
Johnson

1
00:00:06,309 --> 00:00:03,909
good morning and welcome to today's

2
00:00:08,470 --> 00:00:06,319
mission status briefing with us today is

3
00:00:10,790 --> 00:00:08,480
derek hossman the international space

4
00:00:14,549 --> 00:00:10,800
station lead flight director who's just

5
00:00:16,230 --> 00:00:14,559
coming off his orbit two shift derry

6
00:00:18,630 --> 00:00:16,240
good morning thank you and uh it's good

7
00:00:21,109 --> 00:00:18,640
to be here today to talk about uh

8
00:00:23,189 --> 00:00:21,119
what uh is another productive and uh

9
00:00:24,790 --> 00:00:23,199
very busy day on board the shuttle

10
00:00:25,750 --> 00:00:24,800
endeavour and the international space

11
00:00:28,230 --> 00:00:25,760
station

12
00:00:31,029 --> 00:00:28,240
um as i left the the control center the

13
00:00:32,790 --> 00:00:31,039

both crews were wrapping up their day

14
00:00:34,389 --> 00:00:32,800
with preparations for tomorrow's

15
00:00:37,750 --> 00:00:34,399
spacewalk of course we'll be conducting

16
00:00:40,069 --> 00:00:37,760
the second spacewalk eva 2 tomorrow and

17
00:00:41,750 --> 00:00:40,079
the spacewalking crew which were eva 2

18
00:00:43,510 --> 00:00:41,760
is going to be drew feustel and mike

19
00:00:45,830 --> 00:00:43,520
fink we're wrapping up their final

20
00:00:48,069 --> 00:00:45,840
preparations a final review of their

21
00:00:50,229 --> 00:00:48,079
procedures gathering of the tools

22
00:00:51,510 --> 00:00:50,239
and eventually they'll be uh spending

23
00:00:52,950 --> 00:00:51,520
the night in the airlock overnight so

24
00:00:55,590 --> 00:00:52,960
we'll we'll button them up in the

25
00:00:57,270 --> 00:00:55,600
airlock and then depress it to 10-2 and

26
00:00:59,029 --> 00:00:57,280
10-2 psi and start what we call

27
00:01:01,029 --> 00:00:59,039
overnight camp out

28
00:01:02,229 --> 00:01:01,039
but i'll go back and start with the

29
00:01:03,670 --> 00:01:02,239
beginning of the day as you heard

30
00:01:05,830 --> 00:01:03,680
yesterday from

31
00:01:08,149 --> 00:01:05,840
leroy kane the shuttle program decided

32
00:01:10,469 --> 00:01:08,159
to do a focused inspection which is a

33
00:01:12,789 --> 00:01:10,479
procedure that we have a placeholder for

34
00:01:14,550 --> 00:01:12,799
on flight day six and it's a way to to

35
00:01:16,469 --> 00:01:14,560
use the orbiter boom sensor system to

36
00:01:18,310 --> 00:01:16,479
take a closer look at areas of interest

37
00:01:20,630 --> 00:01:18,320
on the orbiter tile

38
00:01:22,630 --> 00:01:20,640

what that involves is using the space

39
00:01:24,710 --> 00:01:22,640
station robotic arm

40
00:01:26,630 --> 00:01:24,720
to grapple the obss and pull it out of

41
00:01:28,630 --> 00:01:26,640
the orbiter payload bay or the the

42
00:01:30,710 --> 00:01:28,640
cradle along the edge of the payload bay

43
00:01:32,710 --> 00:01:30,720
we then maneuver the obsessed to a

44
00:01:35,270 --> 00:01:32,720
handoff position at which point the

45
00:01:37,510 --> 00:01:35,280
shuttle arm grapples the obss station

46
00:01:39,350 --> 00:01:37,520
arm backs off and then the the shuttle

47
00:01:41,350 --> 00:01:39,360
crew executes a

48
00:01:43,749 --> 00:01:41,360
pre-planned series of maneuvers that put

49
00:01:45,429 --> 00:01:43,759
the obss in the right position so the

50
00:01:47,109 --> 00:01:45,439
sensors take a look at the areas that

51
00:01:48,550 --> 00:01:47,119
folks wanted to look at

52
00:01:51,270 --> 00:01:48,560
that's all completed that was done

53
00:01:53,749 --> 00:01:51,280
without incident and per procedure took

54
00:01:54,710 --> 00:01:53,759
on the order of two hours of crew time

55
00:01:56,789 --> 00:01:54,720
and that

56
00:01:58,469 --> 00:01:56,799
the data and all the imagery collected

57
00:02:00,389 --> 00:01:58,479
from that focused inspection is now on

58
00:02:02,709 --> 00:02:00,399
the ground in the hands of the imagery

59
00:02:04,950 --> 00:02:02,719
team that's going to do the analysis and

60
00:02:06,469 --> 00:02:04,960
report back to the mmt and my

61
00:02:08,070 --> 00:02:06,479
expectation is that

62
00:02:10,389 --> 00:02:08,080
when leroy is back to briefly this

63
00:02:13,589 --> 00:02:10,399

afternoon you'll he'll hear more about

64
00:02:15,510 --> 00:02:13,599
the results of that focused inspection

65
00:02:17,350 --> 00:02:15,520
in addition in yesterday's briefing we

66
00:02:19,190 --> 00:02:17,360
talked about an an issue that we had

67
00:02:22,710 --> 00:02:19,200
yesterday during eba one with greg

68
00:02:24,790 --> 00:02:22,720
shamatov's spacesuit or his is emu

69
00:02:27,350 --> 00:02:24,800
the issue was a failed carbon dioxide

70
00:02:29,030 --> 00:02:27,360
sensor uh when we when we lose that

71
00:02:31,190 --> 00:02:29,040
carbon dioxide sensor we have rules in

72
00:02:33,830 --> 00:02:31,200
place that say that we have to assume a

73
00:02:35,589 --> 00:02:33,840
lesser capability so we had to cut eva1

74
00:02:37,190 --> 00:02:35,599
a bit short

75
00:02:39,509 --> 00:02:37,200
that again as we mentioned yesterday

76
00:02:42,309 --> 00:02:39,519
that suit will not be used on eva's two

77
00:02:44,630 --> 00:02:42,319
or three so uh it will be reused on eba

78
00:02:46,710 --> 00:02:44,640
four when sham top goes back outside but

79
00:02:48,309 --> 00:02:46,720
what we did today was perform a dry out

80
00:02:49,670 --> 00:02:48,319
procedure in which we

81
00:02:51,670 --> 00:02:49,680
blow

82
00:02:54,630 --> 00:02:51,680
cool air through the suit and and over

83
00:02:56,390 --> 00:02:54,640
the sensor in an effort to dry it out um

84
00:02:57,830 --> 00:02:56,400
interestingly enough when we activated

85
00:02:59,990 --> 00:02:57,840
the suit this morning the sensor had

86
00:03:02,309 --> 00:03:00,000
already been recovered we had we had a

87
00:03:03,990 --> 00:03:02,319
good and nominal reading from the co2

88
00:03:05,350 --> 00:03:04,000

sensor which is not completely

89
00:03:06,790 --> 00:03:05,360
unexpected is

90
00:03:08,070 --> 00:03:06,800
you know it's moisture in the sensor

91
00:03:09,270 --> 00:03:08,080
that causes the problem and you would

92
00:03:11,190 --> 00:03:09,280
expect

93
00:03:12,790 --> 00:03:11,200
once we get the crew out of the suit

94
00:03:15,509 --> 00:03:12,800
that that moisture would abate and

95
00:03:18,149 --> 00:03:15,519
evaporate but we went ahead with the uh

96
00:03:20,550 --> 00:03:18,159
the dry up procedure as planned and the

97
00:03:21,670 --> 00:03:20,560
the co2 sensor looks good so we're

98
00:03:23,670 --> 00:03:21,680
assuming that it's going to be good and

99
00:03:25,910 --> 00:03:23,680
we're going to plan to execute a nominal

100
00:03:28,470 --> 00:03:25,920
eva4

101
00:03:31,030 --> 00:03:28,480
but we do have pre-planned bingo points

102
00:03:33,190 --> 00:03:31,040
in all of our evas or spacewalks

103
00:03:34,630 --> 00:03:33,200
such that if you have an issue at any

104
00:03:36,390 --> 00:03:34,640
point of the eva

105
00:03:38,390 --> 00:03:36,400
any any number of reasons can cause you

106
00:03:40,229 --> 00:03:38,400
to come back inside but we have

107
00:03:42,470 --> 00:03:40,239
pre-planned points at which we can back

108
00:03:44,229 --> 00:03:42,480
out we understand the work ahead of us

109
00:03:46,630 --> 00:03:44,239
so that we can cleanly and efficiently

110
00:03:49,350 --> 00:03:46,640
cut the space walk short and we've got

111
00:03:51,190 --> 00:03:49,360
those identified for eva4 so our plan

112
00:03:52,550 --> 00:03:51,200
going in is to just take one final look

113
00:03:54,710 --> 00:03:52,560

at those bingos that we define

114
00:03:56,630 --> 00:03:54,720
pre-flight and then make sure that they

115
00:03:59,030 --> 00:03:56,640
make sense now that we've got once we

116
00:04:00,550 --> 00:03:59,040
have evas 1 through 3 behind us and then

117
00:04:03,190 --> 00:04:00,560
we'll make the right decision based on

118
00:04:05,750 --> 00:04:03,200
what happens during eva4

119
00:04:07,030 --> 00:04:05,760
we're assuming that this co2 sensor will

120
00:04:08,710 --> 00:04:07,040
work well

121
00:04:11,030 --> 00:04:08,720
but there's a lot of variables in terms

122
00:04:12,869 --> 00:04:11,040
of how hard greg is working how much

123
00:04:15,110 --> 00:04:12,879
he's perspiring how much other moisture

124
00:04:17,590 --> 00:04:15,120
is in the suit etc etc so

125
00:04:19,990 --> 00:04:17,600
we got a good dry out a good sensor and

126
00:04:21,189 --> 00:04:20,000
we'll plant a nominal eva4 with an

127
00:04:22,790 --> 00:04:21,199
understanding that if we have a repeat

128
00:04:26,230 --> 00:04:22,800
of the problem we understand how to how

129
00:04:28,469 --> 00:04:26,240
to back out of that eva if we need to

130
00:04:31,749 --> 00:04:28,479
additionally yesterday you received a

131
00:04:34,070 --> 00:04:31,759
briefing on the plans for the uh for us

132
00:04:35,189 --> 00:04:34,080
obtaining imagery during the 25 soyuz

133
00:04:37,110 --> 00:04:35,199
undock

134
00:04:38,950 --> 00:04:37,120
we're still continuing working toward

135
00:04:40,710 --> 00:04:38,960
that goal the the plans and procedures

136
00:04:42,070 --> 00:04:40,720
are coming together

137
00:04:44,150 --> 00:04:42,080
in terms of the status nothing has

138
00:04:46,230 --> 00:04:44,160

changed since yesterday uh as a matter

139
00:04:48,070 --> 00:04:46,240
of fact as i left the control center uh

140
00:04:50,550 --> 00:04:48,080
the 25s crew

141
00:04:52,629 --> 00:04:50,560
dima paolo and katie we're reviewing

142
00:04:54,870 --> 00:04:52,639
procedures and uplink messages from our

143
00:04:57,590 --> 00:04:54,880
russian colleagues related to that

144
00:04:59,830 --> 00:04:57,600
to the unique aspects of the the imagery

145
00:05:01,670 --> 00:04:59,840
during the undock and they were there

146
00:05:03,990 --> 00:05:01,680
was a plan to have a tag up

147
00:05:05,670 --> 00:05:04,000
with the experts in moscow to talk about

148
00:05:07,590 --> 00:05:05,680
those procedures so that that plan is

149
00:05:09,830 --> 00:05:07,600
coming together very nicely we have all

150
00:05:11,749 --> 00:05:09,840
the technical aspects nailed down in

151
00:05:13,909 --> 00:05:11,759
terms of the station attitude the

152
00:05:15,350 --> 00:05:13,919
attitude timeline the plan for the soyuz

153
00:05:18,150 --> 00:05:15,360
and then the plan

154
00:05:20,310 --> 00:05:18,160
for the activities of the soyuz crew

155
00:05:21,749 --> 00:05:20,320
inside the spacecraft in order to get

156
00:05:22,870 --> 00:05:21,759
the inventory that we want to get so

157
00:05:24,870 --> 00:05:22,880
that's

158
00:05:26,390 --> 00:05:24,880
i'm really impressed uh with the off

159
00:05:27,270 --> 00:05:26,400
console team that has worked over the

160
00:05:29,189 --> 00:05:27,280
past

161
00:05:30,629 --> 00:05:29,199
five or six days to make that story come

162
00:05:32,310 --> 00:05:30,639
together

163
00:05:33,749 --> 00:05:32,320

now they've they've handed that package

164
00:05:35,029 --> 00:05:33,759
off to the real time team and we'll

165
00:05:37,430 --> 00:05:35,039
start working it

166
00:05:39,270 --> 00:05:37,440
as a nominal part of the mission

167
00:05:41,670 --> 00:05:39,280
plan looking forward to the undock on

168
00:05:43,189 --> 00:05:41,680
monday

169
00:05:45,270 --> 00:05:43,199
as i mentioned we started preparations

170
00:05:47,670 --> 00:05:45,280
for eva2

171
00:05:48,870 --> 00:05:47,680
when i did the pre-flight briefing

172
00:05:52,710 --> 00:05:48,880
i i

173
00:05:54,950 --> 00:05:52,720
as possibly one of the more challenging

174
00:05:57,350 --> 00:05:54,960
evas just because we're actuating a

175
00:05:59,670 --> 00:05:57,360
number of quick disconnects or qd's uh

176
00:06:02,390 --> 00:05:59,680
related to the uh the ammonia system

177
00:06:04,150 --> 00:06:02,400
these are qd's that have have had leaks

178
00:06:06,390 --> 00:06:04,160
in the past and have been difficult to

179
00:06:07,990 --> 00:06:06,400
manipulate in the past so

180
00:06:10,790 --> 00:06:08,000
there's a real possibility tomorrow that

181
00:06:13,830 --> 00:06:10,800
we will have some ammonia leakage as we

182
00:06:16,230 --> 00:06:13,840
as we set up these qd's to do the refill

183
00:06:17,830 --> 00:06:16,240
of the leaking photovoltaic thermal

184
00:06:19,430 --> 00:06:17,840
control system

185
00:06:21,510 --> 00:06:19,440
we've got the procedures in place such

186
00:06:23,189 --> 00:06:21,520
that we will decontaminate the eva crew

187
00:06:24,790 --> 00:06:23,199
once they get inside the airlock we've

188
00:06:26,390 --> 00:06:24,800

got what we call drager tubes that will

189
00:06:27,990 --> 00:06:26,400
monitor the amount of ammonia in the

190
00:06:30,070 --> 00:06:28,000
atmosphere

191
00:06:31,670 --> 00:06:30,080
and so we feel comfortable

192
00:06:34,390 --> 00:06:31,680
going forward with the eva with

193
00:06:35,990 --> 00:06:34,400
understanding that if if we do get

194
00:06:37,029 --> 00:06:36,000
contaminated with ammonia which is

195
00:06:38,629 --> 00:06:37,039
possible

196
00:06:41,909 --> 00:06:38,639
we understand how to clean the crew up

197
00:06:43,590 --> 00:06:41,919
and keep them safe once they come inside

198
00:06:45,270 --> 00:06:43,600
one question that came up yesterday that

199
00:06:47,909 --> 00:06:45,280
i didn't have an answer for was the

200
00:06:50,469 --> 00:06:47,919
total volume of this photovoltaic or

201
00:06:52,390 --> 00:06:50,479
pvtcs loop that we're filling the total

202
00:06:55,909 --> 00:06:52,400
volume in the system the volume of

203
00:06:58,390 --> 00:06:55,919
ammonia is 55 pounds and what we plan to

204
00:07:01,830 --> 00:06:58,400
transfer or top off the system with is

205
00:07:03,430 --> 00:07:01,840
five pounds of ammonia from the

206
00:07:04,950 --> 00:07:03,440
external thermal control system which

207
00:07:06,309 --> 00:07:04,960
was one of the primary systems on the

208
00:07:09,350 --> 00:07:06,319
truss

209
00:07:11,189 --> 00:07:09,360
i think that's all i have for status

210
00:07:12,790 --> 00:07:11,199
okay derek thank you very much we'll

211
00:07:14,070 --> 00:07:12,800
take questions now starting here in

212
00:07:15,670 --> 00:07:14,080
houston

213
00:07:16,629 --> 00:07:15,680

we'll ask you to step up to the mic

214
00:07:21,350 --> 00:07:16,639
please

215
00:07:25,430 --> 00:07:23,430
yes go ahead

216
00:07:27,029 --> 00:07:25,440
phillip sloss with nasa spaceflight.com

217
00:07:29,189 --> 00:07:27,039
um can you

218
00:07:31,430 --> 00:07:29,199
just talk about progress in terms of

219
00:07:32,870 --> 00:07:31,440
your mid deck transfer status

220
00:07:34,950 --> 00:07:32,880
yeah actually uh

221
00:07:37,189 --> 00:07:34,960
i got a status this morning from our our

222
00:07:38,390 --> 00:07:37,199
aco who's a flight control position in

223
00:07:40,790 --> 00:07:38,400
the shuttle

224
00:07:42,230 --> 00:07:40,800
uh flight control room that manages

225
00:07:43,589 --> 00:07:42,240
transfer and i don't have specific

226
00:07:46,390 --> 00:07:43,599
numbers but he told me this morning that

227
00:07:48,550 --> 00:07:46,400
we were well ahead so middeck transfers

228
00:07:50,070 --> 00:07:48,560
are all going extremely well we didn't

229
00:07:51,430 --> 00:07:50,080
have a lot of transfer on this flight

230
00:07:55,270 --> 00:07:51,440
going in

231
00:07:56,830 --> 00:07:55,280
but we're hours and hours ahead

232
00:08:00,869 --> 00:07:56,840
good

233
00:08:02,710 --> 00:08:00,879
gina uh gina cinceri abc news um you

234
00:08:04,869 --> 00:08:02,720
know we heard the pope this morning uh

235
00:08:07,589 --> 00:08:04,879
visit with uh the crew

236
00:08:09,670 --> 00:08:07,599
and you know he expressed uh good wishes

237
00:08:11,830 --> 00:08:09,680
for paolo nespoli and what that brought

238
00:08:14,070 --> 00:08:11,840

to mind is just in terms of long

239
00:08:16,550 --> 00:08:14,080
duration space flight you'll be dealing

240
00:08:18,390 --> 00:08:16,560
a lot with those kind of family issues

241
00:08:20,390 --> 00:08:18,400
down the road so talk to me a little bit

242
00:08:23,029 --> 00:08:20,400
about the wealth of knowledge you're

243
00:08:24,950 --> 00:08:23,039
gaining on space station for dealing

244
00:08:27,270 --> 00:08:24,960
with crews with long duration space

245
00:08:29,990 --> 00:08:27,280
flight and their family issues and and

246
00:08:33,509 --> 00:08:30,000
how you you know you assemble that for

247
00:08:34,949 --> 00:08:33,519
going beyond low earth orbit someday

248
00:08:36,870 --> 00:08:34,959
and one of the things uh one of the

249
00:08:39,190 --> 00:08:36,880
lessons learned that we we took forward

250
00:08:41,269 --> 00:08:39,200
from our experience with us astronauts

251
00:08:43,990 --> 00:08:41,279
on on the mir space station

252
00:08:46,070 --> 00:08:44,000
was was the importance of connectivity

253
00:08:47,990 --> 00:08:46,080
with the folks on the ground with family

254
00:08:50,230 --> 00:08:48,000
members with mission control and of

255
00:08:51,910 --> 00:08:50,240
course on the mir space station

256
00:08:53,670 --> 00:08:51,920
without a network of tdrs satellites

257
00:08:55,750 --> 00:08:53,680
they had very limited

258
00:08:58,550 --> 00:08:55,760
communications opportunities with the

259
00:08:59,910 --> 00:08:58,560
ground you know a few hours a day

260
00:09:01,670 --> 00:08:59,920
at best

261
00:09:04,310 --> 00:09:01,680
with the space station with our with our

262
00:09:05,750 --> 00:09:04,320
network of tdrs satellites we have

263
00:09:09,269 --> 00:09:05,760

quite a bit of coverage i mean at any

264
00:09:11,829 --> 00:09:09,279
given hour we have 40 45 50 minutes of

265
00:09:13,670 --> 00:09:11,839
communications with the ground so

266
00:09:14,630 --> 00:09:13,680
you know any time any issue they can

267
00:09:16,230 --> 00:09:14,640
simply

268
00:09:17,910 --> 00:09:16,240
make a call to the ground and they have

269
00:09:19,910 --> 00:09:17,920
all the

270
00:09:22,550 --> 00:09:19,920
resources available to them

271
00:09:24,550 --> 00:09:22,560
that we're ready to provide in addition

272
00:09:26,389 --> 00:09:24,560
to that

273
00:09:28,070 --> 00:09:26,399
we have regularly scheduled

274
00:09:30,470 --> 00:09:28,080
personal family conferences or private

275
00:09:31,269 --> 00:09:30,480
family conferences which are video cons

276
00:09:35,750 --> 00:09:31,279
with

277
00:09:37,509 --> 00:09:35,760
have what we call the ip phone which is

278
00:09:39,750 --> 00:09:37,519
which is a phone that they can

279
00:09:42,070 --> 00:09:39,760
essentially pick up and and dial anybody

280
00:09:44,630 --> 00:09:42,080
on the planet um for large portions of

281
00:09:46,310 --> 00:09:44,640
the day and it's not continuous but

282
00:09:48,550 --> 00:09:46,320
it's another important resources for the

283
00:09:50,870 --> 00:09:48,560
crew just to stay connected

284
00:09:51,990 --> 00:09:50,880
with friends and families and and

285
00:09:53,269 --> 00:09:52,000
relatives

286
00:09:55,430 --> 00:09:53,279
um

287
00:09:58,790 --> 00:09:55,440
we also have a of an organization here

288
00:10:00,790 --> 00:09:58,800

at jsc whose job it is uh to to

289
00:10:03,110 --> 00:10:00,800
basically provide psychological support

290
00:10:04,949 --> 00:10:03,120
to the crew so meet their meet their

291
00:10:07,110 --> 00:10:04,959
needs while they're on orbit the

292
00:10:08,949 --> 00:10:07,120
personal needs with friends and family

293
00:10:10,550 --> 00:10:08,959
so i think i i think we actually do a

294
00:10:12,870 --> 00:10:10,560
really really good job and we've come a

295
00:10:14,230 --> 00:10:12,880
long way in terms of of family support

296
00:10:15,990 --> 00:10:14,240
and psychological support for the

297
00:10:17,350 --> 00:10:16,000
long-duration crew members and that's

298
00:10:18,550 --> 00:10:17,360
been pretty consistent feedback that

299
00:10:20,470 --> 00:10:18,560
we've gotten

300
00:10:22,710 --> 00:10:20,480
when they come home and debrief is that

301
00:10:26,389 --> 00:10:22,720
they felt very connected

302
00:10:32,150 --> 00:10:29,110
hi rob perlman with collectspace.com

303
00:10:34,550 --> 00:10:32,160
tonight this bit work right soon the

304
00:10:36,550 --> 00:10:34,560
space walkers will be camping out uh for

305
00:10:38,069 --> 00:10:36,560
the evening but then for the third eba

306
00:10:41,509 --> 00:10:38,079
as i understand you're going to be doing

307
00:10:43,829 --> 00:10:41,519
this new light weight exercise

308
00:10:46,630 --> 00:10:43,839
pre-breathe and then if that works you

309
00:10:48,069 --> 00:10:46,640
may do it for the fourth as well

310
00:10:49,990 --> 00:10:48,079
so this potentially could be the last

311
00:10:52,550 --> 00:10:50,000
camp out

312
00:10:55,350 --> 00:10:52,560
my question is how do you determine what

313
00:10:57,590 --> 00:10:55,360

works is it just waiting until to see if

314
00:10:59,110 --> 00:10:57,600
they for this new procedure does is it

315
00:11:01,269 --> 00:10:59,120
just waiting to see if they get the

316
00:11:02,389 --> 00:11:01,279
bends or is there some test that they

317
00:11:03,110 --> 00:11:02,399
have to pass

318
00:11:07,190 --> 00:11:03,120
what

319
00:11:09,190 --> 00:11:07,200
the camp out okay

320
00:11:11,670 --> 00:11:09,200
what you're referring to is the in-suit

321
00:11:13,509 --> 00:11:11,680
light exercise or what you know

322
00:11:16,710 --> 00:11:13,519
everything's got an acronym so we refer

323
00:11:17,509 --> 00:11:16,720
to it as isle isle or isle

324
00:11:19,910 --> 00:11:17,519
and

325
00:11:22,150 --> 00:11:19,920
first i want to make clear that the i o

326
00:11:24,550 --> 00:11:22,160
protocol has gone through the same

327
00:11:27,110 --> 00:11:24,560
rigorous ground testing that the campout

328
00:11:29,430 --> 00:11:27,120
protocol and the exercise pre-brief

329
00:11:31,350 --> 00:11:29,440
protocol is done so it's been it's been

330
00:11:33,430 --> 00:11:31,360
validated with with many many test

331
00:11:35,990 --> 00:11:33,440
subjects under many different conditions

332
00:11:38,230 --> 00:11:36,000
against the same criteria that the camp

333
00:11:39,670 --> 00:11:38,240
out protocol and the uh exercise

334
00:11:41,829 --> 00:11:39,680
pre-breathe protocol were validated

335
00:11:42,790 --> 00:11:41,839
against so it's a it's a medically

336
00:11:45,110 --> 00:11:42,800
proven

337
00:11:47,190 --> 00:11:45,120
perfectly sound protocol so what we're

338
00:11:48,550 --> 00:11:47,200

doing on orbit is not a test

339
00:11:50,870 --> 00:11:48,560
but it's the first time we've used the

340
00:11:53,190 --> 00:11:50,880
protocol so that that's why we decided

341
00:11:55,430 --> 00:11:53,200
to use it on eva 3 by starting with it

342
00:11:57,829 --> 00:11:55,440
on eva 1 because anytime you try

343
00:12:00,069 --> 00:11:57,839
something different with something

344
00:12:02,470 --> 00:12:00,079
as complicated as a station can be with

345
00:12:04,629 --> 00:12:02,480
with the air lock and and the computer

346
00:12:06,230 --> 00:12:04,639
systems and support systems

347
00:12:08,230 --> 00:12:06,240
we like to go through it carefully and

348
00:12:10,230 --> 00:12:08,240
methodically so

349
00:12:11,750 --> 00:12:10,240
there is no larger risk of the bins with

350
00:12:12,949 --> 00:12:11,760
the out protocol than there is with any

351
00:12:14,949 --> 00:12:12,959
of the other protocols that we've been

352
00:12:17,990 --> 00:12:14,959
using having said that that would

353
00:12:20,310 --> 00:12:18,000
certainly be a criteria that at the end

354
00:12:22,710 --> 00:12:20,320
of eva 3 we would ask the crew for

355
00:12:24,550 --> 00:12:22,720
feedback you know was there did you feel

356
00:12:26,150 --> 00:12:24,560
in any differently than you did for eva

357
00:12:28,150 --> 00:12:26,160
1 and eva2

358
00:12:29,350 --> 00:12:28,160
um was there anything that you didn't

359
00:12:31,269 --> 00:12:29,360
like about

360
00:12:33,350 --> 00:12:31,279
the way the protocol was executed were

361
00:12:34,310 --> 00:12:33,360
there any surprises with the procedures

362
00:12:36,310 --> 00:12:34,320
so

363
00:12:38,069 --> 00:12:36,320

you know really it's a

364
00:12:39,829 --> 00:12:38,079
it's a tested protocol it's a validated

365
00:12:41,269 --> 00:12:39,839
protocol we we consider it equivalent to

366
00:12:42,550 --> 00:12:41,279
the ones we're using the ones we'll use

367
00:12:43,990 --> 00:12:42,560
tonight and the ones we've used in the

368
00:12:45,350 --> 00:12:44,000
past but

369
00:12:46,710 --> 00:12:45,360
since it's new we'll have the tag up

370
00:12:48,550 --> 00:12:46,720
with the crew and say

371
00:12:50,550 --> 00:12:48,560
did you feel anything different which we

372
00:12:52,870 --> 00:12:50,560
don't expect and is there any were there

373
00:12:54,230 --> 00:12:52,880
any surprises with the procedures do we

374
00:12:56,629 --> 00:12:54,240
need to change something do you know we

375
00:13:00,629 --> 00:12:56,639
do do we need to do something better

376
00:13:05,829 --> 00:13:04,069
okay any other questions here in houston

377
00:13:08,710 --> 00:13:05,839
we have reporters on the phone bridge

378
00:13:10,870 --> 00:13:08,720
we'll go there now uh marcia done

379
00:13:14,389 --> 00:13:10,880
yes hi can you hear me yes here you're

380
00:13:16,870 --> 00:13:14,399
fine um yes derek i was wondering um

381
00:13:19,190 --> 00:13:16,880
is there no way to replace the sensor in

382
00:13:21,750 --> 00:13:19,200
greg chamotov's suit or even give him a

383
00:13:24,150 --> 00:13:21,760
different spacesuit component so you

384
00:13:25,990 --> 00:13:24,160
don't have to worry about this on on the

385
00:13:27,990 --> 00:13:26,000
fourth spacewalk

386
00:13:30,629 --> 00:13:28,000
yeah generally speaking it it's

387
00:13:32,949 --> 00:13:30,639
difficult to do on orbit maintenance of

388
00:13:34,470 --> 00:13:32,959

of the spacesuits just because of the

389
00:13:37,190 --> 00:13:34,480
you know the complexity the suits and

390
00:13:39,910 --> 00:13:37,200
the tools and the spare parts required

391
00:13:42,470 --> 00:13:39,920
ironically enough but we did fly

392
00:13:44,629 --> 00:13:42,480
we we did fly a spare co2 sensor on this

393
00:13:45,670 --> 00:13:44,639
flight it came up on uf6

394
00:13:47,509 --> 00:13:45,680
however

395
00:13:49,189 --> 00:13:47,519
you know it was looking ahead to a point

396
00:13:50,870 --> 00:13:49,199
where we had a procedure in place to do

397
00:13:53,590 --> 00:13:50,880
the change out so we don't have the

398
00:13:54,949 --> 00:13:53,600
procedure is not done it's not validated

399
00:13:57,430 --> 00:13:54,959
and we're not ready to do that kind of

400
00:14:00,550 --> 00:13:57,440
co2 sensor change out on orbit although

401
00:14:02,710 --> 00:14:00,560
looking ahead to a post shuttle station

402
00:14:04,069 --> 00:14:02,720
at some point we will be able to do that

403
00:14:05,430 --> 00:14:04,079
and we'll have the spares in place and

404
00:14:07,829 --> 00:14:05,440
the procedures in place we just don't

405
00:14:09,670 --> 00:14:07,839
have it for this mission

406
00:14:13,430 --> 00:14:09,680
the other challenge we have is that this

407
00:14:15,910 --> 00:14:13,440
is an extra large hard upper torso or

408
00:14:18,870 --> 00:14:15,920
hut that shamatoff wears and we don't

409
00:14:20,310 --> 00:14:18,880
have another one of those on board

410
00:14:21,910 --> 00:14:20,320
the third thing so it's not a simple

411
00:14:24,230 --> 00:14:21,920
changeout the third thing i'd point out

412
00:14:25,590 --> 00:14:24,240
is that there's no guarantee even if we

413
00:14:27,750 --> 00:14:25,600

did change out the sensor that we

414
00:14:29,189 --> 00:14:27,760
wouldn't have a repeat of this issue

415
00:14:31,110 --> 00:14:29,199
you know it's all driven by moisture

416
00:14:32,870 --> 00:14:31,120
which in turn is driven by

417
00:14:33,829 --> 00:14:32,880
many times how how hard the crew is

418
00:14:34,710 --> 00:14:33,839
working

419
00:14:36,069 --> 00:14:34,720
so

420
00:14:37,590 --> 00:14:36,079
what we think is the best posture at

421
00:14:39,590 --> 00:14:37,600
this point is to drive

422
00:14:42,949 --> 00:14:39,600
the sensor out as we did uh today and

423
00:14:44,310 --> 00:14:42,959
then uh give it a go on ebay four

424
00:14:46,629 --> 00:14:44,320
thank you and i was just wondering if

425
00:14:48,470 --> 00:14:46,639
you could um talk about your feelings

426
00:14:51,829 --> 00:14:48,480
and your team's feelings during the

427
00:14:53,269 --> 00:14:51,839
pope's call um it was a historic moment

428
00:14:54,550 --> 00:14:53,279
on both fronts and i'm just wondering if

429
00:14:56,470 --> 00:14:54,560
you could talk a little bit about that

430
00:14:59,110 --> 00:14:56,480
aspect please yeah i i thought it was

431
00:15:00,870 --> 00:14:59,120
just an amazing event really really a

432
00:15:02,710 --> 00:15:00,880
beautiful event as we

433
00:15:04,710 --> 00:15:02,720
as we set up

434
00:15:06,069 --> 00:15:04,720
for the event we set up the video and

435
00:15:08,310 --> 00:15:06,079
check the uh

436
00:15:09,350 --> 00:15:08,320
the video and the and the sound with the

437
00:15:11,910 --> 00:15:09,360
crew

438
00:15:13,590 --> 00:15:11,920

on our monitors in mission control we

439
00:15:16,069 --> 00:15:13,600
had a shot of the vatican

440
00:15:17,750 --> 00:15:16,079
um and people passing by and then we had

441
00:15:19,670 --> 00:15:17,760
had a shot of the uh

442
00:15:21,829 --> 00:15:19,680
of the pope getting set up and getting

443
00:15:25,110 --> 00:15:21,839
miked up and i you know it it was just

444
00:15:26,629 --> 00:15:25,120
an amazing beautiful event um i thought

445
00:15:29,430 --> 00:15:26,639
his words uh

446
00:15:31,269 --> 00:15:29,440
um were extremely eloquent

447
00:15:33,829 --> 00:15:31,279
and uh i thought the crew did a great

448
00:15:35,430 --> 00:15:33,839
job of addressing his question so it was

449
00:15:36,629 --> 00:15:35,440
an honor and a privilege to be a part of

450
00:15:37,990 --> 00:15:36,639
it

451
00:15:39,509 --> 00:15:38,000
thank you very much

452
00:15:41,430 --> 00:15:39,519
you're welcome

453
00:15:43,269 --> 00:15:41,440
bill harwood

454
00:15:45,269 --> 00:15:43,279
yeah thanks uh derek a quick question

455
00:15:47,590 --> 00:15:45,279
from yesterday uh we were told during

456
00:15:49,110 --> 00:15:47,600
the the undocking uh briefing that we

457
00:15:50,710 --> 00:15:49,120
got that once they've undocked they

458
00:15:52,470 --> 00:15:50,720
cannot redock

459
00:15:53,990 --> 00:15:52,480
um i got to think about that i'm just

460
00:15:55,910 --> 00:15:54,000
curious if they really did have a

461
00:15:57,990 --> 00:15:55,920
problem resealing the habitation module

462
00:15:59,910 --> 00:15:58,000
or something like that is there no way

463
00:16:01,590 --> 00:15:59,920

to come back to station or is that

464
00:16:02,389 --> 00:16:01,600
absolutely forbidden

465
00:16:04,710 --> 00:16:02,399
thanks

466
00:16:06,949 --> 00:16:04,720
well i'll tell you that uh a redoc is

467
00:16:09,350 --> 00:16:06,959
not analyzed and when i say analyzed i

468
00:16:11,829 --> 00:16:09,360
mean

469
00:16:13,509 --> 00:16:11,839
the specifics of the clearances the the

470
00:16:14,470 --> 00:16:13,519
loads on the station

471
00:16:17,189 --> 00:16:14,480
um

472
00:16:19,430 --> 00:16:17,199
the thing the the attitude control

473
00:16:22,310 --> 00:16:19,440
coming back in

474
00:16:24,790 --> 00:16:22,320
so that is not it's not an analyzed

475
00:16:26,949 --> 00:16:24,800
configuration that that we would call a

476
00:16:29,430 --> 00:16:26,959
nominal backup plan

477
00:16:32,230 --> 00:16:29,440
in addition as you heard yesterday the

478
00:16:33,670 --> 00:16:32,240
the hatch a hatch leak scenario or an

479
00:16:36,710 --> 00:16:33,680
inability to close the hatch is

480
00:16:38,150 --> 00:16:36,720
considered a very very remote outcome if

481
00:16:40,870 --> 00:16:38,160
there was a small leak as you heard

482
00:16:43,350 --> 00:16:40,880
yesterday the expectation is that

483
00:16:44,870 --> 00:16:43,360
that we would feed that leak and and get

484
00:16:47,030 --> 00:16:44,880
the crew on the ground

485
00:16:49,189 --> 00:16:47,040
having said that in the extremely

486
00:16:50,550 --> 00:16:49,199
unlikely scenario that you couldn't get

487
00:16:52,790 --> 00:16:50,560
the hatch closed

488
00:16:55,030 --> 00:16:52,800

my expectation is that we would uh that

489
00:16:57,269 --> 00:16:55,040
soyuz would station keep

490
00:16:58,629 --> 00:16:57,279
for as long as required a day maybe two

491
00:17:00,790 --> 00:16:58,639
days until

492
00:17:02,870 --> 00:17:00,800
we as a as the two programs got

493
00:17:05,669 --> 00:17:02,880
comfortable that it was safe to redock

494
00:17:07,110 --> 00:17:05,679
and my expectation in in that scenario

495
00:17:09,270 --> 00:17:07,120
is that we would get there we would get

496
00:17:11,590 --> 00:17:09,280
comfortable and in that unlikely event

497
00:17:14,230 --> 00:17:11,600
we would re-dock

498
00:17:19,270 --> 00:17:16,829
okay james

499
00:17:21,669 --> 00:17:19,280
dean right thank you james dean from

500
00:17:24,390 --> 00:17:21,679
florida today i just had a few questions

501
00:17:26,870 --> 00:17:24,400
um first eric you were you mentioned the

502
00:17:28,950 --> 00:17:26,880
potential for ammonia contamination as i

503
00:17:30,870 --> 00:17:28,960
recall the um

504
00:17:32,230 --> 00:17:30,880
bake out procedures and things like that

505
00:17:34,630 --> 00:17:32,240
can be pretty time consuming i was just

506
00:17:38,070 --> 00:17:34,640
wondering if that's built into

507
00:17:39,430 --> 00:17:38,080
the eva timeline or if um if you do have

508
00:17:40,310 --> 00:17:39,440
to do something like that is that going

509
00:17:42,070 --> 00:17:40,320
to

510
00:17:43,110 --> 00:17:42,080
jeopardize getting any of the planned

511
00:17:44,789 --> 00:17:43,120
work done

512
00:17:46,630 --> 00:17:44,799
now for for better or for worse we've

513
00:17:48,950 --> 00:17:46,640

got a lot of experience with these quick

514
00:17:51,990 --> 00:17:48,960
disconnects and the ammonia leakage that

515
00:17:54,150 --> 00:17:52,000
often accompanies those operations so so

516
00:17:56,070 --> 00:17:54,160
what we do is we build

517
00:17:58,789 --> 00:17:56,080
what we call the wet ammonia quick

518
00:18:01,029 --> 00:17:58,799
disconnect operations or the the

519
00:18:02,950 --> 00:18:01,039
operations that the crew is actually

520
00:18:04,470 --> 00:18:02,960
opening and closing the valves and and

521
00:18:06,549 --> 00:18:04,480
making the connections

522
00:18:08,470 --> 00:18:06,559
we build those uh we build the timeline

523
00:18:11,029 --> 00:18:08,480
such that those activities with the

524
00:18:13,750 --> 00:18:11,039
so-called wet qd's are in the first half

525
00:18:15,350 --> 00:18:13,760
or first third of the eva so therefore

526
00:18:16,950 --> 00:18:15,360
you know we get to a point about halfway

527
00:18:19,270 --> 00:18:16,960
through the eva where we're done with

528
00:18:21,270 --> 00:18:19,280
ammonia and then we can take credit in

529
00:18:23,270 --> 00:18:21,280
terms of bake out time in the second

530
00:18:25,430 --> 00:18:23,280
half of the eva for eva2 for example

531
00:18:27,909 --> 00:18:25,440
we're doing work on the the solar alpha

532
00:18:29,590 --> 00:18:27,919
rotary joiner sarge so we're getting

533
00:18:31,029 --> 00:18:29,600
bake out credit for that entire time

534
00:18:32,870 --> 00:18:31,039
where we're doing other work so

535
00:18:35,270 --> 00:18:32,880
generally speaking

536
00:18:37,750 --> 00:18:35,280
we don't lose content if we get

537
00:18:39,750 --> 00:18:37,760
contaminated

538
00:18:41,590 --> 00:18:39,760

thanks uh regarding that sarge work i

539
00:18:43,830 --> 00:18:41,600
was wondering if you could

540
00:18:45,029 --> 00:18:43,840
air it at all to what was done on 126 i

541
00:18:46,950 --> 00:18:45,039
was thinking

542
00:18:48,789 --> 00:18:46,960
that maybe that was a little bit more

543
00:18:50,549 --> 00:18:48,799
arduous because there was some debris

544
00:18:52,070 --> 00:18:50,559
that needed to be uh scraped up and

545
00:18:53,510 --> 00:18:52,080
cleaned off that i

546
00:18:55,990 --> 00:18:53,520
presume isn't going to be necessary this

547
00:18:57,029 --> 00:18:56,000
time that's cool but how similar are

548
00:18:59,270 --> 00:18:57,039
they

549
00:19:01,510 --> 00:18:59,280
uh very similar operations we we don't

550
00:19:02,789 --> 00:19:01,520
expect uh to do like you said we don't

551
00:19:04,950 --> 00:19:02,799
expect to do the kind of cleanup that

552
00:19:07,830 --> 00:19:04,960
was required on previous missions uh the

553
00:19:10,310 --> 00:19:07,840
lubrication itself is very similar and

554
00:19:12,150 --> 00:19:10,320
uh as a matter of fact i mean this this

555
00:19:14,789 --> 00:19:12,160
particular the the port sarge has been

556
00:19:16,549 --> 00:19:14,799
performing very well and we're we're a

557
00:19:17,909 --> 00:19:16,559
few months ahead of where this

558
00:19:20,230 --> 00:19:17,919
preventative maintenance would actually

559
00:19:22,150 --> 00:19:20,240
be required um but since we had the

560
00:19:23,590 --> 00:19:22,160
opportunity we're going to go into it go

561
00:19:24,710 --> 00:19:23,600
go take care of it now and get it out of

562
00:19:26,549 --> 00:19:24,720
the way

563
00:19:27,990 --> 00:19:26,559

but you are correct and that we don't ex

564
00:19:30,870 --> 00:19:28,000
we certainly don't expect and hope we

565
00:19:34,310 --> 00:19:30,880
don't find uh any significant debris or

566
00:19:36,789 --> 00:19:34,320
any other uh contamination on the joint

567
00:19:38,470 --> 00:19:36,799
uh thank you and lastly um i just have

568
00:19:39,909 --> 00:19:38,480
heard some mentions of storm

569
00:19:41,029 --> 00:19:39,919
troubleshooting i'm not familiar with

570
00:19:42,710 --> 00:19:41,039
what's going on there and i just

571
00:19:44,630 --> 00:19:42,720
wondered if you could explain that and

572
00:19:46,630 --> 00:19:44,640
is there any uh potential issues

573
00:19:48,150 --> 00:19:46,640
regarding the uh re-rendezvous and use

574
00:19:50,710 --> 00:19:48,160
of storm for that

575
00:19:53,190 --> 00:19:50,720
no issues big picture no issues with the

576
00:19:54,710 --> 00:19:53,200
the storm hardware and no impacts or no

577
00:20:00,390 --> 00:19:54,720
changes to the re-rendezvous that we

578
00:20:04,950 --> 00:20:03,510
okay is that it from you james

579
00:20:08,310 --> 00:20:04,960
thank you

580
00:20:10,310 --> 00:20:08,320
any other questions here in houston

581
00:20:11,909 --> 00:20:10,320
seeing none we'll wrap up this briefing

582
00:20:14,310 --> 00:20:11,919
you can follow

583
00:20:16,870 --> 00:20:14,320
activities in space the international

584
00:20:22,070 --> 00:20:16,880
space station and endeavour's