1
00:00:07,590 --> 00:00:04,710
good day and welcome to today's sts-134

2
00:00:09,669 --> 00:00:07,600
ulf 6 mission status briefing with us

3
00:00:11,509 --> 00:00:09,679
today are derek hossman the lead space

4
00:00:14,230 --> 00:00:11,519
station flight director for the mission

5
00:00:15,990 --> 00:00:14,240
and alison bolinger who is the lead eva

6
00:00:17,269 --> 00:00:16,000
or spacewalk officers for the flight

7
00:00:19,029 --> 00:00:17,279
we'll start off with some opening

8
00:00:21,510 --> 00:00:19,039
remarks from both of our briefers and

9
00:00:23,750 --> 00:00:21,520
then we'll move on to question derek

10
00:00:26,390 --> 00:00:23,760
okay thanks kelly good morning everybody

11
00:00:28,150 --> 00:00:26,400
uh great to be back here today to talk

12
00:00:30,630 --> 00:00:28,160
about another a very successful day in

13
00:00:32,790 --> 00:00:30,640

the sts-134 mission of course the

14
00:00:35,830 --> 00:00:32,800
primary objective today was conducting

15
00:00:37,910 --> 00:00:35,840
our first spacewalk eva-1 and overall

16
00:00:39,350 --> 00:00:37,920
went very well we did encounter some

17
00:00:41,270 --> 00:00:39,360
issues with

18
00:00:42,950 --> 00:00:41,280
greg shamatov's suit which we'll we'll

19
00:00:45,350 --> 00:00:42,960
talk about in more detail

20
00:00:47,270 --> 00:00:45,360
but got a lot of work good work done

21
00:00:51,029 --> 00:00:47,280
today on the eva and

22
00:00:52,389 --> 00:00:51,039
we did have to defer a task at the end

23
00:00:53,910 --> 00:00:52,399
we'll talk more about that but we think

24
00:00:55,350 --> 00:00:53,920
we can get that later in the mission

25
00:00:57,110 --> 00:00:55,360
what i'd like to do is just hit the high

26
00:01:00,549 --> 00:00:57,120
points and then hand over to allison to

27
00:01:02,790 --> 00:01:00,559
talk more about the details of the eva

28
00:01:04,950 --> 00:01:02,800
first out the door we uh we retrieved

29
00:01:06,390 --> 00:01:04,960
two dod materials payloads that we refer

30
00:01:07,830 --> 00:01:06,400
to as misses

31
00:01:09,190 --> 00:01:07,840
we grabbed two of those off the truss

32
00:01:10,789 --> 00:01:09,200
brought them back to the payload bay

33
00:01:13,190 --> 00:01:10,799
stowed them for return

34
00:01:14,870 --> 00:01:13,200
then we installed a new missy on the

35
00:01:16,310 --> 00:01:14,880
truss which we got feedback just before

36
00:01:17,190 --> 00:01:16,320
we came over that

37
00:01:19,510 --> 00:01:17,200
it was

38
00:01:22,149 --> 00:01:19,520

activated and operating well

39
00:01:23,429 --> 00:01:22,159
we installed the ceta light on the truss

40
00:01:26,630 --> 00:01:23,439
we installed a

41
00:01:29,749 --> 00:01:26,640
solar alpha rotary joint cover that was

42
00:01:31,749 --> 00:01:29,759
left removed from a previous mission and

43
00:01:34,069 --> 00:01:31,759
we also were able to successfully set up

44
00:01:36,230 --> 00:01:34,079
for an ammonia cooling loop refill that

45
00:01:37,670 --> 00:01:36,240
we're going to do on eva2

46
00:01:40,789 --> 00:01:37,680
the activities on this cba didn't

47
00:01:42,710 --> 00:01:40,799
involve any ammonia qd's but we did

48
00:01:44,149 --> 00:01:42,720
connect jumpers and vent the nitrogen

49
00:01:45,830 --> 00:01:44,159
pad for those jumpers so it was it was

50
00:01:48,950 --> 00:01:45,840
important that we get this done in order

51
00:01:51,109 --> 00:01:48,960
to put us in a good position for eva2

52
00:01:52,870 --> 00:01:51,119
the last task on the eba involved the

53
00:01:54,389 --> 00:01:52,880
installation of antennas that we're

54
00:01:57,109 --> 00:01:54,399
going to allow

55
00:01:59,190 --> 00:01:57,119
external payloads and the hardware uh to

56
00:02:00,870 --> 00:01:59,200
to communicate wirelessly with computers

57
00:02:03,270 --> 00:02:00,880
inside the station

58
00:02:05,670 --> 00:02:03,280
we got the antennas themselves installed

59
00:02:09,270 --> 00:02:05,680
but the cabling was what's going to

60
00:02:11,270 --> 00:02:09,280
require us to require uh remove

61
00:02:12,949 --> 00:02:11,280
micro meteoroid debris shield from the

62
00:02:14,070 --> 00:02:12,959
laboratory module

63
00:02:16,309 --> 00:02:14,080

right at the point that we were going to

64
00:02:18,150 --> 00:02:16,319
start that we got indications on the

65
00:02:20,710 --> 00:02:18,160
ground that there was an issue with greg

66
00:02:22,710 --> 00:02:20,720
chambertov's co2 sensor his carbon

67
00:02:23,990 --> 00:02:22,720
dioxide sensor

68
00:02:26,470 --> 00:02:24,000
and we've got

69
00:02:28,390 --> 00:02:26,480
written uh pre-flight decisions uh that

70
00:02:29,910 --> 00:02:28,400
we call flight rules that govern how we

71
00:02:32,229 --> 00:02:29,920
deal with these type of situations in

72
00:02:33,990 --> 00:02:32,239
the case of this co2 sensor it requires

73
00:02:36,390 --> 00:02:34,000
that we make a more conservative

74
00:02:38,470 --> 00:02:36,400
estimate of the capability that greg

75
00:02:40,550 --> 00:02:38,480
chamtob has left in a suit so we did

76
00:02:43,030 --> 00:02:40,560
those calculations compared that to the

77
00:02:44,390 --> 00:02:43,040
work that we had in front of us and

78
00:02:45,750 --> 00:02:44,400
we made the decision that we weren't

79
00:02:47,830 --> 00:02:45,760
going to continue with that portion of

80
00:02:50,470 --> 00:02:47,840
the task so we did some cleanup work and

81
00:02:52,470 --> 00:02:50,480
some get aheads and we called it a day

82
00:02:54,070 --> 00:02:52,480
and we're looking ahead at future evas

83
00:02:55,670 --> 00:02:54,080
to understand better where we're going

84
00:02:57,270 --> 00:02:55,680
to fit that task

85
00:02:59,830 --> 00:02:57,280
it's very unlikely we're going to change

86
00:03:02,550 --> 00:02:59,840
the eva2 timeline more likely that we're

87
00:03:04,630 --> 00:03:02,560
going to look at the eva 3 timeline

88
00:03:05,750 --> 00:03:04,640

in terms of a place to put that uh that

89
00:03:07,509 --> 00:03:05,760
task

90
00:03:09,030 --> 00:03:07,519
and uh with that overview i'll hand it

91
00:03:10,869 --> 00:03:09,040
over to allison

92
00:03:11,910 --> 00:03:10,879
all right thanks a lot derek

93
00:03:14,070 --> 00:03:11,920
so first of all i'd like to say i

94
00:03:15,509 --> 00:03:14,080
couldn't be more proud of the crew and

95
00:03:17,350 --> 00:03:15,519
my team here on the ground for the

96
00:03:18,630 --> 00:03:17,360
almost flawless execution of this eva

97
00:03:20,149 --> 00:03:18,640
today it just goes to show what

98
00:03:21,350 --> 00:03:20,159
extensive planning and ground

99
00:03:23,430 --> 00:03:21,360
coordination

100
00:03:24,710 --> 00:03:23,440
pays off how it pays off so derek pretty

101
00:03:26,869 --> 00:03:24,720
much stole my thunder and all i had to

102
00:03:28,149 --> 00:03:26,879
say about the tasks today

103
00:03:29,430 --> 00:03:28,159
as he mentioned we got out the door and

104
00:03:31,350 --> 00:03:29,440
we started out with the misses or the

105
00:03:32,949 --> 00:03:31,360
material iss

106
00:03:34,550 --> 00:03:32,959
experiments we put those back in the

107
00:03:36,630 --> 00:03:34,560
payload bay we retrieved missy eight we

108
00:03:38,229 --> 00:03:36,640
got that installed it was taking greg

109
00:03:40,470 --> 00:03:38,239
shamatov a little bit longer on some of

110
00:03:43,110 --> 00:03:40,480
his tasks on the the cedalight install

111
00:03:45,110 --> 00:03:43,120
that derrick mentioned so once again

112
00:03:46,390 --> 00:03:45,120
exemplifying how well our team has

113
00:03:48,789 --> 00:03:46,400

worked together we were able to make a

114
00:03:50,470 --> 00:03:48,799
real-time call to go ahead and

115
00:03:52,390 --> 00:03:50,480
and uh transition the

116
00:03:54,149 --> 00:03:52,400
installation of that solar alpha rotary

117
00:03:55,429 --> 00:03:54,159
joint cover from it was originally

118
00:03:57,030 --> 00:03:55,439
planned for greg chambertof and were

119
00:03:58,550 --> 00:03:57,040
able to just flawlessly transfer that

120
00:04:00,470 --> 00:03:58,560
over and drew feustel was able to

121
00:04:02,470 --> 00:04:00,480
install that so it worked out the

122
00:04:04,229 --> 00:04:02,480
timeline worked out really well and so

123
00:04:06,309 --> 00:04:04,239
um and another one of the reasons that

124
00:04:09,509 --> 00:04:06,319
we did this was as we were

125
00:04:11,429 --> 00:04:09,519
starting to get data on the ground

126
00:04:13,670 --> 00:04:11,439
on greg's met rate and also looking at

127
00:04:15,030 --> 00:04:13,680
his o2 tank pressures we started

128
00:04:16,629 --> 00:04:15,040
thinking that in order to put ourselves

129
00:04:18,789 --> 00:04:16,639
in the best posture to be able to stay

130
00:04:20,310 --> 00:04:18,799
out as long eva as we need to to get

131
00:04:22,390 --> 00:04:20,320
these tasks complete that we would go

132
00:04:24,629 --> 00:04:22,400
ahead and complete and a recharge and

133
00:04:25,830 --> 00:04:24,639
oxygen recharge of greg's tanks so we

134
00:04:27,670 --> 00:04:25,840
were able to send him back to the

135
00:04:29,430 --> 00:04:27,680
airlock while drew was working on

136
00:04:31,670 --> 00:04:29,440
installing that sarge cover to allow

137
00:04:33,270 --> 00:04:31,680
greg to do that o2 recharge

138
00:04:35,030 --> 00:04:33,280

so then both crew members headed out to

139
00:04:37,189 --> 00:04:35,040
the port side of the truss and worked on

140
00:04:38,950 --> 00:04:37,199
installing the jumper that spanned the

141
00:04:41,670 --> 00:04:38,960
sarge then we vented the nitrogen from

142
00:04:43,990 --> 00:04:41,680
the the p1 ata panel all the way out to

143
00:04:45,830 --> 00:04:44,000
the p5 junction we vented that nitrogen

144
00:04:48,070 --> 00:04:45,840
and then drew headed further out board

145
00:04:49,590 --> 00:04:48,080
to vent the nitrogen from the eas

146
00:04:51,030 --> 00:04:49,600
jumpers as we call them the final

147
00:04:52,710 --> 00:04:51,040
jumpers that will lead to the

148
00:04:54,469 --> 00:04:52,720
photovoltaic thermal control system or

149
00:04:57,110 --> 00:04:54,479
pvtcs that we will be refilling with

150
00:04:59,510 --> 00:04:57,120
ammonia on ev82 once drew was complete

151
00:05:01,110 --> 00:04:59,520
with that task greg temps stowed that

152
00:05:03,510 --> 00:05:01,120
jumper so it's partially installed on

153
00:05:05,350 --> 00:05:03,520
the p4 side and wire tied out there to

154
00:05:07,830 --> 00:05:05,360
allow rotation of the solar alpha rotary

155
00:05:09,909 --> 00:05:07,840
joint between the evas we then headed

156
00:05:11,670 --> 00:05:09,919
off to the lab as derek mentioned to

157
00:05:13,590 --> 00:05:11,680
install those antennas

158
00:05:15,110 --> 00:05:13,600
greg worked diligently to remove those

159
00:05:17,029 --> 00:05:15,120
handrails and install those two new

160
00:05:19,189 --> 00:05:17,039
antennas while drew worked underneath

161
00:05:20,629 --> 00:05:19,199
the the lab to start setting up the work

162
00:05:22,710 --> 00:05:20,639
site and setting up the cables and it

163
00:05:24,710 --> 00:05:22,720

was about that time it was actually a a

164
00:05:26,390 --> 00:05:24,720
p e t or face elapsed time into the eva

165
00:05:28,550 --> 00:05:26,400
of four hours and 30 minutes that we

166
00:05:32,310 --> 00:05:28,560
heard the words from greg saying i got a

167
00:05:33,830 --> 00:05:32,320
co2 sensor bad message so that was what

168
00:05:35,430 --> 00:05:33,840
forced us to eventually kind of replay

169
00:05:38,390 --> 00:05:35,440
on the end of the eva so we had set

170
00:05:40,469 --> 00:05:38,400
ourselves up nicely to begin with by by

171
00:05:41,990 --> 00:05:40,479
doing the o2 recharge on greg but then

172
00:05:44,230 --> 00:05:42,000
it got the better of us when we had the

173
00:05:46,230 --> 00:05:44,240
co2 sensor fail so we had actually

174
00:05:47,990 --> 00:05:46,240
discussed this on the ground different

175
00:05:50,550 --> 00:05:48,000
breakout points in the eva so the crew

176
00:05:52,629 --> 00:05:50,560
was the crew and the ground team were

177
00:05:54,150 --> 00:05:52,639
definitely ready to go ahead and say

178
00:05:55,430 --> 00:05:54,160
let's not open that micrometeoroid

179
00:05:57,029 --> 00:05:55,440
debris shield and break into those

180
00:05:58,790 --> 00:05:57,039
cables let's just go ahead and temp stow

181
00:05:59,990 --> 00:05:58,800
it and put it on a future eva so

182
00:06:01,350 --> 00:06:00,000
everyone understood that this was a

183
00:06:03,350 --> 00:06:01,360
possibility and so i'm very glad that we

184
00:06:05,590 --> 00:06:03,360
had those discussions on the ground so

185
00:06:07,029 --> 00:06:05,600
we spent the rest of the eva we had greg

186
00:06:08,550 --> 00:06:07,039
cleaning up the work site and mating a

187
00:06:10,629 --> 00:06:08,560
few additional connectors and then we

188
00:06:12,629 --> 00:06:10,639

sent drew off to the airlock to the

189
00:06:15,029 --> 00:06:12,639
ventual extension bag to perform some

190
00:06:17,270 --> 00:06:15,039
relocation of tools and preparation for

191
00:06:19,110 --> 00:06:17,280
the ammonia fill on ev8 ii

192
00:06:22,950 --> 00:06:19,120
so with that we ended at a p-e-t i think

193
00:06:24,710 --> 00:06:22,960
it was 6 19 was the duration for our eva

194
00:06:26,629 --> 00:06:24,720
and like i said i couldn't be more proud

195
00:06:27,909 --> 00:06:26,639
of the crew and the team that's all i

196
00:06:30,309 --> 00:06:27,919
have

197
00:06:31,670 --> 00:06:30,319
okay thank you we'll start off with

198
00:06:33,110 --> 00:06:31,680
questions here at the johnson space

199
00:06:35,270 --> 00:06:33,120
center and then

200
00:06:37,029 --> 00:06:35,280
move on to some other locations

201
00:06:38,309 --> 00:06:37,039
including the phone bridge

202
00:06:43,670 --> 00:06:38,319
seth

203
00:06:46,469 --> 00:06:43,680
uh allison in terms of the

204
00:06:48,629 --> 00:06:46,479
problem with the greg's suit

205
00:06:50,230 --> 00:06:48,639
was it have you determined the cause for

206
00:06:52,629 --> 00:06:50,240
the sensor i mean is moisture the

207
00:06:54,710 --> 00:06:52,639
leading suspect it sounds like and two

208
00:06:55,830 --> 00:06:54,720
did you determine whether there was any

209
00:06:58,870 --> 00:06:55,840
excess

210
00:06:59,990 --> 00:06:58,880
co2 um in it or not or not i guess

211
00:07:01,830 --> 00:07:00,000
that's a good point so when the crew

212
00:07:03,670 --> 00:07:01,840
member receives that message that says

213
00:07:05,189 --> 00:07:03,680

co2 sensor bad message they initially

214
00:07:07,029 --> 00:07:05,199
flip to their cuff checklist which

215
00:07:08,950 --> 00:07:07,039
basically tells them that the crew is

216
00:07:11,029 --> 00:07:08,960
now responsible for monitoring their own

217
00:07:12,550 --> 00:07:11,039
co2 symptoms so we made greg aware of

218
00:07:14,469 --> 00:07:12,560
that and we said let us know if you have

219
00:07:17,110 --> 00:07:14,479
if you experience any co2 issues and he

220
00:07:18,870 --> 00:07:17,120
never reported any and we up until that

221
00:07:22,070 --> 00:07:18,880
point we had every every indication to

222
00:07:23,510 --> 00:07:22,080
believe that his his lye or the the the

223
00:07:25,589 --> 00:07:23,520
contamination control cartridge in his

224
00:07:27,350 --> 00:07:25,599
suit was was working perfect perfectly

225
00:07:29,029 --> 00:07:27,360
normally so everything was fine from

226
00:07:31,189 --> 00:07:29,039
that aspect

227
00:07:32,790 --> 00:07:31,199
um so we yeah so we made him told him

228
00:07:34,230 --> 00:07:32,800
that he was primed for the co2 symptoms

229
00:07:36,309 --> 00:07:34,240
and as you mentioned moisture is the

230
00:07:37,749 --> 00:07:36,319
leading cause this is an infrared sensor

231
00:07:39,430 --> 00:07:37,759
so if you get a little droplet of water

232
00:07:40,950 --> 00:07:39,440
and it cause that causes that sensor to

233
00:07:43,510 --> 00:07:40,960
go off scale high and that's what

234
00:07:45,430 --> 00:07:43,520
triggers that co2 sensor bad message so

235
00:07:47,110 --> 00:07:45,440
we have seen this before on other emu's

236
00:07:49,029 --> 00:07:47,120
including this particular emu when it

237
00:07:51,110 --> 00:07:49,039
was used for the pump module

238
00:07:52,469 --> 00:07:51,120

activities last summer so we have seen

239
00:07:54,629 --> 00:07:52,479
this before and it is due to excess

240
00:07:56,230 --> 00:07:54,639
moisture and greg did mention as he was

241
00:07:57,589 --> 00:07:56,240
egressing his suit that there was excess

242
00:07:59,189 --> 00:07:57,599
moisture in his suit so we are looking

243
00:08:00,790 --> 00:07:59,199
into the cause of that and hopefully

244
00:08:04,070 --> 00:08:00,800
we'll be able to uh to solve that

245
00:08:06,629 --> 00:08:04,080
problem for his next eva which is eva4

246
00:08:07,990 --> 00:08:06,639
and and that emu isn't used until

247
00:08:10,790 --> 00:08:08,000
um

248
00:08:13,670 --> 00:08:10,800
eva4 that's correct and in in terms and

249
00:08:15,189 --> 00:08:13,680
you didn't see any indications of

250
00:08:16,629 --> 00:08:15,199
afterwards of

251
00:08:18,790 --> 00:08:16,639
excess

252
00:08:20,070 --> 00:08:18,800
co2 but then we had lost insight into it

253
00:08:21,510 --> 00:08:20,080
and so we were just relying on the crew

254
00:08:25,189 --> 00:08:21,520
members feedback and he didn't report

255
00:08:27,670 --> 00:08:25,199
anything so if you put this into eva3

256
00:08:29,189 --> 00:08:27,680
what was missing how much does that add

257
00:08:31,510 --> 00:08:29,199
to your timeline is it 40 i mean i

258
00:08:33,190 --> 00:08:31,520
remember this was a 45 minute task

259
00:08:34,870 --> 00:08:33,200
that's correct it was it's a 45 minute

260
00:08:36,870 --> 00:08:34,880
task and so we'll add about that time

261
00:08:38,949 --> 00:08:36,880
plus maybe a few minutes on either end

262
00:08:41,750 --> 00:08:38,959
for the translation to the work site so

263
00:08:43,829 --> 00:08:41,760

between 40 and maybe 45 or

264
00:08:45,509 --> 00:08:43,839
between 45 and an hour that we would add

265
00:08:48,230 --> 00:08:45,519
so i'm forgiving i don't remember how

266
00:08:50,070 --> 00:08:48,240
much the eva 3 timeline is it's a full

267
00:08:51,829 --> 00:08:50,080
six and a half hour eva so we still have

268
00:08:53,910 --> 00:08:51,839
to have future discussions about overall

269
00:08:56,070 --> 00:08:53,920
mission priorities and what tasks we

270
00:08:59,269 --> 00:08:56,080
will need to defer from this eva can you

271
00:09:01,430 --> 00:08:59,279
go just to seven and a half hours

272
00:09:03,750 --> 00:09:01,440
it depends on how consumables are are

273
00:09:06,070 --> 00:09:03,760
looking so uh like we always plan our

274
00:09:07,430 --> 00:09:06,080
evas to six and a half hours so we'll

275
00:09:08,550 --> 00:09:07,440
just have to see how consumables go on

276
00:09:10,790 --> 00:09:08,560
the day and we have to take into

277
00:09:13,190 --> 00:09:10,800
consideration you know other flight day

278
00:09:14,870 --> 00:09:13,200
aspects crew day length durations and

279
00:09:17,670 --> 00:09:14,880
i'm sure derek could could answer more

280
00:09:19,430 --> 00:09:17,680
on that but sometimes we can go um we

281
00:09:21,590 --> 00:09:19,440
can go longer than 6 30 but we just have

282
00:09:23,910 --> 00:09:21,600
to see but before the eva we will not

283
00:09:26,630 --> 00:09:23,920
plan to longer than a 6 30. so we will

284
00:09:30,790 --> 00:09:26,640
have to defer some tasks from eva 3 if

285
00:09:42,870 --> 00:09:32,470
okay we're getting the microphone to our

286
00:09:46,389 --> 00:09:44,470
when you were getting out of the suits

287
00:09:47,110 --> 00:09:46,399
um it looked like they were looking at

288
00:09:49,509 --> 00:09:47,120

the

289
00:09:50,870 --> 00:09:49,519
greg's gloves a little a little more

290
00:09:52,070 --> 00:09:50,880
closely did was there something that

291
00:09:53,509 --> 00:09:52,080
they saw there

292
00:09:55,590 --> 00:09:53,519
i think that was just part of the normal

293
00:09:56,870 --> 00:09:55,600
after each eva we do we take extensive

294
00:09:58,470 --> 00:09:56,880
glove photos and the crew members are

295
00:10:00,470 --> 00:09:58,480
still pressurized so we can look if

296
00:10:02,230 --> 00:10:00,480
there was any damage to the rtv or any

297
00:10:06,550 --> 00:10:02,240
damage to their glove so that was just

298
00:10:11,110 --> 00:10:08,310
thanks mark caro for aviation week i

299
00:10:13,350 --> 00:10:11,120
think it's for allison um

300
00:10:15,190 --> 00:10:13,360
where is a sensor and when you say water

301
00:10:17,670 --> 00:10:15,200
do you mean like cooling loop water or

302
00:10:19,829 --> 00:10:17,680
perspiration or unknown or

303
00:10:21,910 --> 00:10:19,839
where is the sensor

304
00:10:23,350 --> 00:10:21,920
somewhere in his backpack

305
00:10:25,190 --> 00:10:23,360
i can't tell you it's somewhere in the

306
00:10:28,630 --> 00:10:25,200
place the the life support system on the

307
00:10:30,710 --> 00:10:28,640
back and the water can be it can be

308
00:10:31,350 --> 00:10:30,720
many things it could be either just you

309
00:10:32,949 --> 00:10:31,360
know

310
00:10:34,790 --> 00:10:32,959
exhalation water or it could be

311
00:10:36,230 --> 00:10:34,800
perspiration or it could be from from

312
00:10:38,389 --> 00:10:36,240
the cooling loop itself there's

313
00:10:39,750 --> 00:10:38,399

sometimes water in that that can be

314
00:10:41,030 --> 00:10:39,760
through when the fresh air comes over to

315
00:10:42,150 --> 00:10:41,040
the crew members it can also have some

316
00:10:44,310 --> 00:10:42,160
water in it so we're not really sure

317
00:10:45,670 --> 00:10:44,320
where the water came from and i realize

318
00:10:47,750 --> 00:10:45,680
you guys have gotten pretty good at

319
00:10:49,110 --> 00:10:47,760
troubleshooting various parts of the

320
00:10:51,910 --> 00:10:49,120
spacesuit and

321
00:10:54,470 --> 00:10:51,920
refurbishing and so forth on orbit is

322
00:10:56,949 --> 00:10:54,480
this the kind of thing that you can do

323
00:10:58,230 --> 00:10:56,959
do you think or is that kind of to be

324
00:11:00,069 --> 00:10:58,240
determined

325
00:11:03,030 --> 00:11:00,079
actually we do have we have just

326
00:11:04,790 --> 00:11:03,040
recently started flying uh new co2

327
00:11:06,550 --> 00:11:04,800
sensors and they are currently

328
00:11:08,389 --> 00:11:06,560
developing a procedure to remove and

329
00:11:09,990 --> 00:11:08,399
replace that cos2 sensor but that

330
00:11:11,350 --> 00:11:10,000
procedure has not yet been developed so

331
00:11:13,670 --> 00:11:11,360
we're just looking for

332
00:11:15,590 --> 00:11:13,680
post shuttle retirement you know ways we

333
00:11:19,430 --> 00:11:15,600
can maintain suits on the space station

334
00:11:21,509 --> 00:11:19,440
so that procedure isn't ready to go yet

335
00:11:23,190 --> 00:11:21,519
okay rob hi robert perlman with

336
00:11:26,470 --> 00:11:23,200
collectspace.com

337
00:11:28,230 --> 00:11:26,480
with regards to the wireless antennas if

338
00:11:30,389 --> 00:11:28,240

you weren't able to get to that what

339
00:11:32,389 --> 00:11:30,399
systems would not be reachable via or

340
00:11:34,949 --> 00:11:32,399
what does this ex what what payloads

341
00:11:36,710 --> 00:11:34,959
does this do these new antennas extend

342
00:11:40,550 --> 00:11:36,720
out to what does it enable the

343
00:11:45,190 --> 00:11:42,870
it's a it's a system that's designed to

344
00:11:48,550 --> 00:11:45,200
communicate with payloads and hardware

345
00:11:52,069 --> 00:11:48,560
on the elc's and the esps the external

346
00:11:53,590 --> 00:11:52,079
pallets on on the truss and it's um

347
00:11:56,230 --> 00:11:53,600
it's not a critical system that's

348
00:11:57,590 --> 00:11:56,240
required to operate those boxes today

349
00:12:01,590 --> 00:11:57,600
it's a

350
00:12:05,030 --> 00:12:01,600
capability we have today

351
00:12:06,710 --> 00:12:05,040
so in regards to prior prioritizing what

352
00:12:08,310 --> 00:12:06,720
going back and doing this task versus

353
00:12:09,750 --> 00:12:08,320
the other tests that were scheduled on

354
00:12:11,829 --> 00:12:09,760
the cva

355
00:12:13,110 --> 00:12:11,839
do the antennas rank pretty high or is

356
00:12:15,590 --> 00:12:13,120
it something that you could

357
00:12:16,870 --> 00:12:15,600
save for a stage eba later

358
00:12:19,590 --> 00:12:16,880
it's something that could be done on a

359
00:12:21,910 --> 00:12:19,600
stage eva but in order to install the

360
00:12:24,310 --> 00:12:21,920
antennas we have to take down one of our

361
00:12:26,069 --> 00:12:24,320
communication loops so it's ideal to

362
00:12:27,670 --> 00:12:26,079
perform the task with the shuttle dock

363
00:12:29,430 --> 00:12:27,680

because we have their communication

364
00:12:30,629 --> 00:12:29,440
loops as a backup so that's one reason

365
00:12:32,870 --> 00:12:30,639
we'd like to do it during the dock

366
00:12:35,269 --> 00:12:32,880
mission and just purely in terms of

367
00:12:41,430 --> 00:12:35,279
priorities it ranks higher than a number

368
00:12:45,430 --> 00:12:43,670
genus and sarah abc news for allison

369
00:12:46,710 --> 00:12:45,440
would you mind teeing up the next space

370
00:12:47,990 --> 00:12:46,720
walk for us

371
00:12:50,230 --> 00:12:48,000
for sure

372
00:12:52,949 --> 00:12:50,240
so eva 2 we have drew feustel and mike

373
00:12:54,790 --> 00:12:52,959
fink going out the door

374
00:12:57,190 --> 00:12:54,800
the there are two main purposes on this

375
00:13:00,150 --> 00:12:57,200
spacewalk one is to perform the ammonia

376
00:13:02,069 --> 00:13:00,160
refill of that p6 pvtcs the photovoltaic

377
00:13:04,150 --> 00:13:02,079
thermal control system that i spoke of

378
00:13:05,910 --> 00:13:04,160
so we initially we go out there we hook

379
00:13:08,550 --> 00:13:05,920
up the jumpers essentially the pipeline

380
00:13:10,389 --> 00:13:08,560
that runs out to p6 we initially start

381
00:13:11,990 --> 00:13:10,399
flowing ammonia from the port side

382
00:13:13,990 --> 00:13:12,000
ammonia tank assembly and we do a leak

383
00:13:15,990 --> 00:13:14,000
check to verify that we have a good that

384
00:13:17,430 --> 00:13:16,000
we have a good pipeline running out

385
00:13:19,190 --> 00:13:17,440
almost to p6 and then once we've

386
00:13:21,430 --> 00:13:19,200
verified we have a good pipeline we give

387
00:13:23,829 --> 00:13:21,440
the we give drew a go to start refilling

388
00:13:25,910 --> 00:13:23,839

the pvtcs itself

389
00:13:29,430 --> 00:13:25,920
while that's while he's working on that

390
00:13:32,310 --> 00:13:29,440
mike fink is working on the port sarge

391
00:13:33,269 --> 00:13:32,320
re-lubrication so he will remove sarge

392
00:13:36,710 --> 00:13:33,279
covers

393
00:13:39,509 --> 00:13:36,720
re-lubrication using two different

394
00:13:41,189 --> 00:13:39,519
styles of grease guns underneath that so

395
00:13:42,550 --> 00:13:41,199
while once drew is complete with the

396
00:13:44,069 --> 00:13:42,560
fill he'll then set up to vent the

397
00:13:46,230 --> 00:13:44,079
ammonia because we need to event vent

398
00:13:48,150 --> 00:13:46,240
the ammonia from those jumpers so he'll

399
00:13:49,670 --> 00:13:48,160
he'll set up the vent tool and the vent

400
00:13:51,590 --> 00:13:49,680
tool extension and then he'll start

401
00:13:53,750 --> 00:13:51,600
initially we have a longer a 17 minute

402
00:13:56,389 --> 00:13:53,760
vent which events the ammonia from p6

403
00:13:58,310 --> 00:13:56,399
back to the the p1 ata while that vents

404
00:14:00,389 --> 00:13:58,320
on going he stops by and helps mike out

405
00:14:01,829 --> 00:14:00,399
for a bit with the sarge lube once the

406
00:14:04,310 --> 00:14:01,839
vents complete he then heads back

407
00:14:07,590 --> 00:14:04,320
outboard to vent the smaller jumper that

408
00:14:09,829 --> 00:14:07,600
runs to the p6 pvtcs one once both crew

409
00:14:11,910 --> 00:14:09,839
members are complete with the venting

410
00:14:13,990 --> 00:14:11,920
ops and the sarge lubrication ops they

411
00:14:16,790 --> 00:14:14,000
work together to restow the jumper that

412
00:14:18,949 --> 00:14:16,800
spans the p3p4 sarge so once they get

413
00:14:20,470 --> 00:14:18,959

that jumper stowed both crew members

414
00:14:23,030 --> 00:14:20,480
move inboard and we start rotating the

415
00:14:25,430 --> 00:14:23,040
sarge 200 degrees which sets us up for

416
00:14:27,829 --> 00:14:25,440
the second part of the sarge lubrication

417
00:14:30,150 --> 00:14:27,839
while the surge lubrication is ongoing

418
00:14:33,269 --> 00:14:30,160
drew is working on dexter he is

419
00:14:35,030 --> 00:14:33,279
installing a lens cover a cla lens cover

420
00:14:37,430 --> 00:14:35,040
on the camera on dexter's latching end

421
00:14:38,790 --> 00:14:37,440
effector and he's also using this one of

422
00:14:40,710 --> 00:14:38,800
the same grease guns that we used for

423
00:14:43,030 --> 00:14:40,720
the sarge lube to grease the latching

424
00:14:45,110 --> 00:14:43,040
end effector meanwhile mike is working

425
00:14:47,430 --> 00:14:45,120
on installing the s1 radiator grapple

426
00:14:49,590 --> 00:14:47,440
bar stowage beams which will be used to

427
00:14:50,949 --> 00:14:49,600
hold radio grapple bars in the future

428
00:14:52,949 --> 00:14:50,959
once the crew members are complete with

429
00:14:54,470 --> 00:14:52,959
that task and we're done with the sarge

430
00:14:56,629 --> 00:14:54,480
rotation both crew members head back

431
00:14:58,710 --> 00:14:56,639
outboard to the port sarge and work

432
00:15:00,870 --> 00:14:58,720
together to complete the second sarge

433
00:15:05,189 --> 00:15:00,880
lubrication they reinstall those six

434
00:15:05,199 --> 00:15:10,389
okay any more questions here in houston

435
00:15:13,509 --> 00:15:12,310
phillips loss with nasaspaceflight.com

436
00:15:15,910 --> 00:15:13,519
again um

437
00:15:18,230 --> 00:15:15,920
for allison for

438
00:15:21,110 --> 00:15:18,240

for doing the replanting uh i assume for

439
00:15:23,990 --> 00:15:21,120
ava3 for this uh to finish the ewc

440
00:15:25,509 --> 00:15:24,000
wireless install task um are you are you

441
00:15:27,829 --> 00:15:25,519
going to save that basically until after

442
00:15:29,350 --> 00:15:27,839
you get done with the second eva

443
00:15:30,629 --> 00:15:29,360
and then also

444
00:15:32,150 --> 00:15:30,639
who are the

445
00:15:34,470 --> 00:15:32,160
i assume the eva

446
00:15:35,990 --> 00:15:34,480
crew are all cross-trained so

447
00:15:37,590 --> 00:15:36,000
this would be different slightly

448
00:15:39,910 --> 00:15:37,600
different evie crew yeah that's a great

449
00:15:41,670 --> 00:15:39,920
point yeah so on on eva one you know it

450
00:15:43,829 --> 00:15:41,680
was drew feustel and greg chamotov and

451
00:15:45,670 --> 00:15:43,839
eva iii is drew feustel and mike fink

452
00:15:47,829 --> 00:15:45,680
and so we were fortunate and that the

453
00:15:49,030 --> 00:15:47,839
number of you know the extensive

454
00:15:51,110 --> 00:15:49,040
training that we've done we've been able

455
00:15:52,870 --> 00:15:51,120
to add in a cross-training run so all

456
00:15:54,550 --> 00:15:52,880
crew have been trained on pretty much

457
00:15:55,590 --> 00:15:54,560
all of the tasks

458
00:15:57,829 --> 00:15:55,600
so

459
00:15:59,670 --> 00:15:57,839
we have to continually work in the eva

460
00:16:02,230 --> 00:15:59,680
world we never have a moment's rest so

461
00:16:03,910 --> 00:16:02,240
while the prime team is focused on eva2

462
00:16:07,269 --> 00:16:03,920
we'll have our planning shifts and other

463
00:16:08,629 --> 00:16:07,279

teams working on re-planning eva 3 so we

464
00:16:10,150 --> 00:16:08,639
were able to have a brief discussion

465
00:16:11,430 --> 00:16:10,160
with the crew today and kind of got some

466
00:16:13,110 --> 00:16:11,440
thoughts on where they would like to put

467
00:16:14,870 --> 00:16:13,120
the task and once we understand from the

468
00:16:16,629 --> 00:16:14,880
program the overall mission priorities

469
00:16:17,910 --> 00:16:16,639
we'll start working on that replan but

470
00:16:21,350 --> 00:16:17,920
it'll be going on in the background

471
00:16:23,189 --> 00:16:21,360
during the eva2 preparations

472
00:16:25,990 --> 00:16:23,199
seth bernstein ap

473
00:16:28,790 --> 00:16:26,000
um i guess for derek what is the bottom

474
00:16:30,870 --> 00:16:28,800
of the priority list in eva 3

475
00:16:32,629 --> 00:16:30,880
and you know essentially what could be

476
00:16:35,590 --> 00:16:32,639
bumped

477
00:16:37,990 --> 00:16:35,600
we've got uh two main tasks on eba 3

478
00:16:40,870 --> 00:16:38,000
we're installing a a power data grapple

479
00:16:43,509 --> 00:16:40,880
fixture on the fgb and then installing

480
00:16:45,030 --> 00:16:43,519
the cabling the 1553 data cable and the

481
00:16:47,990 --> 00:16:45,040
power cable to that

482
00:16:49,749 --> 00:16:48,000
to that pdgf and we're also installing

483
00:16:51,509 --> 00:16:49,759
we're basically rewiring the flow of

484
00:16:53,509 --> 00:16:51,519
power from the us segment to the russian

485
00:16:55,430 --> 00:16:53,519
segment by installing two sets of what

486
00:16:56,629 --> 00:16:55,440
we call y cables

487
00:16:59,189 --> 00:16:56,639
and

488
00:17:01,670 --> 00:16:59,199

the the priority for the y cable work is

489
00:17:03,189 --> 00:17:01,680
higher than the pdgf work

490
00:17:05,590 --> 00:17:03,199
so so again we need to go off and look

491
00:17:07,510 --> 00:17:05,600
at the details of this and and

492
00:17:08,789 --> 00:17:07,520
and uh talk about the priorities and

493
00:17:10,870 --> 00:17:08,799
anything that's changed since we've

494
00:17:13,029 --> 00:17:10,880
launched but it's likely that we would

495
00:17:16,230 --> 00:17:13,039
look at some of these uh

496
00:17:18,230 --> 00:17:16,240
the tasks associated with the fgb power

497
00:17:19,829 --> 00:17:18,240
data grapple fixture you know we can get

498
00:17:22,069 --> 00:17:19,839
for example we can structurally install

499
00:17:24,069 --> 00:17:22,079
the pdgf and then maybe we don't get the

500
00:17:26,150 --> 00:17:24,079
cables installed

501
00:17:28,069 --> 00:17:26,160
or alternatively we can install a

502
00:17:31,350 --> 00:17:28,079
portion of the wide jumper so those are

503
00:17:33,350 --> 00:17:31,360
the kind of trades we need to do

504
00:17:35,669 --> 00:17:33,360
okay thanks uh we're gonna go now to our

505
00:17:37,669 --> 00:17:35,679
phone bridge calls and uh take questions

506
00:17:40,870 --> 00:17:37,679
from those reporters uh let's start off

507
00:17:42,950 --> 00:17:40,880
with uh space launch news

508
00:17:45,029 --> 00:17:42,960
oh good afternoon can you hear me okay

509
00:17:48,310 --> 00:17:45,039
we can hear you fine

510
00:17:50,470 --> 00:17:48,320
thank you so much.com examiner.com for

511
00:17:52,070 --> 00:17:50,480
derek as the flight director could you

512
00:17:53,590 --> 00:17:52,080
share your thoughts on uh tomorrow

513
00:17:56,310 --> 00:17:53,600

morning's special call from pope

514
00:17:58,470 --> 00:17:56,320
benedict the 16th um as his holiness

515
00:18:00,390 --> 00:17:58,480
calls the space station crews from the

516
00:18:02,070 --> 00:18:00,400
vatican

517
00:18:03,350 --> 00:18:02,080
yeah you know that

518
00:18:05,510 --> 00:18:03,360
this uh

519
00:18:06,390 --> 00:18:05,520
this flight has been a series of firsts

520
00:18:07,830 --> 00:18:06,400
and

521
00:18:10,070 --> 00:18:07,840
you know we i guess we first started

522
00:18:12,310 --> 00:18:10,080
talking about this phone call

523
00:18:15,830 --> 00:18:12,320
a few weeks ago and when we had the

524
00:18:17,110 --> 00:18:15,840
launch delay it was there was doubts or

525
00:18:18,950 --> 00:18:17,120
questions about whether it still

526
00:18:20,789 --> 00:18:18,960
happened so i'm just i'm personally

527
00:18:22,390 --> 00:18:20,799
thrilled and honored that uh that we

528
00:18:24,630 --> 00:18:22,400
found a way to make it happen i mean

529
00:18:31,350 --> 00:18:24,640
it's a pretty amazing event and a series

530
00:18:31,360 --> 00:18:38,310
i believe it is

531
00:18:42,310 --> 00:18:40,870
okay charles any further questions

532
00:18:45,350 --> 00:18:42,320
well that's all thank you all right

533
00:18:46,789 --> 00:18:45,360
we'll go on to denise ciao

534
00:18:48,470 --> 00:18:46,799
hi um

535
00:18:50,789 --> 00:18:48,480
just i know you said that the timeline

536
00:18:52,470 --> 00:18:50,799
for eva2 would likely stay intact but

537
00:18:54,710 --> 00:18:52,480
i'm just wondering if um

538
00:18:56,630 --> 00:18:54,720

not having the the cables complete um

539
00:18:57,990 --> 00:18:56,640
for eva one does that impact any of the

540
00:18:59,990 --> 00:18:58,000
tasks at all that will be carried out in

541
00:19:01,909 --> 00:19:00,000
the second spacewalk

542
00:19:04,470 --> 00:19:01,919
no it does not impact any of the tasks

543
00:19:06,789 --> 00:19:04,480
on the eva ii timeline

544
00:19:08,230 --> 00:19:06,799
okay and just a note for clarification

545
00:19:10,150 --> 00:19:08,240
did you say that the most recent time

546
00:19:12,070 --> 00:19:10,160
that you saw this issue of the co2

547
00:19:13,990 --> 00:19:12,080
sensor and excess moisture was on the

548
00:19:16,390 --> 00:19:14,000
ammonia pump replacement

549
00:19:19,110 --> 00:19:16,400
that was correct that happened last

550
00:19:21,190 --> 00:19:19,120
summer was it july or august of 2010 was

551
00:19:25,830 --> 00:19:21,200
the the last time that we saw that this

552
00:19:25,840 --> 00:19:28,390
great thank you

553
00:19:33,590 --> 00:19:31,990
i think next on our list is james dean

554
00:19:35,190 --> 00:19:33,600
hi thank you very much james same with

555
00:19:36,310 --> 00:19:35,200
florida today

556
00:19:39,430 --> 00:19:36,320
alison

557
00:19:41,830 --> 00:19:39,440
regarding the greg's oxygen recharge

558
00:19:43,909 --> 00:19:41,840
that was described as being

559
00:19:46,470 --> 00:19:43,919
fairly common or not uncommon for a

560
00:19:48,630 --> 00:19:46,480
first-time spacewalker why is that

561
00:19:50,390 --> 00:19:48,640
and it's not just for uh first-time

562
00:19:51,909 --> 00:19:50,400
spacewalkers it's basically it's all

563
00:19:53,590 --> 00:19:51,919

based on your metabolic rate and just

564
00:19:55,909 --> 00:19:53,600
you as a human how much oxygen you

565
00:19:58,549 --> 00:19:55,919
consume so we see these o2 recharges

566
00:20:00,630 --> 00:19:58,559
happening quite frequently on evas as

567
00:20:02,630 --> 00:20:00,640
the evas get more complex and we start

568
00:20:04,470 --> 00:20:02,640
running towards the end sometimes

569
00:20:06,149 --> 00:20:04,480
extending beyond six hours and 30

570
00:20:07,590 --> 00:20:06,159
minutes we just on the ground like to be

571
00:20:09,110 --> 00:20:07,600
proactive and go ahead and get that out

572
00:20:12,070 --> 00:20:09,120
to recharge to ensure that we have the

573
00:20:13,510 --> 00:20:12,080
most oxygen available to us so it's it's

574
00:20:15,909 --> 00:20:13,520
not uncommon to see it i don't think

575
00:20:19,190 --> 00:20:15,919
it's specifically uh linked to

576
00:20:22,789 --> 00:20:20,549
thanks and and then just a couple of

577
00:20:27,190 --> 00:20:22,799
questions about the um

578
00:20:28,950 --> 00:20:27,200
the eva2 work with the coolant loop um

579
00:20:31,750 --> 00:20:28,960
i know it's described as a very small

580
00:20:33,350 --> 00:20:31,760
leak and you're refilling about five

581
00:20:34,950 --> 00:20:33,360
pounds i believe of

582
00:20:37,270 --> 00:20:34,960
ammonia could you just could you offer

583
00:20:39,110 --> 00:20:37,280
any uh more context on

584
00:20:40,390 --> 00:20:39,120
this the size of this leak i guess the

585
00:20:43,029 --> 00:20:40,400
the

586
00:20:45,430 --> 00:20:43,039
capacity of this loop how much

587
00:20:47,350 --> 00:20:45,440
you're adding to it and how long that

588
00:20:50,310 --> 00:20:47,360

supply would last if you didn't refill

589
00:20:55,350 --> 00:20:53,190
yeah that uh it's a leak that's not

590
00:20:56,630 --> 00:20:55,360
likely to be observable with the human

591
00:20:58,230 --> 00:20:56,640
eye

592
00:21:00,230 --> 00:20:58,240
or with you know any of the video

593
00:21:03,350 --> 00:21:00,240
cameras that we have on the truss

594
00:21:05,110 --> 00:21:03,360
so it's you know i guess i would term it

595
00:21:07,350 --> 00:21:05,120
almost imperceptible in terms of what

596
00:21:09,750 --> 00:21:07,360
what we can do with an eva inspection

597
00:21:11,909 --> 00:21:09,760
for example or with any the assets we

598
00:21:13,510 --> 00:21:11,919
have on the station and i i don't have

599
00:21:15,750 --> 00:21:13,520
the answer for the total capacity of the

600
00:21:16,950 --> 00:21:15,760
loop but i can i can certainly get that

601
00:21:19,190 --> 00:21:16,960
and

602
00:21:21,750 --> 00:21:19,200
what uh what folks think is that if we

603
00:21:24,789 --> 00:21:21,760
were not to refill it that something on

604
00:21:25,990 --> 00:21:24,799
the order of uh 18 months to two years

605
00:21:27,750 --> 00:21:26,000
that the

606
00:21:29,909 --> 00:21:27,760
the quantity of the loop would fall to a

607
00:21:32,630 --> 00:21:29,919
level where the loop would no longer be

608
00:21:34,549 --> 00:21:32,640
able to perform

609
00:21:36,870 --> 00:21:34,559
thanks a lot and then finally i just

610
00:21:39,350 --> 00:21:36,880
want to confirm if the the refill is

611
00:21:41,270 --> 00:21:39,360
that triggered by

612
00:21:43,430 --> 00:21:41,280
the space walkers or down on the ground

613
00:21:46,549 --> 00:21:43,440

and also wondered if you could just kind

614
00:21:48,070 --> 00:21:46,559
of refresh uh for us why ammonia is

615
00:21:51,590 --> 00:21:48,080
always such a tricky substance to work

616
00:21:55,669 --> 00:21:53,750
what was the first part of the question

617
00:21:56,830 --> 00:21:55,679
the ammonia refill is it triggered on

618
00:22:01,669 --> 00:21:56,840
the

619
00:22:02,710 --> 00:22:01,679
members actually activate that okay

620
00:22:04,630 --> 00:22:02,720
that's a good question it's actually

621
00:22:06,710 --> 00:22:04,640
it's a tag team between the eva crew

622
00:22:08,230 --> 00:22:06,720
members and the ground so the eva crew

623
00:22:10,549 --> 00:22:08,240
members are the guys who are actually

624
00:22:12,390 --> 00:22:10,559
out there physically manipulating the

625
00:22:14,310 --> 00:22:12,400
the fluid quick disconnects that run

626
00:22:17,350 --> 00:22:14,320
from the ammonia tank all the way out to

627
00:22:19,029 --> 00:22:17,360
the p6 pbtcs but it's ultimately uh the

628
00:22:21,029 --> 00:22:19,039
thor console position here on the ground

629
00:22:22,950 --> 00:22:21,039
that that will open up the ammonia tank

630
00:22:25,830 --> 00:22:22,960
valve that will allow the ammonia to

631
00:22:27,029 --> 00:22:25,840
flow out to p6 so it's a coordination

632
00:22:28,950 --> 00:22:27,039
between the two

633
00:22:31,110 --> 00:22:28,960
and your second question was on ammonia

634
00:22:34,390 --> 00:22:31,120
and why it's tricky to work with

635
00:22:37,669 --> 00:22:35,909
fairly common

636
00:22:38,630 --> 00:22:37,679
when working with those lines to see

637
00:22:42,390 --> 00:22:38,640
some

638
00:22:43,990 --> 00:22:42,400

potential for the crystals i guess to

639
00:22:45,029 --> 00:22:44,000
get on contaminate the suits and i guess

640
00:22:46,789 --> 00:22:45,039
i was just asking about the the

641
00:22:49,669 --> 00:22:46,799
potential for contamination and why you

642
00:22:51,190 --> 00:22:49,679
have to be so careful with with ammonia

643
00:22:52,630 --> 00:22:51,200
and that's correct yeah ammonia is a

644
00:22:54,390 --> 00:22:52,640
hazardous substance so if we were to

645
00:22:56,149 --> 00:22:54,400
bring it into the iss environment it

646
00:22:57,909 --> 00:22:56,159
would be hazardous to the crew so we

647
00:22:59,350 --> 00:22:57,919
have procedures in place for the crew if

648
00:23:00,870 --> 00:22:59,360
they were to be contaminated by the

649
00:23:03,110 --> 00:23:00,880
ammonia or get ammonia crystals on their

650
00:23:04,549 --> 00:23:03,120
suit to perform a visual inspection and

651
00:23:05,750 --> 00:23:04,559
then help each other sublimate the

652
00:23:07,909 --> 00:23:05,760
ammonia off and then we have

653
00:23:10,149 --> 00:23:07,919
calculations that we run on the ground

654
00:23:12,070 --> 00:23:10,159
to verify that they've sublimated all

655
00:23:14,390 --> 00:23:12,080
the ammonia off and then we also perform

656
00:23:16,310 --> 00:23:14,400
a contamination test upon

657
00:23:18,149 --> 00:23:16,320
upon ingress before we enter the rest of

658
00:23:19,750 --> 00:23:18,159
the iss atmosphere to verify that we've

659
00:23:21,750 --> 00:23:19,760
baked off essentially all the ammonia

660
00:23:23,190 --> 00:23:21,760
that was on the suit and

661
00:23:24,870 --> 00:23:23,200
traditionally we've had issues with

662
00:23:27,029 --> 00:23:24,880
these ammonia tasks because the fluid

663
00:23:28,710 --> 00:23:27,039

quick disconnects are not so quick to

664
00:23:30,070 --> 00:23:28,720
disconnect and it's a lot of moving

665
00:23:31,909 --> 00:23:30,080
parts and they're kind of difficult to

666
00:23:33,590 --> 00:23:31,919
manipulate and crystals can kind of get

667
00:23:35,430 --> 00:23:33,600
hung up so we've seen quite a few

668
00:23:37,350 --> 00:23:35,440
crystals lately when we've been

669
00:23:38,870 --> 00:23:37,360
manipulating the fluid quick disconnects

670
00:23:42,070 --> 00:23:38,880
so while we feel there is a slight

671
00:23:44,470 --> 00:23:42,080
chance for ammonia contamination on eva2

672
00:23:46,390 --> 00:23:44,480
the crew has been well prepared on on

673
00:23:47,990 --> 00:23:46,400
how to how to

674
00:23:48,950 --> 00:23:48,000
how to deal with it if it were to happen

675
00:23:52,070 --> 00:23:48,960
and then how to perform those

676
00:23:53,190 --> 00:23:52,080
contamination tests on repress

677
00:23:55,510 --> 00:23:53,200
thank you

678
00:23:57,510 --> 00:23:55,520
okay we'll go on to our next uh caller

679
00:23:59,029 --> 00:23:57,520
chris voldemore

680
00:24:01,750 --> 00:23:59,039
yes thank you it's chris baltimore with

681
00:24:04,310 --> 00:24:01,760
reuters uh i realize uh these are early

682
00:24:06,950 --> 00:24:04,320
days uh for the tile inspection uh but

683
00:24:09,029 --> 00:24:06,960
just a question for allison i reckon uh

684
00:24:12,549 --> 00:24:09,039
are there any early plans or discussions

685
00:24:15,750 --> 00:24:12,559
about uh uh choreographing uh an

686
00:24:18,070 --> 00:24:15,760
additional spacewalk uh for uh

687
00:24:19,110 --> 00:24:18,080
an inspection should one be necessary

688
00:24:20,870 --> 00:24:19,120

you know

689
00:24:22,149 --> 00:24:20,880
i truthfully can't answer that question

690
00:24:23,990 --> 00:24:22,159
because um

691
00:24:26,070 --> 00:24:24,000
you know i've i've been focused on all

692
00:24:28,390 --> 00:24:26,080
the nominal evas so we have what we call

693
00:24:29,990 --> 00:24:28,400
a team four another team who's been off

694
00:24:31,350 --> 00:24:30,000
working on attending all the meetings

695
00:24:34,070 --> 00:24:31,360
and all the discussions and all the

696
00:24:35,750 --> 00:24:34,080
planning so i truthfully don't know

697
00:24:36,950 --> 00:24:35,760
what what discussions are in work there

698
00:24:38,310 --> 00:24:36,960
with that

699
00:24:39,990 --> 00:24:38,320
the thing that would happen before we

700
00:24:41,750 --> 00:24:40,000
went off and did a spacewalk would be

701
00:24:43,430 --> 00:24:41,760
what we call a focused inspection which

702
00:24:44,710 --> 00:24:43,440
would be a closer look at the damaged

703
00:24:46,549 --> 00:24:44,720
sites

704
00:24:48,310 --> 00:24:46,559
with the obss and the other sensors that

705
00:24:50,789 --> 00:24:48,320
we have and that decision has not been

706
00:24:53,590 --> 00:24:50,799
made yet um you'll get a briefing later

707
00:24:57,190 --> 00:24:53,600
today at i think 2 30

708
00:25:00,070 --> 00:24:57,200
post mmt to talk more about tile damage

709
00:25:02,549 --> 00:25:00,080
in the direction we're headed

710
00:25:03,430 --> 00:25:02,559
you very much

711
00:25:05,029 --> 00:25:03,440
okay

712
00:25:06,390 --> 00:25:05,039
i think that's all of our phone bridge

713
00:25:08,390 --> 00:25:06,400

callers do you have any follow-up

714
00:25:14,230 --> 00:25:08,400
questions here in houston

715
00:25:20,230 --> 00:25:17,430
thanks uh mark caro for aviation week um

716
00:25:22,710 --> 00:25:20,240
and i just wanted to go back to um

717
00:25:23,510 --> 00:25:22,720
the the sensor issue on the spacesuit is

718
00:25:26,149 --> 00:25:23,520
there

719
00:25:29,830 --> 00:25:26,159
a larger component you could swap for

720
00:25:33,190 --> 00:25:29,840
greg chamotov so he can do

721
00:25:34,710 --> 00:25:33,200
additional space walks um

722
00:25:35,830 --> 00:25:34,720
i think he's assigned some more and i

723
00:25:38,149 --> 00:25:35,840
just don't know

724
00:25:39,510 --> 00:25:38,159
what what options you have to yeah and i

725
00:25:43,430 --> 00:25:39,520
guess initially

726
00:25:45,029 --> 00:25:43,440
to to talk more about the sensor um this

727
00:25:46,950 --> 00:25:45,039
this issue is kind of intermittent since

728
00:25:48,230 --> 00:25:46,960
it's water that's caught in the loop we

729
00:25:50,470 --> 00:25:48,240
have in the past done what we've called

730
00:25:52,390 --> 00:25:50,480
a dry out procedure to basically run

731
00:25:55,110 --> 00:25:52,400
oxygen through that sensor hoping it'll

732
00:25:56,710 --> 00:25:55,120
dislodge the water bubble that's worked

733
00:25:58,149 --> 00:25:56,720
before in the past so we're they're

734
00:25:59,590 --> 00:25:58,159
ongoing discussions with the engineering

735
00:26:01,750 --> 00:25:59,600
community about if that's how we want to

736
00:26:03,510 --> 00:26:01,760
proceed and we've had other times where

737
00:26:05,190 --> 00:26:03,520
we've we've seen this issue on one eva

738
00:26:07,190 --> 00:26:05,200

and by the next deva it's gone so

739
00:26:08,310 --> 00:26:07,200
there's really there's really no um

740
00:26:10,549 --> 00:26:08,320
there's no way to tell if it's going to

741
00:26:13,669 --> 00:26:10,559
happen again on eva4 and as far as a

742
00:26:18,070 --> 00:26:16,070
greg wears a size extra large suit and

743
00:26:19,669 --> 00:26:18,080
we only have one extra large suit on the

744
00:26:21,510 --> 00:26:19,679
space station so there isn't another

745
00:26:24,870 --> 00:26:21,520
suit that he could that he could swap

746
00:26:29,350 --> 00:26:25,870
uh phillips lost with

747
00:26:31,269 --> 00:26:29,360
nasaspaceflight.com for for allison um

748
00:26:32,710 --> 00:26:31,279
bearing that in mind then

749
00:26:35,269 --> 00:26:32,720
is there anything you can do sort of

750
00:26:38,149 --> 00:26:35,279
planning-wise going into eva for then

751
00:26:39,669 --> 00:26:38,159
in case this happens to protect the the

752
00:26:41,350 --> 00:26:39,679
objectives there yeah that's a great

753
00:26:43,669 --> 00:26:41,360
question i think we would just uh have

754
00:26:44,710 --> 00:26:43,679
have to make sure we we understand like

755
00:26:46,070 --> 00:26:44,720
i mentioned we were able to have

756
00:26:47,430 --> 00:26:46,080
pre-flight discussions with the crew and

757
00:26:49,750 --> 00:26:47,440
the ground team about breakout points

758
00:26:51,350 --> 00:26:49,760
for each eva if in in the instance we

759
00:26:53,190 --> 00:26:51,360
got into a case like this so we've

760
00:26:55,190 --> 00:26:53,200
already had those discussions with eva4

761
00:26:57,669 --> 00:26:55,200
talking about as we saw today once that

762
00:27:00,230 --> 00:26:57,679
co2 sensor failed it forced us to cut

763
00:27:01,990 --> 00:27:00,240

about 50 minutes off of what we thought

764
00:27:04,310 --> 00:27:02,000
we had

765
00:27:06,070 --> 00:27:04,320
for for the eva duration so we would

766
00:27:08,470 --> 00:27:06,080
just could you know try to try to stay

767
00:27:09,590 --> 00:27:08,480
on top of of what tasks would fall off

768
00:27:11,269 --> 00:27:09,600
the end of the eva and we would just

769
00:27:12,549 --> 00:27:11,279
make sure that that everyone is on on

770
00:27:14,950 --> 00:27:12,559
the same page if that were to happen

771
00:27:19,350 --> 00:27:18,549
uh seth borenstein and ap again if the

772
00:27:22,310 --> 00:27:19,360
one

773
00:27:24,070 --> 00:27:22,320
before the eva4 starts is there a way

774
00:27:25,590 --> 00:27:24,080
do you test the suit to make sure that

775
00:27:27,350 --> 00:27:25,600
this can you test it to see that the

776
00:27:28,870 --> 00:27:27,360
sensor is working or not we don't

777
00:27:30,710 --> 00:27:28,880
normally test it but if we were to

778
00:27:33,190 --> 00:27:30,720
perform the the dry out procedure that i

779
00:27:34,710 --> 00:27:33,200
spoke of we do test the co2 sensor at

780
00:27:35,990 --> 00:27:34,720
the end of it i think there probably is

781
00:27:37,750 --> 00:27:36,000
a way that even if we didn't do that

782
00:27:40,389 --> 00:27:37,760
test we could still basically turn the

783
00:27:41,990 --> 00:27:40,399
suit on the day before to see if to see

784
00:27:43,669 --> 00:27:42,000
how the co2 sensor was acting but we

785
00:27:45,590 --> 00:27:43,679
haven't had those discussions yet and

786
00:27:47,909 --> 00:27:45,600
just to take the hypothetical one step

787
00:27:50,789 --> 00:27:47,919
further you say you do this and you test

788
00:27:52,389 --> 00:27:50,799

it and it's still not working

789
00:27:54,549 --> 00:27:52,399
do you then

790
00:27:57,269 --> 00:27:54,559
send him out greg out

791
00:27:59,669 --> 00:27:57,279
with a non-functioning co2 sensor or do

792
00:28:00,950 --> 00:27:59,679
you swap someone else in

793
00:28:03,350 --> 00:28:00,960
i think that would be a discussion we'd

794
00:28:04,950 --> 00:28:03,360
have to have this the co2 sensor isn't

795
00:28:07,430 --> 00:28:04,960
required to go at eva as we mentioned

796
00:28:09,750 --> 00:28:07,440
that the crew member can be prime for um

797
00:28:11,110 --> 00:28:09,760
for detecting his co2 symptoms but as

798
00:28:12,389 --> 00:28:11,120
derek mentioned we do have a flight rule

799
00:28:13,990 --> 00:28:12,399
in place that tells us we need to

800
00:28:15,430 --> 00:28:14,000
subtract time off the end of the uva so

801
00:28:16,950 --> 00:28:15,440
if if we went out the door knowing that

802
00:28:18,230 --> 00:28:16,960
we had a failed co2 sensor that would

803
00:28:22,950 --> 00:28:18,240
probably force us to do a shorter

804
00:28:26,630 --> 00:28:24,870
okay it sounds like that's the end of

805
00:28:29,190 --> 00:28:26,640
our questions and so we'll begin to wrap

806
00:28:32,230 --> 00:28:29,200
this briefing up a few programming notes

807
00:28:34,870 --> 00:28:32,240
coming up at noon central time 1 pm

808
00:28:36,310 --> 00:28:34,880
eastern time we'll have today's post

809
00:28:37,909 --> 00:28:36,320
international space station mission

810
00:28:40,149 --> 00:28:37,919
management team briefing and that'll be

811
00:28:42,230 --> 00:28:40,159
kenny todd who's the acting operations

812
00:28:44,070 --> 00:28:42,240
manager for the space station and

813
00:28:45,750 --> 00:28:44,080

courtney mcmillan who's the team four

814
00:28:48,710 --> 00:28:45,760
flight director who's been working on

815
00:28:50,789 --> 00:28:48,720
the soyuz photo opportunity planning

816
00:28:52,389 --> 00:28:50,799
and then an update on our next briefing

817
00:28:54,230 --> 00:28:52,399
which will be today's post mission

818
00:28:57,029 --> 00:28:54,240
management team briefing it's actually

819
00:28:59,190 --> 00:28:57,039
going to be at 2 p.m central time 3 p.m

820
00:29:00,630 --> 00:28:59,200
eastern and that will be with leroy kane

821
00:29:02,470 --> 00:29:00,640
the space shuttle mission management