789
pronounced way

609
00:21:20,630 --> 00:21:19,360
as we move forward in in the development

610
00:21:22,710 --> 00:21:20,640
of of

611
00:21:24,230 --> 00:21:22,720
a new spacecraft new rocket new

612
00:21:26,470 --> 00:21:24,240
capabilities and new systems and new

613
00:21:28,789 --> 00:21:26,480

infrastructure to go around that

614

00:21:31,110 --> 00:21:28,799

i feel very uh optimistic about our

615

00:21:34,230 --> 00:21:31,120

ability to do that

616

00:21:36,070 --> 00:21:34,240

the team is is

617

00:21:37,190 --> 00:21:36,080

obviously committed to the task at hand

618

00:21:39,750 --> 00:21:37,200

and that is the

619

00:21:41,190 --> 00:21:39,760

mission that we have on orbit right now

620

00:21:42,789 --> 00:21:41,200

but when we're done

621

00:21:45,029 --> 00:21:42,799

i think one of the things that is going

622

00:21:46,950 --> 00:21:45,039

to benefit the agency

623

00:21:48,870 --> 00:21:46,960

a great deal and benefit the nation is

624

00:21:49,830 --> 00:21:48,880

we're going to seed out this shuttle

625

00:21:51,990 --> 00:21:49,840

team

626
00:21:53,270 --> 00:21:52,000
into the other activities in the space

627
00:21:55,270 --> 00:21:53,280
community

628
00:21:57,350 --> 00:21:55,280
whether it be commercial whether it be

629
00:21:59,190 --> 00:21:57,360
the things in internal to nasa that the

630
00:22:01,590 --> 00:21:59,200
agency um

631
00:22:04,470 --> 00:22:01,600
has uh has put forward as as the next

632
00:22:07,270 --> 00:22:04,480
step um for us to do in the overall

633
00:22:08,310 --> 00:22:07,280
agency vision um having this shuttle

634
00:22:09,110 --> 00:22:08,320
team

635
00:22:12,310 --> 00:22:09,120
be

636
00:22:14,070 --> 00:22:12,320
seated out and and immersed in all of

637
00:22:15,510 --> 00:22:14,080
those activities i think is going to pay

638
00:22:18,310 --> 00:22:15,520

huge dividends

639

00:22:21,110 --> 00:22:18,320

to our ability to go forward and succeed

640

00:22:22,870 --> 00:22:21,120

on those respective endeavors i feel

641

00:22:24,070 --> 00:22:22,880

very strongly about that i know the team

642

00:22:26,390 --> 00:22:24,080

members

643

00:22:28,710 --> 00:22:26,400

are looking forward to that as well and

644

00:22:31,110 --> 00:22:28,720

i think that is gonna

645

00:22:33,029 --> 00:22:31,120

that is the thing that that's on my mind

646

00:22:34,549 --> 00:22:33,039

um when i'm not thinking about the

647

00:22:35,430 --> 00:22:34,559

mission that we have in orbit right now

648

00:22:37,750 --> 00:22:35,440

so

649

00:22:40,149 --> 00:22:37,760

it's not on my mind very much right now

650

00:22:41,590 --> 00:22:40,159

but it will be on my mind post will stop

651
00:22:44,230 --> 00:22:41,600
and it will be my intent to do

652
00:22:47,669 --> 00:22:44,240
everything i can to help us

653
00:22:51,029 --> 00:22:47,679
take this team and push it out into

654
00:22:53,430 --> 00:22:51,039
the various aspects of the ongoing

655
00:22:56,070 --> 00:22:53,440
development activities that we have

656
00:22:57,830 --> 00:22:56,080
both in and outside the agency and i

657
00:23:00,230 --> 00:22:57,840
think that is going to be a huge part of

658
00:23:03,430 --> 00:23:00,240
the reason why we will succeed in those

659
00:23:12,230 --> 00:23:07,510
irene

660
00:23:15,270 --> 00:23:12,240
speaking of future systems can you just

661
00:23:17,029 --> 00:23:15,280
give us a little inventory of what is uh

662
00:23:18,870 --> 00:23:17,039
what's available from shuttle program

663
00:23:21,270 --> 00:23:18,880

that you're not retiring that you're

664

00:23:23,990 --> 00:23:21,280
keeping for possible use with a

665

00:23:25,430 --> 00:23:24,000
for the sls and and also if if the

666

00:23:27,190 --> 00:23:25,440
decision is made to go with a system

667

00:23:29,750 --> 00:23:27,200
like that and you're going to use these

668

00:23:31,990 --> 00:23:29,760
uh these um shuttle main engines does

669

00:23:34,870 --> 00:23:32,000
does that mean that you're going to

670

00:23:36,549 --> 00:23:34,880
restart production of tanks and

671

00:23:40,390 --> 00:23:36,559
where do you where do you see some of

672

00:23:44,230 --> 00:23:40,400
this migration from existing system to

673

00:23:47,190 --> 00:23:44,240
next generation thanks okay irene

674

00:23:48,830 --> 00:23:47,200
it's very much a work in progress

675

00:23:52,149 --> 00:23:48,840
there are some

676
00:23:54,310 --> 00:23:52,159
items of the sts system you mentioned

677
00:23:56,470 --> 00:23:54,320
the space shuttle main engines that we

678
00:23:59,190 --> 00:23:56,480
envisioned being part of at least the

679
00:24:00,310 --> 00:23:59,200
initial phases of the future development

680
00:24:01,350 --> 00:24:00,320
programs

681
00:24:04,230 --> 00:24:01,360
and so

682
00:24:07,029 --> 00:24:04,240
all along that's one item

683
00:24:08,870 --> 00:24:07,039
that that we kind of anticipated

684
00:24:11,909 --> 00:24:08,880
might be

685
00:24:14,230 --> 00:24:11,919
used in in next generation vehicle

686
00:24:15,510 --> 00:24:14,240
development and so we've kind of planned

687
00:24:17,190 --> 00:24:15,520
for them to be

688
00:24:18,390 --> 00:24:17,200

to be preserved in that regard the space

689

00:24:20,789 --> 00:24:18,400

shuttle main engines and their

690

00:24:23,510 --> 00:24:20,799

associated ground support equipment

691

00:24:25,750 --> 00:24:23,520

and and spares and things of that nature

692

00:24:28,230 --> 00:24:25,760

now we have had to stop

693

00:24:31,110 --> 00:24:28,240

um asking the vendors to make parts and

694

00:24:33,350 --> 00:24:31,120

and spares and that kind of thing

695

00:24:34,230 --> 00:24:33,360

but there's a lot of space shuttle main

696

00:24:36,070 --> 00:24:34,240

engine

697

00:24:38,549 --> 00:24:36,080

um

698

00:24:40,549 --> 00:24:38,559

logistical support available to us just

699

00:24:43,110 --> 00:24:40,559

as we know it today on the shelf so to

700

00:24:44,470 --> 00:24:43,120

speak and so that's one area where we're

701
00:24:46,149 --> 00:24:44,480
preserving and

702
00:24:47,590 --> 00:24:46,159
going to be able to play forward the

703
00:24:49,510 --> 00:24:47,600
main engines

704
00:24:52,070 --> 00:24:49,520
in some way shape or form

705
00:24:53,029 --> 00:24:52,080
there are other main propulsion system

706
00:24:54,310 --> 00:24:53,039
elements

707
00:24:56,870 --> 00:24:54,320
subsystems

708
00:24:58,310 --> 00:24:56,880
plumbing parts valves

709
00:25:00,549 --> 00:24:58,320
things of that nature

710
00:25:02,310 --> 00:25:00,559
that we're anticipating

711
00:25:03,990 --> 00:25:02,320
will be asked to

712
00:25:06,149 --> 00:25:04,000
to keep in a

713
00:25:08,230 --> 00:25:06,159

preserved state if you will

714

00:25:10,870 --> 00:25:08,240

um and so

715

00:25:14,710 --> 00:25:10,880

those items we're continuing to build a

716

00:25:16,870 --> 00:25:14,720

spreadsheet for for all of those things

717

00:25:19,110 --> 00:25:16,880

in the booster world obviously there's

718

00:25:21,510 --> 00:25:19,120

there's a lot of discussion

719

00:25:25,110 --> 00:25:21,520

about the uh the next generation

720

00:25:27,029 --> 00:25:25,120

vehicles and and the utilization of of

721

00:25:29,350 --> 00:25:27,039

similar booster hardware and so

722

00:25:32,070 --> 00:25:29,360

similarly

723

00:25:34,630 --> 00:25:32,080

some of the things that we have

724

00:25:37,110 --> 00:25:34,640

that we use to process

725

00:25:39,029 --> 00:25:37,120

some of the booster hardware

726

00:25:41,110 --> 00:25:39,039

you know we're going to preserve until

727

00:25:44,230 --> 00:25:41,120

further notice and to the extent we're

728

00:25:46,549 --> 00:25:44,240

able to until things get um

729

00:25:48,710 --> 00:25:46,559

more firmed up in terms of of the

730

00:25:50,710 --> 00:25:48,720

architecture going forward so

731

00:25:52,630 --> 00:25:50,720

i can't give you an exact list today

732

00:25:53,830 --> 00:25:52,640

quite frankly because it is a moving

733

00:25:55,830 --> 00:25:53,840

target

734

00:25:57,350 --> 00:25:55,840

um but there's a whole group of folks

735

00:25:59,430 --> 00:25:57,360

that are working on that is it is in

736

00:26:01,269 --> 00:25:59,440

fact what they are working on day in day

737

00:26:02,630 --> 00:26:01,279

out and they will be for the next

738

00:26:04,950 --> 00:26:02,640

several months

739

00:26:06,149 --> 00:26:04,960

and so in the meantime we have

740

00:26:08,149 --> 00:26:06,159

identified the things that we're

741

00:26:10,390 --> 00:26:08,159

absolutely not going to use going

742

00:26:13,590 --> 00:26:10,400

forward and those would be very

743

00:26:14,789 --> 00:26:13,600

shuttle and orbiter specific items that

744

00:26:17,110 --> 00:26:14,799

um

745

00:26:18,230 --> 00:26:17,120

that you're mostly aware of already and

746

00:26:19,669 --> 00:26:18,240

if you think about things here at the

747

00:26:23,110 --> 00:26:19,679

johnson space center that were very

748

00:26:26,230 --> 00:26:23,120

shuttle orbiter and and

749

00:26:29,350 --> 00:26:26,240

orbiter specific if you will like

750

00:26:30,950 --> 00:26:29,360

simulators and subsystem trainers and

751
00:26:32,789 --> 00:26:30,960
things that you would only use if you

752
00:26:34,630 --> 00:26:32,799
were going to train somebody to fly

753
00:26:35,830 --> 00:26:34,640
the space shuttle

754
00:26:37,029 --> 00:26:35,840
obviously those things are being

755
00:26:38,470 --> 00:26:37,039
accessed and

756
00:26:39,669 --> 00:26:38,480
and we're trying to make the best use of

757
00:26:41,830 --> 00:26:39,679
those by

758
00:26:44,230 --> 00:26:41,840
getting them out to the to the academic

759
00:26:46,549 --> 00:26:44,240
world in some cases to industry in some

760
00:26:47,590 --> 00:26:46,559
cases to

761
00:26:49,430 --> 00:26:47,600
you know

762
00:26:51,830 --> 00:26:49,440
areas where folks can do

763
00:26:54,149 --> 00:26:51,840

evaluation and test and they can learn

764

00:26:55,350 --> 00:26:54,159

they can be used as learning instruments

765

00:27:00,549 --> 00:26:55,360

so

766

00:27:05,590 --> 00:27:03,269

gangly topic because the shuttle program

767

00:27:06,549 --> 00:27:05,600

is huge

768

00:27:07,510 --> 00:27:06,559

and

769

00:27:09,190 --> 00:27:07,520

but

770

00:27:10,630 --> 00:27:09,200

to your specific question i hope i've

771

00:27:12,230 --> 00:27:10,640

answered it with respect to some of the

772

00:27:13,110 --> 00:27:12,240

things that we think we are going to be

773

00:27:15,110 --> 00:27:13,120

asked

774

00:27:17,669 --> 00:27:15,120

to continue to preserve

775

00:27:22,070 --> 00:27:17,679

and we'll we'll know more about that in

776

00:27:26,389 --> 00:27:24,389

thanks just one quick follow-up um

777

00:27:27,990 --> 00:27:26,399

i think with one of the pre-launch press

778

00:27:29,590 --> 00:27:28,000

conferences i'm sorry i can't remember

779

00:27:31,110 --> 00:27:29,600

who was telling us this but

780

00:27:33,110 --> 00:27:31,120

there was a

781

00:27:35,110 --> 00:27:33,120

letter or something that the shuttle

782

00:27:36,549 --> 00:27:35,120

atlantis was not

783

00:27:39,350 --> 00:27:36,559

to be um

784

00:27:41,190 --> 00:27:39,360

um dispensed or was pending a letter i

785

00:27:43,990 --> 00:27:41,200

don't remember which way the action went

786

00:27:46,310 --> 00:27:44,000

but what is the status of um for

787

00:27:49,190 --> 00:27:46,320

atlantis and also i'm sorry i meant

788

00:27:51,590 --> 00:27:49,200

endeavor um for endeavor and also for

789

00:27:53,669 --> 00:27:51,600

atlantis when it returns as far as it

790

00:27:56,230 --> 00:27:53,679

being released to the museums that

791

00:27:57,590 --> 00:27:56,240

they've been promised to

792

00:27:59,990 --> 00:27:57,600

it is endeavor

793

00:28:01,269 --> 00:28:00,000

and there was some discussion and some

794

00:28:07,269 --> 00:28:01,279

um

795

00:28:09,430 --> 00:28:07,279

headquarters for us to

796

00:28:10,389 --> 00:28:09,440

not go beyond down mission processing on

797

00:28:13,350 --> 00:28:10,399

endeavor

798

00:28:15,510 --> 00:28:13,360

until we we had such memo

799

00:28:16,870 --> 00:28:15,520

i i don't think we've gotten that yet

800

00:28:19,510 --> 00:28:16,880

but i think we've gotten word that we

801
00:28:21,430 --> 00:28:19,520
should expect it and so we intend

802
00:28:24,070 --> 00:28:21,440
that we're going to be able to go beyond

803
00:28:27,430 --> 00:28:24,080
domination processing and into

804
00:28:29,669 --> 00:28:27,440
the preparation for

805
00:28:31,269 --> 00:28:29,679
the museum

806
00:28:33,029 --> 00:28:31,279
endeavor is concerned

807
00:28:35,430 --> 00:28:33,039
atlantis of course will go into the

808
00:28:38,230 --> 00:28:35,440
normal uh down mission processing and be

809
00:28:40,630 --> 00:28:38,240
saved and then it'll go right into

810
00:28:42,549 --> 00:28:40,640
its preparation for exhibit at the

811
00:28:43,909 --> 00:28:42,559
kennedy space center in the in the

812
00:28:45,510 --> 00:28:43,919
visitor center area that they have

813
00:28:47,750 --> 00:28:45,520

established there so

814

00:28:50,710 --> 00:28:47,760

um that's the status of

815

00:28:52,230 --> 00:28:50,720

those vehicles and again i think um

816

00:28:53,830 --> 00:28:52,240

at this point we're fully anticipating

817

00:28:55,669 --> 00:28:53,840

that that

818

00:28:57,110 --> 00:28:55,679

once we get to the point of

819

00:28:59,110 --> 00:28:57,120

being at the end of down mission

820

00:29:01,269 --> 00:28:59,120

processing for 105 we'll continue right

821

00:29:03,110 --> 00:29:01,279

on beyond that just as what it had

822

00:29:05,909 --> 00:29:03,120

originally been intent intended for us

823

00:29:09,029 --> 00:29:07,430

okay let's go to the kennedy space

824

00:29:10,950 --> 00:29:09,039

center well we'll come back bill if you

825

00:29:13,669 --> 00:29:10,960

want okay

826

00:29:15,269 --> 00:29:13,679

let's go to ksc for i think there's one

827

00:29:18,389 --> 00:29:15,279

question or two down at the kennedy

828

00:29:22,470 --> 00:29:20,710

uh one question uh this is marcia dunn

829

00:29:24,230 --> 00:29:22,480

of the associated press

830

00:29:25,669 --> 00:29:24,240

um you mentioned and it's been pretty

831

00:29:27,909 --> 00:29:25,679

apparent that the crew's been running

832

00:29:30,470 --> 00:29:27,919

ahead of schedule almost since i got

833

00:29:32,310 --> 00:29:30,480

into orbit yet it's the smallest crew in

834

00:29:35,190 --> 00:29:32,320

decades for the shuttle i'm just

835

00:29:37,510 --> 00:29:35,200

wondering how you reconcile that

836

00:29:39,269 --> 00:29:37,520

how can four people be ahead of schedule

837

00:29:41,990 --> 00:29:39,279

when it usually takes a crew of six or

838

00:29:47,590 --> 00:29:44,470

i i don't know

839

00:29:49,909 --> 00:29:47,600

i i'm very happy about it obviously and

840

00:29:51,110 --> 00:29:49,919

it will require some some post mission

841

00:29:52,630 --> 00:29:51,120

debriefing

842

00:29:54,070 --> 00:29:52,640

for us to totally put that story

843

00:29:55,909 --> 00:29:54,080

together

844

00:29:57,590 --> 00:29:55,919

of course in all seriousness marcia part

845

00:30:00,230 --> 00:29:57,600

of the answer is the

846

00:30:01,590 --> 00:30:00,240

the mission design was done with with

847

00:30:03,830 --> 00:30:01,600

the understanding that it would be four

848

00:30:06,950 --> 00:30:03,840

people versus six or seven

849

00:30:08,789 --> 00:30:06,960

so it's not as though in all of the

850

00:30:10,070 --> 00:30:08,799

activities that the four-person crew is

851
00:30:10,950 --> 00:30:10,080
doing on board

852
00:30:12,630 --> 00:30:10,960
um

853
00:30:14,070 --> 00:30:12,640
you know they're doing

854
00:30:15,990 --> 00:30:14,080
everything

855
00:30:17,669 --> 00:30:16,000
literally that a six or seven person

856
00:30:18,710 --> 00:30:17,679
career is doing that that just isn't the

857
00:30:21,430 --> 00:30:18,720
case

858
00:30:22,870 --> 00:30:21,440
um but at any rate i'm very happy about

859
00:30:24,789 --> 00:30:22,880
it

860
00:30:26,070 --> 00:30:24,799
and

861
00:30:28,230 --> 00:30:26,080
i guess the truth is i probably don't

862
00:30:31,110 --> 00:30:28,240
have to reconcile it

863
00:30:32,710 --> 00:30:31,120

but we'll just take it as it is and and

864

00:30:37,669 --> 00:30:32,720

we'll hope it continues through the rest

865

00:30:37,679 --> 00:30:41,590

anything else marcia

866

00:30:45,909 --> 00:30:43,590

okay how about the no that's it thank

867

00:30:47,510 --> 00:30:45,919

you okay uh let's see i think todd are

868

00:30:50,149 --> 00:30:47,520

you on the phone bridge from florida

869

00:30:53,430 --> 00:30:50,159

today

870

00:30:56,389 --> 00:30:53,440

yes i am thanks a lot kyle um i was just

871

00:31:00,149 --> 00:30:56,399

wondering leroy what your uh uh thoughts

872

00:31:02,630 --> 00:31:00,159

are um as you approach what will be the

873

00:31:05,029 --> 00:31:02,640

the last dba af

874

00:31:07,190 --> 00:31:05,039

in the uh shuttle era

875

00:31:10,070 --> 00:31:07,200

um even though it's being done by folks

876

00:31:13,590 --> 00:31:10,080

on from the station it is the

877

00:31:16,149 --> 00:31:13,600

last eva of the shuttle era and um how

878

00:31:18,470 --> 00:31:16,159

far you guys have come uh

879

00:31:21,430 --> 00:31:18,480

since the beginning of station assembly

880

00:31:25,750 --> 00:31:21,440

and and in fact preparation for the

881

00:31:33,029 --> 00:31:29,990

um well todd i um similar to my thoughts

882

00:31:35,029 --> 00:31:33,039

and my sentiments as we we

883

00:31:36,870 --> 00:31:35,039

you know did the final launch in the the

884

00:31:38,950 --> 00:31:36,880

final rendezvous and proximity

885

00:31:42,950 --> 00:31:38,960

operations and docking and

886

00:31:43,830 --> 00:31:42,960

and the the payload the mplm birthing

887

00:31:45,269 --> 00:31:43,840

um

888

00:31:47,990 --> 00:31:45,279

tomorrow will be

889

00:31:49,830 --> 00:31:48,000

you know the final planned spacewalk

890

00:31:51,430 --> 00:31:49,840

that we do with an orbiter present

891

00:31:52,549 --> 00:31:51,440

albeit with the station crew as you

892

00:31:53,590 --> 00:31:52,559

mentioned

893

00:31:55,990 --> 00:31:53,600

um

894

00:31:57,990 --> 00:31:56,000

i just continue to feel a great sense of

895

00:31:59,669 --> 00:31:58,000

accomplishment for this team and and

896

00:32:01,110 --> 00:31:59,679

that's what i tried to reiterate and

897

00:32:02,950 --> 00:32:01,120

pass on to the team in the in the

898

00:32:05,590 --> 00:32:02,960

mission management team today

899

00:32:07,590 --> 00:32:05,600

and uh in that case it was reflecting on

900

00:32:09,830 --> 00:32:07,600

the performance of the vehicle and

901
00:32:13,350 --> 00:32:09,840
and uh there's many more things beyond

902
00:32:18,070 --> 00:32:15,269
should and are deserving of feeling a

903
00:32:20,870 --> 00:32:18,080
great sense of accomplishment for so

904
00:32:22,389 --> 00:32:20,880
that's my take on it and um there are no

905
00:32:24,870 --> 00:32:22,399
surprises here

906
00:32:26,710 --> 00:32:24,880
and again it's it's

907
00:32:29,669 --> 00:32:26,720
a tribute to the team that that we're

908
00:32:31,750 --> 00:32:29,679
able to to execute in this fashion

909
00:32:33,430 --> 00:32:31,760
um and the vehicle performance has been

910
00:32:34,789 --> 00:32:33,440
as good as it is because of the

911
00:32:36,310 --> 00:32:34,799
preparation of the vehicles on the

912
00:32:37,669 --> 00:32:36,320
ground no doubt

913
00:32:39,350 --> 00:32:37,679

and so

914

00:32:42,230 --> 00:32:39,360

you know we have come a long way since

915

00:32:44,789 --> 00:32:42,240

we first started doing space walks

916

00:32:46,070 --> 00:32:44,799

in in the assembly of the space station

917

00:32:48,230 --> 00:32:46,080

and that's the other thing that i would

918

00:32:49,990 --> 00:32:48,240

say in terms of playing things forward

919

00:32:52,230 --> 00:32:50,000

from the shuttle program

920

00:32:54,549 --> 00:32:52,240

as we wind down the program

921

00:32:55,830 --> 00:32:54,559

there are a lot of lessons learned from

922

00:32:56,630 --> 00:32:55,840

the shuttle

923

00:33:00,070 --> 00:32:56,640

that

924

00:33:01,350 --> 00:33:00,080

i i intend and i and i think

925

00:33:04,149 --> 00:33:01,360

the agency

926
00:33:05,110 --> 00:33:04,159
can get great benefit from as we move

927
00:33:06,230 --> 00:33:05,120
forward

928
00:33:08,710 --> 00:33:06,240
and so

929
00:33:10,870 --> 00:33:08,720
a lot of folks like to look back way way

930
00:33:12,549 --> 00:33:10,880
back um before the shuttle first flew

931
00:33:14,310 --> 00:33:12,559
and talked about you know it was

932
00:33:16,630 --> 00:33:14,320
it was billed as a

933
00:33:19,909 --> 00:33:16,640
cheap routine

934
00:33:22,389 --> 00:33:19,919
frequent access to low earth orbit and

935
00:33:25,029 --> 00:33:22,399
to include assembly of a space station

936
00:33:27,029 --> 00:33:25,039
and to include some other things

937
00:33:28,789 --> 00:33:27,039
of course those folks only knew what

938
00:33:30,470 --> 00:33:28,799

they knew then they were at a certain

939

00:33:31,590 --> 00:33:30,480

place on a learning curve with respect

940

00:33:33,750 --> 00:33:31,600

to

941

00:33:34,710 --> 00:33:33,760

operating in low earth orbit

942

00:33:36,470 --> 00:33:34,720

and

943

00:33:38,389 --> 00:33:36,480

nothing can be taken away from them they

944

00:33:39,990 --> 00:33:38,399

were they were making plans based on

945

00:33:42,230 --> 00:33:40,000

their best experience

946

00:33:45,590 --> 00:33:42,240

and of course we know a lot more now

947

00:33:48,549 --> 00:33:45,600

than than what we did 135 flights ago

948

00:33:51,190 --> 00:33:48,559

certainly than what we did before sts-1

949

00:33:53,830 --> 00:33:51,200

and we can talk about a lot of different

950

00:33:56,630 --> 00:33:53,840

aspects of of lessons learned from the

951
00:34:00,389 --> 00:33:56,640
shuttle as we go forward i've heard also

952
00:34:02,389 --> 00:34:00,399
some discussion over the years about

953
00:34:05,509 --> 00:34:02,399
in other areas of development you know

954
00:34:07,669 --> 00:34:05,519
we don't want to do it like shuttle

955
00:34:09,589 --> 00:34:07,679
and i would i would

956
00:34:12,629 --> 00:34:09,599
my comment to that is

957
00:34:14,710 --> 00:34:12,639
is primarily that

958
00:34:16,389 --> 00:34:14,720
there's a lot to be learned from shuttle

959
00:34:19,030 --> 00:34:16,399
and we ought to take the things that we

960
00:34:21,589 --> 00:34:19,040
know and understand work well

961
00:34:23,190 --> 00:34:21,599
and we ought to build on those things

962
00:34:24,869 --> 00:34:23,200
and and that is absolutely i think what

963
00:34:26,790 --> 00:34:24,879

we intend to do

964

00:34:29,430 --> 00:34:26,800

um and for my part in it that would

965

00:34:31,829 --> 00:34:29,440

certainly be my focus is to take as much

966

00:34:33,829 --> 00:34:31,839

of the the benefit of what we learned

967

00:34:35,349 --> 00:34:33,839

going forward it's not really just about

968

00:34:37,430 --> 00:34:35,359

the shuttle it's about the capability

969

00:34:39,190 --> 00:34:37,440

that was provided you can talk about the

970

00:34:40,710 --> 00:34:39,200

operations of the shuttle

971

00:34:42,710 --> 00:34:40,720

you can talk about what we've learned in

972

00:34:44,869 --> 00:34:42,720

terms of operating the shuttle and

973

00:34:47,589 --> 00:34:44,879

and operating around complex

974

00:34:49,829 --> 00:34:47,599

robotic and and spacewalk operations at

975

00:34:51,589 --> 00:34:49,839

the space station you can talk about how

976

00:34:54,149 --> 00:34:51,599

we evolved this shuttle to use it not

977

00:34:57,430 --> 00:34:54,159

only as a platform for science for space

978

00:34:59,109 --> 00:34:57,440

hab and space lab etc

979

00:35:01,430 --> 00:34:59,119

but the way we evolved it to fly

980

00:35:02,950 --> 00:35:01,440

missions to to deploy satellites to

981

00:35:05,109 --> 00:35:02,960

capture satellites and repair them and

982

00:35:07,670 --> 00:35:05,119

redeploy them um

983

00:35:08,550 --> 00:35:07,680

to uh to assemble a space station

984

00:35:11,109 --> 00:35:08,560

um

985

00:35:12,790 --> 00:35:11,119

the uh the benefit that we got in terms

986

00:35:14,630 --> 00:35:12,800

of the mirror docking and the mirror

987

00:35:17,030 --> 00:35:14,640

missions that we did most of which

988

00:35:20,550 --> 00:35:17,040

atlantis did by the way

989

00:35:23,109 --> 00:35:20,560

there's a whole realm of lessons that we

990

00:35:24,710 --> 00:35:23,119

have very well documented

991

00:35:25,990 --> 00:35:24,720

and i think

992

00:35:27,670 --> 00:35:26,000

you know we will

993

00:35:29,270 --> 00:35:27,680

absolutely

994

00:35:30,550 --> 00:35:29,280

get the greatest benefit from those and

995

00:35:32,230 --> 00:35:30,560

that will be part of the greatest

996

00:35:33,349 --> 00:35:32,240

benefit that the shuttle provides going

997

00:35:35,829 --> 00:35:33,359

forward is

998

00:35:37,589 --> 00:35:35,839

is being able to launch off of those

999

00:35:39,430 --> 00:35:37,599

of those lessons learned

1000

00:35:40,710 --> 00:35:39,440

and and being able to really leverage

1001
00:35:44,630 --> 00:35:40,720
that

1002
00:35:45,589 --> 00:35:44,640
in new development of new capability

1003
00:35:47,430 --> 00:35:45,599
so

1004
00:35:49,109 --> 00:35:47,440
finally todd we certainly have come a

1005
00:35:52,550 --> 00:35:49,119
long way since the first spacewalk that

1006
00:35:54,950 --> 00:35:52,560
we did in a station assembly mission

1007
00:35:58,150 --> 00:35:54,960
it would take me much longer to go into

1008
00:35:59,670 --> 00:35:58,160
the details of of all of those areas but

1009
00:36:02,230 --> 00:35:59,680
i hope i've answered your question in

1010
00:36:05,109 --> 00:36:02,240
terms of in general um

1011
00:36:07,349 --> 00:36:05,119
kind of the the sentiment um

1012
00:36:09,109 --> 00:36:07,359
in that regard

1013
00:36:11,349 --> 00:36:09,119

yeah thanks very much leroy and that's

1014

00:36:12,870 --> 00:36:11,359

all from me kyle okay thanks we're back

1015

00:36:14,790 --> 00:36:12,880

here for any wrap-ups bill do you still

1016

00:36:16,950 --> 00:36:14,800

have a question

1017

00:36:18,630 --> 00:36:16,960

okay anybody else

1018

00:36:20,550 --> 00:36:18,640

all right a couple of quick programming

1019

00:36:23,109 --> 00:36:20,560

notes uh the crew heads to bed again

1020

00:36:25,349 --> 00:36:23,119

about six o'clock today we'll start the

1021

00:36:26,870 --> 00:36:25,359

flight day highlights package at 8 pm

1022

00:36:29,270 --> 00:36:26,880

central and

1023

00:36:30,150 --> 00:36:29,280

on the hour every hour as usual we'll

1024

00:36:31,829 --> 00:36:30,160

also

1025

00:36:33,349 --> 00:36:31,839

replay the launching our dream space

1026

00:36:35,589 --> 00:36:33,359

shuttle program video if you haven't

1027

00:36:37,270 --> 00:36:35,599

seen that that'll air at 10 pm

1028

00:36:39,430 --> 00:36:37,280

uh central time

1029

00:36:41,990 --> 00:36:39,440

and of course the lone plan space walk

1030

00:36:45,589 --> 00:36:42,000

that leroy outlined for you

1031

00:36:47,589 --> 00:36:45,599

begins about 7 45 a.m tomorrow and it's

1032

00:36:49,109 --> 00:36:47,599

a six and a half hour planned space walk

1033

00:36:50,630 --> 00:36:49,119

and that will be followed by a mission

1034

00:36:52,310 --> 00:36:50,640

status briefing

1035

00:36:54,230 --> 00:36:52,320

following the space walk with the flight

1036

00:36:56,870 --> 00:36:54,240

director on the station side an eva

1037

00:36:58,630 --> 00:36:56,880

officer to detail what happened during

1038

00:36:59,829 --> 00:36:58,640

the eva that's at 3 30 tomorrow

1039

00:37:01,349 --> 00:36:59,839

afternoon

1040

00:37:02,950 --> 00:37:01,359

and of course all that's on the

1041

00:37:04,870 --> 00:37:02,960

television schedule and we're working

1042

00:37:07,030 --> 00:37:04,880

feverishly to

1043

00:37:09,430 --> 00:37:07,040

build a new tv schedule with the extra

1044

00:37:11,670 --> 00:37:09,440

day added into it that'll be revision e

1045

00:37:13,750 --> 00:37:11,680

so look for that either late tonight or

1046

00:37:15,589 --> 00:37:13,760

first thing in the morning with that

1047

00:37:18,390 --> 00:37:15,599

well thank leroy we'll be back later in

1048

00:37:20,390 --> 00:37:18,400

the flight with another mmt briefing

1049

00:37:22,870 --> 00:37:20,400

when we get closer to focused our late

1050

00:37:24,550 --> 00:37:22,880

inspection activities and

1051

00:37:26,150 --> 00:37:24,560

thank everybody for coming we'll head

1052

00:37:30,470 --> 00:37:26,160

back to mission control and back to

1053

00:37:35,109 --> 00:37:32,870

hi i'm josh keeley i'm bill hebner i'm

1054

00:37:37,030 --> 00:37:35,119

ian anchondu and i'm bobby jarvis we are

1055

00:37:39,510 --> 00:37:37,040

the team three ecoms on the final