



1  
00:00:06,860 --> 00:00:04,700  
good morning and welcome back to NASA's

2  
00:00:09,190 --> 00:00:06,870  
Johnson Space Center for today's mission

3  
00:00:11,270 --> 00:00:09,200  
status briefing its flight day 11 of the

4  
00:00:13,250 --> 00:00:11,280  
sts-134 spatial mission to the

5  
00:00:15,740 --> 00:00:13,260  
international space station and for an

6  
00:00:17,419 --> 00:00:15,750  
update of a recap of today's activities

7  
00:00:19,609 --> 00:00:17,429  
onboard the shuttle and station complex

8  
00:00:21,439 --> 00:00:19,619  
we have the lead space station flight

9  
00:00:23,240 --> 00:00:21,449  
director for the flight Derek Hoffman

10  
00:00:25,460 --> 00:00:23,250  
again we'll start out with the opening

11  
00:00:27,800 --> 00:00:25,470  
comments and then take question okay

12  
00:00:29,630 --> 00:00:27,810  
thanks Kylie good morning everybody well

13  
00:00:32,089 --> 00:00:29,640

as Kylie mentioned we're just wrapping

14

00:00:35,240 --> 00:00:32,099

up flight day 11 as I was leaving the

15

00:00:37,100 --> 00:00:35,250

control center the the the folks in the

16

00:00:38,920 --> 00:00:37,110

station side were just starting their

17

00:00:41,240 --> 00:00:38,930

evening daily planning conference with

18

00:00:44,479 --> 00:00:41,250

Ron Garan and the rest of the station

19

00:00:47,660 --> 00:00:44,489

crew we started out today with with dr

20

00:00:49,610 --> 00:00:47,670

aight inspection and of course the

21

00:00:52,040 --> 00:00:49,620

shuttle crew uses the station of the

22

00:00:54,290 --> 00:00:52,050

Space Shuttle robotic arm grapples the

23

00:00:58,459 --> 00:00:54,300

orbiter boom center system and then uses

24

00:01:01,040 --> 00:00:58,469

that opss to inspect all areas of the

25

00:01:02,509 --> 00:01:01,050

shuttle thermal protection system the

26  
00:01:04,070 --> 00:01:02,519  
crew actually got started early on that

27  
00:01:06,500 --> 00:01:04,080  
procedure and thus finished early which

28  
00:01:09,050 --> 00:01:06,510  
was which was a great help on a pretty

29  
00:01:10,730 --> 00:01:09,060  
busy day allowed the EBA crew that's

30  
00:01:12,140 --> 00:01:10,740  
going to be conducting EBA for tomorrow

31  
00:01:15,050 --> 00:01:12,150  
to get started on their preparation

32  
00:01:16,550 --> 00:01:15,060  
activities a little earlier the the

33  
00:01:19,700 --> 00:01:16,560  
doclet inspection procedures were

34  
00:01:22,250 --> 00:01:19,710  
completed all nominally the data is all

35  
00:01:24,590 --> 00:01:22,260  
on the ground the expectation is that by

36  
00:01:26,150 --> 00:01:24,600  
the one o'clock mmt here in Houston that

37  
00:01:28,940 --> 00:01:26,160  
there will be a discussion of the

38  
00:01:31,210 --> 00:01:28,950

preliminary results and the expectation

39

00:01:33,500 --> 00:01:31,220

is that within the next 18 or 20 hours

40

00:01:36,200 --> 00:01:33,510

that all the imagery will have been

41

00:01:39,350 --> 00:01:36,210

analyzed and and the expectation is it

42

00:01:41,150 --> 00:01:39,360

will clear the vehicle give it a good

43

00:01:43,730 --> 00:01:41,160

clean bill of health in terms of the

44

00:01:45,320 --> 00:01:43,740

orbiter TPS you may recall that the

45

00:01:47,090 --> 00:01:45,330

reason that we're doing this doclet

46

00:01:49,490 --> 00:01:47,100

inspection as opposed to the typical

47

00:01:51,980 --> 00:01:49,500

late inspection which is scheduled post

48

00:01:53,570 --> 00:01:51,990

undock is that on ebay for we're

49

00:01:55,760 --> 00:01:53,580

actually taking the OBS s from the

50

00:01:57,140 --> 00:01:55,770

orbiter and stilling it on station where

51

00:01:58,550 --> 00:01:57,150

it will remain for the life of the

52

00:02:02,170 --> 00:01:58,560

station and I'll talk some more about

53

00:02:04,970 --> 00:02:02,180

that when i get into the EBA for details

54

00:02:07,490 --> 00:02:04,980

additionally today once that dock late

55

00:02:09,199 --> 00:02:07,500

inspection is complete Greg shama Tov

56

00:02:12,259 --> 00:02:09,209

continued his work on the oxygen

57

00:02:14,750 --> 00:02:12,269

generation system on station we talked

58

00:02:18,259 --> 00:02:14,760

in my briefing two days ago about the

59

00:02:20,899 --> 00:02:18,269

that Shem Tov installed a filtration

60

00:02:22,640 --> 00:02:20,909

cartridge and some plumbing associated

61

00:02:25,280 --> 00:02:22,650

with that cartridge on the oxygen

62

00:02:27,679 --> 00:02:25,290

generation system water loop in order in

63

00:02:30,770 --> 00:02:27,689

an effort to clean contaminants from

64

00:02:32,839 --> 00:02:30,780

that system today TAS did a final leak

65

00:02:35,000 --> 00:02:32,849

check of all the connections he made

66

00:02:36,979 --> 00:02:35,010

verified no leaks and he went ahead and

67

00:02:38,960 --> 00:02:36,989

closed up the rack and button up the

68

00:02:40,930 --> 00:02:38,970

system now engineers and flight

69

00:02:43,460 --> 00:02:40,940

controllers on the ground are going to

70

00:02:46,190 --> 00:02:43,470

reactivate the oxygen generation system

71

00:02:49,369 --> 00:02:46,200

and assess the performance of that

72

00:02:52,069 --> 00:02:49,379

filter cartridge let's see in addition

73

00:02:55,640 --> 00:02:52,079

of course the EBA for crew + drew boy

74

00:02:57,470 --> 00:02:55,650

still he'll be there IV or the person

75

00:03:00,440 --> 00:02:57,480

orchestrating the spacewalk from inside

76  
00:03:01,819 --> 00:03:00,450  
the station prepared for their EV a part

77  
00:03:05,860 --> 00:03:01,829  
of that preparation was swapping out the

78  
00:03:09,170 --> 00:03:05,870  
e/m use so it at the end a day will have

79  
00:03:11,089 --> 00:03:09,180  
mike fink's am you and Greg Shem Tov zmu

80  
00:03:14,270 --> 00:03:11,099  
both in the airlock ready to go for

81  
00:03:16,339 --> 00:03:14,280  
tomorrow CBA for and then drew Feustel

82  
00:03:18,890 --> 00:03:16,349  
zmu which he's done with for this

83  
00:03:22,580 --> 00:03:18,900  
mission isn't a configuration to return

84  
00:03:25,460 --> 00:03:22,590  
on the shuttle in addition of course to

85  
00:03:27,110 --> 00:03:25,470  
the to the setup hardware they did the

86  
00:03:29,080 --> 00:03:27,120  
procedure review and they also got their

87  
00:03:31,819 --> 00:03:29,090  
their tools reconfigured and ready to go

88  
00:03:34,759 --> 00:03:31,829

and as I was again as I was leaving the

89

00:03:36,860 --> 00:03:34,769

control center that the EBA crew was was

90

00:03:38,720 --> 00:03:36,870

well ahead of the time line and just

91

00:03:40,819 --> 00:03:38,730

doing their final procedure reviews and

92

00:03:43,069 --> 00:03:40,829

discussions before we put them to sleep

93

00:03:44,809 --> 00:03:43,079

for the night additionally as we

94

00:03:47,180 --> 00:03:44,819

discussed yesterday we plan to use the

95

00:03:49,280 --> 00:03:47,190

campout protocol for this EBA and that's

96

00:03:51,559 --> 00:03:49,290

primarily due to the issue that we had

97

00:03:55,550 --> 00:03:51,569

on EBA one relative to Greg shamba tops

98

00:03:57,740 --> 00:03:55,560

carbon dioxide sensor so we're going to

99

00:03:59,869 --> 00:03:57,750

put the Mike Fink and Greg sham top in

100

00:04:02,030 --> 00:03:59,879

the airlock overnight and then in the

101  
00:04:04,189 --> 00:04:02,040  
morning we'll repress the airlock bring

102  
00:04:06,319 --> 00:04:04,199  
them out give them time for breakfast

103  
00:04:09,199 --> 00:04:06,329  
and personal hygiene and then let's get

104  
00:04:10,939 --> 00:04:09,209  
them suited up and ready to go in terms

105  
00:04:13,580 --> 00:04:10,949  
of BBA forwards is looking ahead to that

106  
00:04:16,430 --> 00:04:13,590  
tomorrow as I said the first activity

107  
00:04:20,839 --> 00:04:16,440  
involves actually stowing the OBS s on

108  
00:04:22,300 --> 00:04:20,849  
on the station s1 trust so the the OBS s

109  
00:04:26,300 --> 00:04:22,310  
will be positioned by the station

110  
00:04:28,310 --> 00:04:26,310  
robotic arm in a position that thinking

111  
00:04:31,160 --> 00:04:28,320  
shama Tov can actually grab

112  
00:04:33,380 --> 00:04:31,170  
and place it on the on stanchions on s1

113  
00:04:36,320 --> 00:04:33,390

once we do that physical connection on

114

00:04:39,020 --> 00:04:36,330

the s-1 truss segment the EBA crew will

115

00:04:41,330 --> 00:04:39,030

translate to p6 where they retrieve a

116

00:04:43,970 --> 00:04:41,340

power data grapple fixture or PDGF

117

00:04:46,460 --> 00:04:43,980

that's not in use or bring that PDGF

118

00:04:49,580 --> 00:04:46,470

back to the OB SS remove the existing

119

00:04:51,710 --> 00:04:49,590

grapple fixture which is which is

120

00:04:54,890 --> 00:04:51,720

designed to interface with the shuttle

121

00:04:57,500 --> 00:04:54,900

arm and replace that EF GF as we call it

122

00:05:00,860 --> 00:04:57,510

with a station PDGF which can then be

123

00:05:03,500 --> 00:05:00,870

grappled by the station or at the end of

124

00:05:07,040 --> 00:05:03,510

the EBA once all the OB SS related tasks

125

00:05:11,270 --> 00:05:07,050

are completed we're doing some work on

126

00:05:13,970 --> 00:05:11,280

one of the spare spdm arms that we

127

00:05:16,880 --> 00:05:13,980

actually launched on LC three there's

128

00:05:18,710 --> 00:05:16,890

fasteners fasteners on those arms that

129

00:05:21,800 --> 00:05:18,720

were concerned with the thermal cycles

130

00:05:23,480 --> 00:05:21,810

on the spares on the external trust of

131

00:05:25,190 --> 00:05:23,490

the space station naturally expand and

132

00:05:27,530 --> 00:05:25,200

contract with as the thermal environment

133

00:05:29,900 --> 00:05:27,540

changes and past experience with these

134

00:05:32,810 --> 00:05:29,910

particular fasteners as indicated that

135

00:05:35,240 --> 00:05:32,820

these type of thermal expansions may

136

00:05:36,560 --> 00:05:35,250

cause wear and tear on whatever piece of

137

00:05:38,900 --> 00:05:36,570

hardware is associated with these

138

00:05:41,090 --> 00:05:38,910

fasteners so there we're going to remove

139

00:05:42,740 --> 00:05:41,100

those from the spdm arm in order to

140

00:05:45,320 --> 00:05:42,750

protect it down the road and make sure

141

00:05:46,940 --> 00:05:45,330

that it's not damaged as it waits on the

142

00:05:50,150 --> 00:05:46,950

trust for potential use in the future

143

00:05:51,320 --> 00:05:50,160

and I think Kylie that's it for an

144

00:05:57,740 --> 00:05:51,330

overview if you want to take questions

145

00:06:00,080 --> 00:05:57,750

ok I'll start here in the room hi Rob

146

00:06:02,270 --> 00:06:00,090

Perlman with collectspace.com with a

147

00:06:04,700 --> 00:06:02,280

couple of questions first I realized

148

00:06:07,520 --> 00:06:04,710

this is a shuttle side thing but I think

149

00:06:10,670 --> 00:06:07,530

I heard a call about the shuttle crew

150

00:06:13,640 --> 00:06:10,680

having an issue with their WCS and maybe

151  
00:06:15,650 --> 00:06:13,650  
with the stage using the station's WCS

152  
00:06:17,690 --> 00:06:15,660  
as well do you know what that was about

153  
00:06:20,330 --> 00:06:17,700  
and what the situation is the

154  
00:06:21,860 --> 00:06:20,340  
conversation probably related to which

155  
00:06:26,840 --> 00:06:21,870  
shuttle crew members were actually used

156  
00:06:30,560 --> 00:06:26,850  
using the station w whs or basically the

157  
00:06:33,080 --> 00:06:30,570  
station toilet when we when we fly the

158  
00:06:35,420 --> 00:06:33,090  
shuttle missions to station we have a

159  
00:06:36,980 --> 00:06:35,430  
pre-planned mix you know X number

160  
00:06:39,950 --> 00:06:36,990  
shuttle shuttle crew members use the

161  
00:06:42,290 --> 00:06:39,960  
station and vice versa and it's

162  
00:06:45,710 --> 00:06:42,300  
basically a balance between the two

163  
00:06:47,360 --> 00:06:45,720

vehicles and based on what we've seen

164

00:06:49,369 --> 00:06:47,370

over the past several days we made a

165

00:06:50,659 --> 00:06:49,379

decision to move all the shuttle crew

166

00:06:52,580 --> 00:06:50,669

members over to station so that's

167

00:06:55,159 --> 00:06:52,590

probably a conversation that you heard

168

00:06:57,050 --> 00:06:55,169

I'm not familiar with any issues on on

169

00:07:03,140 --> 00:06:57,060

either vehicle relative to the to the

170

00:07:07,249 --> 00:07:03,150

WCS with regards to the co2 sensor in in

171

00:07:09,950 --> 00:07:07,259

Greg suit were to fail while you they

172

00:07:12,920 --> 00:07:09,960

were still in the airlock in preparation

173

00:07:16,279 --> 00:07:12,930

to go out for the EV a would that mean

174

00:07:18,709 --> 00:07:16,289

that an end to the EBA altogether or

175

00:07:20,689 --> 00:07:18,719

would you come in and try to reset it as

176

00:07:23,149 --> 00:07:20,699

it did before what would be the

177

00:07:24,890 --> 00:07:23,159

situation in that case yeah I'll say

178

00:07:28,450 --> 00:07:24,900

first that we know the issue with the

179

00:07:31,730 --> 00:07:28,460

sensor is moisture which obviously

180

00:07:35,390 --> 00:07:31,740

increases as a crew member works in a

181

00:07:36,800 --> 00:07:35,400

suit in terms of perspiration so you

182

00:07:39,200 --> 00:07:36,810

know I would say based on the failure

183

00:07:42,369 --> 00:07:39,210

mechanism it's unlikely to fail early

184

00:07:44,990 --> 00:07:42,379

but if it did we would press with EBA

185

00:07:46,879 --> 00:07:45,000

what we've done you know we've picked a

186

00:07:49,040 --> 00:07:46,889

we know the capability that Litha

187

00:07:50,990 --> 00:07:49,050

lithium hydroxide cartridges on the

188

00:07:52,790 --> 00:07:51,000

ground and we we picked a lie out

189

00:07:54,200 --> 00:07:52,800

cartridge with maximum capability

190

00:07:56,120 --> 00:07:54,210

because they're not all created equal

191

00:07:58,189 --> 00:07:56,130

that depends on how they're packed and

192

00:08:00,200 --> 00:07:58,199

manufacturer on the ground so we picked

193

00:08:02,689 --> 00:08:00,210

a cartridge with maximum capability put

194

00:08:06,830 --> 00:08:02,699

in Greg suit something on order of seven

195

00:08:09,290 --> 00:08:06,840

and a half hours maybe more than that so

196

00:08:12,320 --> 00:08:09,300

that if we were to fail that sensor and

197

00:08:13,760 --> 00:08:12,330

we had to deduct the capability based on

198

00:08:16,339 --> 00:08:13,770

the failed sensor he would still have

199

00:08:18,399 --> 00:08:16,349

enough left to do the 630 EBA so we'd

200

00:08:21,589 --> 00:08:18,409

press without it and as we talked before

201

00:08:24,350 --> 00:08:21,599

we depend on Gemma top to give us

202

00:08:25,820 --> 00:08:24,360

indications of any co2 system and but

203

00:08:31,459 --> 00:08:25,830

we'd have the capability to complete a

204

00:08:33,469 --> 00:08:31,469

630 be a marker for aviation week I

205

00:08:35,180 --> 00:08:33,479

wondered on the inspection today it

206

00:08:37,339 --> 00:08:35,190

didn't sound like anything jumped out

207

00:08:40,909 --> 00:08:37,349

though I understand you have to really

208

00:08:43,670 --> 00:08:40,919

go through the data look like from what

209

00:08:47,269 --> 00:08:43,680

you could see in issue on the surface

210

00:08:53,580 --> 00:08:47,279

that there wasn't new damage I agree it

211

00:08:58,810 --> 00:08:57,130

Denise Chow ad space com Allison I think

212

00:09:01,300 --> 00:08:58,820

talked about some things that could be

213

00:09:03,400 --> 00:09:01,310

done just very preliminary to flush out

214

00:09:04,570 --> 00:09:03,410

the co2 sensor I know it can't be

215

00:09:05,920 --> 00:09:04,580

swapped out because the procedures

216

00:09:08,650 --> 00:09:05,930

aren't there but was anything done in

217

00:09:11,080 --> 00:09:08,660

between EV a1 and now to anything done

218

00:09:13,840 --> 00:09:11,090

to the sensor yeah we're in what we call

219

00:09:16,030 --> 00:09:13,850

it dry out procedure where without the

220

00:09:19,030 --> 00:09:16,040

crewmen in the suit we configure it such

221

00:09:21,460 --> 00:09:19,040

that we flow oxygen through the suit and

222

00:09:24,490 --> 00:09:21,470

pass that sensor and as a matter of fact

223

00:09:26,710 --> 00:09:24,500

when we when we powered up the suit on

224

00:09:29,620 --> 00:09:26,720

that day after the sensor was already

225

00:09:31,960 --> 00:09:29,630

clear and was already added at a nominal

226

00:09:33,970 --> 00:09:31,970

reading so on its own it had already

227

00:09:35,440 --> 00:09:33,980

dried out enough to recover but we went

228

00:09:38,440 --> 00:09:35,450

ahead and ran that drive procedure just

229

00:09:40,800 --> 00:09:38,450

to get some additional margin there and

230

00:09:43,330 --> 00:09:40,810

also how important is it that all the

231

00:09:45,760 --> 00:09:43,340

procedures for evi for completed because

232

00:09:49,870 --> 00:09:45,770

this is the last EBA that's going to be

233

00:09:52,270 --> 00:09:49,880

conducted by a shuttle crew let's see on

234

00:09:54,280 --> 00:09:52,280

the OBS s portion of it of course the

235

00:09:56,050 --> 00:09:54,290

the most important thing is that we get

236

00:09:57,940 --> 00:09:56,060

the boom handed off because other and

237

00:09:59,560 --> 00:09:57,950

stowed on station otherwise the boom

238

00:10:01,690 --> 00:09:59,570

goes back on shuttle and that's a

239

00:10:04,210 --> 00:10:01,700

significant impact we you know you'd

240

00:10:06,340 --> 00:10:04,220

have to look at 135 or perhaps not do

241

00:10:09,070 --> 00:10:06,350

the boom stow at all once we get the

242

00:10:11,170 --> 00:10:09,080

boom stow on station the actual

243

00:10:13,630 --> 00:10:11,180

retrieval of the PDGF from the p6

244

00:10:16,600 --> 00:10:13,640

segment could be done at a later date in

245

00:10:19,120 --> 00:10:16,610

theory bite you know bas stage crew for

246

00:10:24,070 --> 00:10:19,130

example without the shuttle present the

247

00:10:26,260 --> 00:10:24,080

the the fasteners on the spdm spare arm

248

00:10:28,360 --> 00:10:26,270

that i mentioned because that's a

249

00:10:30,430 --> 00:10:28,370

thermal cycling issue and it's you know

250

00:10:32,050 --> 00:10:30,440

it's ongoing now as the station goes

251  
00:10:34,060 --> 00:10:32,060  
through its orbit there is some

252  
00:10:37,180 --> 00:10:34,070  
importance to getting that done sooner

253  
00:10:40,450 --> 00:10:37,190  
rather than later so if we were not to

254  
00:10:43,030 --> 00:10:40,460  
do that task these EDF fasteners on that

255  
00:10:46,720 --> 00:10:43,040  
spdm that might be something that's

256  
00:10:48,340 --> 00:10:46,730  
considered sts-135 perhaps it has to be

257  
00:10:50,830 --> 00:10:48,350  
weighed against everything else that's

258  
00:10:53,620 --> 00:10:50,840  
planned but the power and data grapple

259  
00:10:57,670 --> 00:10:53,630  
fixture in particular with no near-term

260  
00:11:00,040 --> 00:10:57,680  
use for the OBS s no specific use we

261  
00:11:02,860 --> 00:11:00,050  
could live without that PDGF for some

262  
00:11:07,800 --> 00:11:04,360  
okay now we'll start with questions on

263  
00:11:10,090 --> 00:11:07,810

the phone bridge Charles a consensus

264

00:11:11,860 --> 00:11:10,100

Parcells a new place on smooth you can

265

00:11:14,490 --> 00:11:11,870

be calm I was wondering if you could

266

00:11:17,400 --> 00:11:14,500

discuss the issue with a tu tu yesterday

267

00:11:20,170 --> 00:11:17,410

and will it be operational for landing

268

00:11:22,540 --> 00:11:20,180

yeah unfortunately not prepared to

269

00:11:24,460 --> 00:11:22,550

discuss the details of the failure i can

270

00:11:26,500 --> 00:11:24,470

tell you that it was a redundant heater

271

00:11:29,200 --> 00:11:26,510

on a different apu than then we had the

272

00:11:31,030 --> 00:11:29,210

issue with pre-flight so no changes in

273

00:11:33,700 --> 00:11:31,040

procedure is required and we still have

274

00:11:37,090 --> 00:11:33,710

a fully functional redundant heater

275

00:11:40,060 --> 00:11:37,100

string available to us so you feel very

276

00:11:42,430 --> 00:11:40,070

confident going into landing with this

277

00:11:45,280 --> 00:11:42,440

apu birds it going to be tested the day

278

00:11:47,380 --> 00:11:45,290

before landing now we'll manage the

279

00:11:49,150 --> 00:11:47,390

system the same no changes the way we're

280

00:11:53,380 --> 00:11:49,160

managing that heater system in the APU

281

00:11:55,120 --> 00:11:53,390

and with with a single heater we still

282

00:11:57,010 --> 00:11:55,130

have all normal capability there's no

283

00:11:57,940 --> 00:11:57,020

issue with with freezing the lines or

284

00:12:00,579 --> 00:11:57,950

any of the other things that words

285

00:12:02,829 --> 00:12:00,589

discussed pre-flight and and the failure

286

00:12:05,440 --> 00:12:02,839

on the failure that we did have was

287

00:12:08,340 --> 00:12:05,450

intermittent so we know for sure that

288

00:12:10,960 --> 00:12:08,350

we've got a good redundant heater string

289

00:12:12,340 --> 00:12:10,970

okay thank you and one last one I was

290

00:12:14,290 --> 00:12:12,350

wondering if you could step back for a

291

00:12:17,490 --> 00:12:14,300

moment and share your own thoughts on

292

00:12:23,079 --> 00:12:17,500

Fridays final space shuttle crew DBA oh

293

00:12:27,699 --> 00:12:23,089

you know we should keep a few NASA space

294

00:12:29,920 --> 00:12:27,709

suits also on the space station yeah and

295

00:12:33,670 --> 00:12:29,930

start with your last question first we

296

00:12:36,040 --> 00:12:33,680

will will maintain a EBA or spacewalking

297

00:12:39,790 --> 00:12:36,050

capability on station for as long as

298

00:12:41,430 --> 00:12:39,800

station is on orbit and and we can do we

299

00:12:45,400 --> 00:12:41,440

can do all the things that we can do

300

00:12:47,050 --> 00:12:45,410

relative to an EBA station only without

301  
00:12:48,730 --> 00:12:47,060  
a shuttle as we can with the shuttle of

302  
00:12:52,210 --> 00:12:48,740  
course the airlock is there it stays

303  
00:12:56,769 --> 00:12:52,220  
with the station will have enough am

304  
00:12:58,990 --> 00:12:56,779  
used to support it to two-person edas we

305  
00:13:01,329 --> 00:12:59,000  
have all the tools required we are

306  
00:13:04,240 --> 00:13:01,339  
actually building up an inventory of

307  
00:13:06,040 --> 00:13:04,250  
spare parts for the e/m use such at

308  
00:13:07,960 --> 00:13:06,050  
we're in position on station to do

309  
00:13:10,180 --> 00:13:07,970  
maintenance on the M use that to this

310  
00:13:12,520 --> 00:13:10,190  
point we weren't able to do you no good

311  
00:13:16,390 --> 00:13:12,530  
example is this co2 sensor we mentioned

312  
00:13:20,130 --> 00:13:16,400  
after Eva a one that we have a co2

313  
00:13:22,510 --> 00:13:20,140

sensor for a EMU on board and that the

314

00:13:24,670 --> 00:13:22,520

that the procedures were in work but

315

00:13:26,590 --> 00:13:24,680

weren't ready and that's an example of

316

00:13:28,780 --> 00:13:26,600

the capability that we're building up to

317

00:13:30,790 --> 00:13:28,790

instead of flying the emu's home to be

318

00:13:32,110 --> 00:13:30,800

refurbished and repaired we're going to

319

00:13:33,910 --> 00:13:32,120

have the spare parts and the procedures

320

00:13:36,100 --> 00:13:33,920

and the techniques ready to go on orbit

321

00:13:39,040 --> 00:13:36,110

in order to protect that capability and

322

00:13:41,860 --> 00:13:39,050

on station there's a number of critical

323

00:13:44,820 --> 00:13:41,870

components that require a pretty quick

324

00:13:47,830 --> 00:13:44,830

reaction you know a reaction in terms of

325

00:13:50,320 --> 00:13:47,840

maybe 10 to 14 days in order to protect

326

00:13:53,700 --> 00:13:50,330

the station things like the external

327

00:13:57,100 --> 00:13:53,710

thermal control system main cooling pump

328

00:14:01,210 --> 00:13:57,110

certain key components in the power

329

00:14:03,370 --> 00:14:01,220

system so that what we plan to do is

330

00:14:05,770 --> 00:14:03,380

preserve the capability on station to

331

00:14:07,600 --> 00:14:05,780

stage a spacewalk to change out one of

332

00:14:10,270 --> 00:14:07,610

those critical spares within that

333

00:14:12,340 --> 00:14:10,280

two-week window so short answer your

334

00:14:15,070 --> 00:14:12,350

question is will continue to do station

335

00:14:17,650 --> 00:14:15,080

to do ebas from station and we have all

336

00:14:22,210 --> 00:14:17,660

the capability that we have during a

337

00:14:24,790 --> 00:14:22,220

shuttle dock mission and that your first

338

00:14:27,340 --> 00:14:24,800

question you know it when I started

339

00:14:29,800 --> 00:14:27,350

working the station program we were it

340

00:14:32,950 --> 00:14:29,810

was well before STS 88 to a when we

341

00:14:35,560 --> 00:14:32,960

launched the first us-built piece of

342

00:14:38,380 --> 00:14:35,570

hardware the node one module and we were

343

00:14:41,950 --> 00:14:38,390

we were in that that redesign cycle if

344

00:14:44,110 --> 00:14:41,960

you will where every couple years there

345

00:14:45,670 --> 00:14:44,120

would be new ideas new thoughts perhaps

346

00:14:48,460 --> 00:14:45,680

we had to scale back or change the

347

00:14:49,990 --> 00:14:48,470

design and you know in that kind of

348

00:14:51,460 --> 00:14:50,000

period it can get a little discouraging

349

00:14:52,510 --> 00:14:51,470

and you kind of start wondering if and

350

00:14:56,590 --> 00:14:52,520

when we're ever going to fly real

351  
00:14:59,530 --> 00:14:56,600  
hardware but you know once we hit the

352  
00:15:03,520 --> 00:14:59,540  
hit the ground with SDS 88 launched the

353  
00:15:05,830 --> 00:15:03,530  
node module in 1998 looking back looking

354  
00:15:08,380 --> 00:15:05,840  
looking back at what the station was

355  
00:15:10,710 --> 00:15:08,390  
then two relatively small pressurized

356  
00:15:14,620 --> 00:15:10,720  
modules without a capability to support

357  
00:15:18,130 --> 00:15:14,630  
people to what it is now this just huge

358  
00:15:20,170 --> 00:15:18,140  
amazing laboratory with with the ability

359  
00:15:23,160 --> 00:15:20,180  
to support 12 people for short periods

360  
00:15:25,570 --> 00:15:23,170  
that support six crew members long term

361  
00:15:28,540 --> 00:15:25,580  
and and the spacewalks that we

362  
00:15:29,439 --> 00:15:28,550  
accomplish it's just it we have come a

363  
00:15:31,299 --> 00:15:29,449

long long

364

00:15:33,249 --> 00:15:31,309

way and it's an amazing capability that

365

00:15:36,460 --> 00:15:33,259

we built and I'm just proud to have been

366

00:15:39,609 --> 00:15:36,470

a small part of it okay and just briefly

367

00:15:41,949 --> 00:15:39,619

to confirm you will rely on just the

368

00:15:45,699 --> 00:15:41,959

Orlan suits you'll be using American

369

00:15:47,289 --> 00:15:45,709

NASA EDM use yes that's correct and you

370

00:15:49,809 --> 00:15:47,299

know it's a good point you make we also

371

00:15:51,429 --> 00:15:49,819

have the capability to do to do EV age

372

00:15:53,409 --> 00:15:51,439

using the russian air lock in the

373

00:15:55,539 --> 00:15:53,419

russian orlan suits we have a separate

374

00:16:00,099 --> 00:15:55,549

and independent capability using the US

375

00:16:02,079 --> 00:16:00,109

air lock two-stage emu based american eb

376

00:16:03,729 --> 00:16:02,089

ace if you will so I mean it's an EV a

377

00:16:05,619 --> 00:16:03,739

that will look exactly like the ones

378

00:16:08,220 --> 00:16:05,629

that that we've been doing this doc

379

00:16:12,220 --> 00:16:08,230

mission except the orbiters not docked

380

00:16:16,389 --> 00:16:12,230

thank you so much next is that Phillips

381

00:16:19,179 --> 00:16:16,399

one philipp fauth with NASA Space Flight

382

00:16:22,929 --> 00:16:19,189

com following up on Charles question on

383

00:16:25,780 --> 00:16:22,939

Greg's emu is for future Ed Hayes that

384

00:16:28,960 --> 00:16:25,790

might use that mu is there any thought

385

00:16:31,569 --> 00:16:28,970

maybe in the short term to I to

386

00:16:33,970 --> 00:16:31,579

preemptively doing a flush of that

387

00:16:36,460 --> 00:16:33,980

sensor before you would go out to do

388

00:16:39,249 --> 00:16:36,470

that and that's certainly one option I

389

00:16:41,049 --> 00:16:39,259

would tell you that my expectation is

390

00:16:43,299 --> 00:16:41,059

that once we get this doc mission behind

391

00:16:45,099 --> 00:16:43,309

us is that there'll be a lot of focus

392

00:16:47,019 --> 00:16:45,109

and emphasis on the on the procedure

393

00:16:49,720 --> 00:16:47,029

that we're developing the change out the

394

00:16:52,749 --> 00:16:49,730

co2 sensor so we do have a spare on

395

00:16:56,319 --> 00:16:52,759

orbit in the procedure needs needs work

396

00:16:58,269 --> 00:16:56,329

needs validation needs analysis but I

397

00:16:59,859 --> 00:16:58,279

would expect that to be the focus over

398

00:17:02,349 --> 00:16:59,869

the near term to get that procedure

399

00:17:06,340 --> 00:17:02,359

ready to go in at some point have the

400

00:17:09,100 --> 00:17:06,350

on-orbit crew change out that sensor ok

401  
00:17:11,199 --> 00:17:09,110  
thanks and could I do you have any

402  
00:17:14,759 --> 00:17:11,209  
general status on how transfers going

403  
00:17:17,919 --> 00:17:14,769  
and although status of the feeder work

404  
00:17:20,949 --> 00:17:17,929  
yeah the Sidra work is actually is going

405  
00:17:23,860 --> 00:17:20,959  
very well I told you I guess two days

406  
00:17:26,559 --> 00:17:23,870  
ago that the the crew was able to remove

407  
00:17:29,080 --> 00:17:26,569  
the the Sidra hardware from the rack in

408  
00:17:31,269 --> 00:17:29,090  
which it's normally mounted and we move

409  
00:17:33,190 --> 00:17:31,279  
that the Sidra their common carbon

410  
00:17:36,060 --> 00:17:33,200  
dioxide removal assembly to the gym

411  
00:17:40,090 --> 00:17:36,070  
module which is a good good work place

412  
00:17:42,130 --> 00:17:40,100  
on the timeline tomorrow is a number of

413  
00:17:45,190 --> 00:17:42,140

hours of work to remove that

414

00:17:47,320 --> 00:17:45,200

chool the bed or the cartridge that does

415

00:17:49,750 --> 00:17:47,330

the actual co2 absorbing we're going to

416

00:17:51,250 --> 00:17:49,760

remove that cartridge from the Sidra

417

00:17:54,610 --> 00:17:51,260

unit we're going to replace it with a

418

00:17:56,050 --> 00:17:54,620

cartridge that we brought up on on this

419

00:17:58,120 --> 00:17:56,060

flight on you left six and then we'll

420

00:17:59,440 --> 00:17:58,130

we'll actually wrap that up and

421

00:18:01,890 --> 00:17:59,450

reinstall the Sidra in its normal

422

00:18:05,550 --> 00:18:01,900

location I said tomorrow it's actually

423

00:18:07,810 --> 00:18:05,560

flight 813 so it's the day after the EBA

424

00:18:11,770 --> 00:18:07,820

because Taz and spank you're doing most

425

00:18:15,010 --> 00:18:11,780

of that work thankful for me and on on

426

00:18:16,450 --> 00:18:15,020

the transfer question going very well I

427

00:18:18,160 --> 00:18:16,460

don't have the specific numbers but

428

00:18:24,220 --> 00:18:18,170

we're ahead of schedule and then fly day

429

00:18:27,010 --> 00:18:24,230

13 and 14 we wrap that up Thanks okay

430

00:18:29,470 --> 00:18:27,020

next on the line is Marcia Dunn yes I

431

00:18:31,870 --> 00:18:29,480

there RTF any idea what set off that

432

00:18:32,950 --> 00:18:31,880

smoke alarm a little while ago yeah

433

00:18:34,660 --> 00:18:32,960

that's a good question i didn't mention

434

00:18:37,060 --> 00:18:34,670

that but that was a little excitement in

435

00:18:40,690 --> 00:18:37,070

the middle of the night what we had was

436

00:18:42,730 --> 00:18:40,700

an onboard alarm and then an indication

437

00:18:45,910 --> 00:18:42,740

on our caution and warning panel that

438

00:18:49,150 --> 00:18:45,920

one of the four smoke detectors in the

439

00:18:50,980 --> 00:18:49,160

service module was an alarm looking at

440

00:18:53,290 --> 00:18:50,990

the data that it was it was quickly

441

00:18:55,030 --> 00:18:53,300

obvious that the other three smoke

442

00:18:57,430 --> 00:18:55,040

detectors in the service module were not

443

00:19:00,250 --> 00:18:57,440

showing any in any indication of smoke

444

00:19:03,220 --> 00:19:00,260

and then the Russian crew called down

445

00:19:06,100 --> 00:19:03,230

per procedure and / training to report

446

00:19:08,200 --> 00:19:06,110

to MCC Moscow that there was no no

447

00:19:09,940 --> 00:19:08,210

visible smoke and no burning smell which

448

00:19:12,640 --> 00:19:09,950

are the key pieces of information that

449

00:19:14,410 --> 00:19:12,650

we try to get from the crew in addition

450

00:19:15,910 --> 00:19:14,420

in that call the crew reported that

451  
00:19:18,520 --> 00:19:15,920  
they're working in a compartment and

452  
00:19:21,820 --> 00:19:18,530  
service module where that smoke detector

453  
00:19:23,260 --> 00:19:21,830  
is mounted so what we assume happen is

454  
00:19:25,300 --> 00:19:23,270  
that there was some dust kicked up by

455  
00:19:27,430 --> 00:19:25,310  
the crews work in that area that that

456  
00:19:29,770 --> 00:19:27,440  
obscured the sensor briefly looked like

457  
00:19:30,820 --> 00:19:29,780  
smoke and caused the alarm which is

458  
00:19:33,340 --> 00:19:30,830  
something that we've seen in the past

459  
00:19:35,200 --> 00:19:33,350  
the fact that none of the other three

460  
00:19:37,330 --> 00:19:35,210  
smoke detectors showed any indication of

461  
00:19:40,060 --> 00:19:37,340  
smoke in addition you know that the

462  
00:19:42,280 --> 00:19:40,070  
nearby us modules also didn't show any

463  
00:19:44,710 --> 00:19:42,290

indication of smoke allowed us to pretty

464

00:19:46,210 --> 00:19:44,720

quickly call it a false alarm and get

465

00:19:51,039 --> 00:19:46,220

the system back at a nominal

466

00:19:57,749 --> 00:19:51,049

configuration thank you that bow from me

467

00:20:01,539 --> 00:19:57,759

next is todd halverson thanks very much

468

00:20:05,680 --> 00:20:01,549

Derek you guys are about to declare

469

00:20:08,139 --> 00:20:05,690

victory on assembly complete of the u.s.

470

00:20:12,789 --> 00:20:08,149

OS and I'm wondering if you could

471

00:20:15,519 --> 00:20:12,799

compare this accomplishment to or rated

472

00:20:21,269 --> 00:20:15,529

among other human engineering

473

00:20:23,799 --> 00:20:21,279

achievements Thanks that's a tough one

474

00:20:26,739 --> 00:20:23,809

you know it's tough because i'm biased

475

00:20:28,570 --> 00:20:26,749

haven't even lived through it and you

476  
00:20:33,009 --> 00:20:28,580  
know haven't participated in most of it

477  
00:20:35,440 --> 00:20:33,019  
but you know when you consider the

478  
00:20:37,720 --> 00:20:35,450  
capability that we've developed and just

479  
00:20:39,159 --> 00:20:37,730  
the the amazing things that you can do

480  
00:20:41,229 --> 00:20:39,169  
with this laboratory that we have on

481  
00:20:43,570 --> 00:20:41,239  
orbit now the numbers of folks that can

482  
00:20:45,759 --> 00:20:43,580  
be supported our ability to repair it

483  
00:20:48,460 --> 00:20:45,769  
when it breaks the the potential that it

484  
00:20:52,359 --> 00:20:48,470  
has you know in terms of science and

485  
00:20:54,149 --> 00:20:52,369  
payloads and and other things I think

486  
00:20:57,729 --> 00:20:54,159  
it's got to be right up there I me not

487  
00:20:59,619 --> 00:20:57,739  
for me the the Apollo moon landing will

488  
00:21:01,749 --> 00:20:59,629

always be the pinnacle for whatever

489

00:21:03,639 --> 00:21:01,759

reason just my personal perspective but

490

00:21:05,590 --> 00:21:03,649

I would certainly put the space station

491

00:21:11,409 --> 00:21:05,600

right up there with anything else we've

492

00:21:15,489 --> 00:21:11,419

accomplished thanks all for me and

493

00:21:18,310 --> 00:21:15,499

finally Irene Klotz online thank you I

494

00:21:21,639 --> 00:21:18,320

had a question about this final shuttle

495

00:21:23,889 --> 00:21:21,649

base dva in light of the station of

496

00:21:26,590 --> 00:21:23,899

course maintaining capability to do EV

497

00:21:28,899 --> 00:21:26,600

a's what's the significance from the

498

00:21:33,190 --> 00:21:28,909

station's perspective of having this be

499

00:21:34,899 --> 00:21:33,200

the last one let's see I'm not

500

00:21:36,159 --> 00:21:34,909

completely sure I understand it quite

501  
00:21:40,269 --> 00:21:36,169  
are you asking why we're doing another

502  
00:21:42,310 --> 00:21:40,279  
one on 135 no I'm asking from the

503  
00:21:44,349 --> 00:21:42,320  
station's perspective is it a big deal

504  
00:21:46,810 --> 00:21:44,359  
that this is the last shuttle base dva

505  
00:21:49,659 --> 00:21:46,820  
do you get something out of the shuttle

506  
00:21:53,409 --> 00:21:49,669  
crews aside from extra hands of course

507  
00:21:57,489 --> 00:21:53,419  
that you don't get from doing the epa's

508  
00:22:00,789 --> 00:21:57,499  
on station I see you know the one of the

509  
00:22:02,560 --> 00:22:00,799  
differences between a shuttle dock

510  
00:22:04,960 --> 00:22:02,570  
mission dva performed my shuttle crew

511  
00:22:09,909 --> 00:22:04,970  
members and a stage eevee a perform

512  
00:22:12,070 --> 00:22:09,919  
by the station crew is that that we have

513  
00:22:15,490 --> 00:22:12,080

over the two years leading up to a

514

00:22:17,470 --> 00:22:15,500

shuttle dock mission we have almost

515

00:22:20,649 --> 00:22:17,480

continuous access to the shuttle crew

516

00:22:22,659 --> 00:22:20,659

and to the spacewalking astronauts so we

517

00:22:25,720 --> 00:22:22,669

go through a very extensive and very

518

00:22:27,549 --> 00:22:25,730

intensive training process so as an

519

00:22:29,919 --> 00:22:27,559

example for the 4e VA's will have

520

00:22:32,289 --> 00:22:29,929

conducted on this dock mission each of

521

00:22:34,240 --> 00:22:32,299

the crew members will have practiced the

522

00:22:37,419 --> 00:22:34,250

details and gone through the procedure

523

00:22:39,940 --> 00:22:37,429

in the neutral buoyancy lab on the order

524

00:22:41,440 --> 00:22:39,950

of five or six times Ricci VA in

525

00:22:43,299 --> 00:22:41,450

addition to the neutral buoyancy lab

526  
00:22:45,130 --> 00:22:43,309  
training they will have done procedure

527  
00:22:47,500 --> 00:22:45,140  
walkthroughs and other tool familiar

528  
00:22:50,289 --> 00:22:47,510  
ization so you know that they have

529  
00:22:52,750 --> 00:22:50,299  
worked for multiple years to prepare for

530  
00:22:54,850 --> 00:22:52,760  
the specifics of the of the EV aids that

531  
00:22:56,649 --> 00:22:54,860  
we're going to go do on this mission now

532  
00:22:59,950 --> 00:22:56,659  
when you contrast that with the station

533  
00:23:02,260 --> 00:22:59,960  
crew member they have the same generic

534  
00:23:04,090 --> 00:23:02,270  
training so they have this the skills

535  
00:23:07,690 --> 00:23:04,100  
required to do the spacewalk they

536  
00:23:09,340 --> 00:23:07,700  
practice generic task in the NBL they

537  
00:23:11,649 --> 00:23:09,350  
have all the all the same generic

538  
00:23:14,289 --> 00:23:11,659

training but they probably won't have

539

00:23:16,779 --> 00:23:14,299

done the EV a specific training that

540

00:23:19,060 --> 00:23:16,789

shuttle crew member will have done so as

541

00:23:20,680 --> 00:23:19,070

an example you know when I talked about

542

00:23:22,659 --> 00:23:20,690

these significant failures on station

543

00:23:25,240 --> 00:23:22,669

that we must respond to part of that too

544

00:23:28,149 --> 00:23:25,250

weak response period is getting the the

545

00:23:31,060 --> 00:23:28,159

station crews up to speed on on whatever

546

00:23:33,970 --> 00:23:31,070

task it is that they have to go execute

547

00:23:35,740 --> 00:23:33,980

so I would say that the shuttle crews

548

00:23:37,750 --> 00:23:35,750

have much more flight specific training

549

00:23:40,899 --> 00:23:37,760

in the end the capabilities are

550

00:23:43,690 --> 00:23:40,909

identical the station crews are going to

551  
00:23:45,399 --> 00:23:43,700  
have all the same basic training that

552  
00:23:47,620 --> 00:23:45,409  
shuttle guys do it just takes a little

553  
00:23:49,149 --> 00:23:47,630  
more time on orbit to prepare them for

554  
00:23:53,529 --> 00:23:49,159  
whatever task it is that we're going to

555  
00:23:55,120 --> 00:23:53,539  
ask them to go do thanks also just want

556  
00:23:57,760 --> 00:23:55,130  
to follow up something from yesterday

557  
00:23:59,470 --> 00:23:57,770  
you said that you thought the that

558  
00:24:02,470 --> 00:23:59,480  
shuttle legacy shot would be available

559  
00:24:05,110 --> 00:24:02,480  
in about a week which is Oh probably

560  
00:24:06,940 --> 00:24:05,120  
five or six days later than I think what

561  
00:24:08,440 --> 00:24:06,950  
we were initially told and probably

562  
00:24:12,130 --> 00:24:08,450  
seven days later than what we all want

563  
00:24:14,169 --> 00:24:12,140

but given the updates on on on the

564

00:24:16,630 --> 00:24:14,179

recovery of that disk and the

565

00:24:18,290 --> 00:24:16,640

distribution on damages no updates from

566

00:24:21,050 --> 00:24:18,300

what I told you yesterday

567

00:24:24,290 --> 00:24:21,060

what I've been told is that at the

568

00:24:26,420 --> 00:24:24,300

photographs are in the Soyuz moving to

569

00:24:29,210 --> 00:24:26,430

Moscow along with all the other cargo

570

00:24:31,490 --> 00:24:29,220

and then they'll be processed just as

571

00:24:33,260 --> 00:24:31,500

the rest of the cargo is and then at

572

00:24:37,790 --> 00:24:33,270

some point we'll have access to those

573

00:24:39,530 --> 00:24:37,800

photos thank you and not on the UBS s

574

00:24:42,110 --> 00:24:39,540

transfer I think I know the answer to

575

00:24:43,700 --> 00:24:42,120

this but I want to hear it from you the

576

00:24:47,290 --> 00:24:43,710

reason why this is being done on this

577

00:24:51,470 --> 00:24:47,300

mission instead of 135 is class of a VA

578

00:24:54,290 --> 00:24:51,480

yeah you know with our capability to do

579

00:24:56,510 --> 00:24:54,300

for EVs and the OBS s work essentially

580

00:24:58,880 --> 00:24:56,520

consuming an entire EBA this is the

581

00:24:59,840 --> 00:24:58,890

flight that made the most sense one of

582

00:25:02,840 --> 00:24:59,850

the things that they're going to do on

583

00:25:05,510 --> 00:25:02,850

145 is bring home two failed pump module

584

00:25:07,700 --> 00:25:05,520

and you can't it's really not practical

585

00:25:10,280 --> 00:25:07,710

to do both the OBS s and the pump module

586

00:25:15,190 --> 00:25:10,290

so 134 just made the most sense in terms

587

00:25:21,800 --> 00:25:18,110

thanks very much ok that's all on the

588

00:25:23,300 --> 00:25:21,810

line are there any policy and we will

589

00:25:24,980 --> 00:25:23,310

wrap up today's briefing with some

590

00:25:26,450 --> 00:25:24,990

programming notes there was a joint crew

591

00:25:27,710 --> 00:25:26,460

news conference early this morning with

592

00:25:29,600 --> 00:25:27,720

all the crew members onboard the shuttle

593

00:25:32,090 --> 00:25:29,610

and station so that will be replayed at

594

00:25:34,580 --> 00:25:32,100

nine-thirty a.m. central time and then

595

00:25:37,220 --> 00:25:34,590

the cruise go to sleep shortly so there

596

00:25:38,540 --> 00:25:37,230

will be a video file at 11am and then

597

00:25:41,840 --> 00:25:38,550

the flight day highlights will begin

598

00:25:44,260 --> 00:25:41,850

airing at 12pm there is a space station

599

00:25:48,020 --> 00:25:44,270

flight director update update at 4 45

600

00:25:51,050 --> 00:25:48,030

the crew then wakes up for the next day

601

00:25:52,760 --> 00:25:51,060

at 656 p.m. and again that's for the

602

00:25:55,100 --> 00:25:52,770

fourth and final spacewalk scheduled for

603

00:25:57,830 --> 00:25:55,110

this mission which is scheduled to start