



1  
00:00:14,240 --> 00:01:17,830  
targets

2  
00:01:17,840 --> 00:01:32,149  
so

3  
00:01:32,159 --> 00:01:40,789  
thank you

4  
00:01:44,789 --> 00:01:42,469  
all right good afternoon

5  
00:01:46,950 --> 00:01:44,799  
as you all saw the team has just wrapped

6  
00:01:49,270 --> 00:01:46,960  
up the final suited

7  
00:01:51,109 --> 00:01:49,280  
integrated ascent simulation

8  
00:01:52,469 --> 00:01:51,119  
joining me to my left is richard jones

9  
00:01:54,870 --> 00:01:52,479  
who is the asset flight director for

10  
00:01:56,389 --> 00:01:54,880  
this sts-135 mission we'll turn it over

11  
00:01:58,069 --> 00:01:56,399  
to him to make some remarks then turn it

12  
00:02:01,429 --> 00:01:58,079  
over to commander chris ferguson and

13  
00:02:03,830 --> 00:02:01,439

then we'll take questions richard

14

00:02:06,069 --> 00:02:03,840

okay thanks uh uh first of all i want to

15

00:02:08,710 --> 00:02:06,079

thank everyone for coming out um

16

00:02:10,949 --> 00:02:08,720

you're standing in this wonderful room

17

00:02:12,550 --> 00:02:10,959

the mission control center and the white

18

00:02:13,670 --> 00:02:12,560

flight control room or the white figure

19

00:02:17,270 --> 00:02:13,680

as we know it

20

00:02:19,830 --> 00:02:17,280

um you got to observe the the teamwork

21

00:02:23,110 --> 00:02:19,840

uh the absolute cohesiveness that

22

00:02:25,589 --> 00:02:23,120

what it takes to to get something uh

23

00:02:27,990 --> 00:02:25,599

like this done and uh what we're doing

24

00:02:29,110 --> 00:02:28,000

is we're building teamwork with uh with

25

00:02:31,430 --> 00:02:29,120

not only

26

00:02:33,190 --> 00:02:31,440

our crew me our our team members within

27

00:02:35,350 --> 00:02:33,200

this room but we're building that that

28

00:02:36,390 --> 00:02:35,360

cohesiveness cohesiveness with the crew

29

00:02:39,270 --> 00:02:36,400

as well

30

00:02:41,990 --> 00:02:39,280

um and today was very typical of of an

31

00:02:43,750 --> 00:02:42,000

asset simulation a lot of failures uh

32

00:02:46,150 --> 00:02:43,760

but at the same time we're exercising

33

00:02:48,390 --> 00:02:46,160

everything that that we need to do to to

34

00:02:50,790 --> 00:02:48,400

get ready for a flight very happy with

35

00:02:51,910 --> 00:02:50,800

the with the actual simulation and uh

36

00:02:53,589 --> 00:02:51,920

i'm just

37

00:02:55,350 --> 00:02:53,599

glad to be a part of this team so i'm

38

00:02:58,070 --> 00:02:55,360

going to hand this over to uh to chris

39

00:02:59,990 --> 00:02:58,080

ferguson or fergie and let him introduce

40

00:03:01,670 --> 00:03:00,000

his crew thanks

41

00:03:03,509 --> 00:03:01,680

thanks richard and thank you everybody

42

00:03:06,149 --> 00:03:03,519

for coming out today uh hopefully you

43

00:03:07,589 --> 00:03:06,159

got a small snapshot of

44

00:03:09,430 --> 00:03:07,599

what a crew goes through and what the

45

00:03:10,630 --> 00:03:09,440

mission control team goes through as we

46

00:03:11,910 --> 00:03:10,640

approach launch

47

00:03:13,830 --> 00:03:11,920

you know richard's being a little bit

48

00:03:15,350 --> 00:03:13,840

humble these folks in this room are the

49

00:03:17,110 --> 00:03:15,360

best of the best there is no one else in

50

00:03:18,949 --> 00:03:17,120

the world who can do the job that they

51  
00:03:21,750 --> 00:03:18,959  
do just the way they do and i think you

52  
00:03:23,830 --> 00:03:21,760  
had a little taste today for just how

53  
00:03:25,830 --> 00:03:23,840  
much they helped the crew get through a

54  
00:03:27,670 --> 00:03:25,840  
lot of the things that the crew the crew

55  
00:03:30,149 --> 00:03:27,680  
simply could not get through on their

56  
00:03:32,550 --> 00:03:30,159  
own each one of these subject matter

57  
00:03:34,070 --> 00:03:32,560  
experts are experts in their field they

58  
00:03:35,670 --> 00:03:34,080  
know all the answers and i'll tell you

59  
00:03:37,750 --> 00:03:35,680  
what when they're helping us and they're

60  
00:03:40,070 --> 00:03:37,760  
on their game we really

61  
00:03:41,670 --> 00:03:40,080  
our lives are literally in their hands

62  
00:03:43,750 --> 00:03:41,680  
you know we can handle a failure too

63  
00:03:45,190 --> 00:03:43,760

perhaps a layer too deep but once it

64

00:03:47,190 --> 00:03:45,200

gets a little more complicated than that

65

00:03:48,869 --> 00:03:47,200

we count on these guys to get us through

66

00:03:51,589 --> 00:03:48,879

and i think today with some of the

67

00:03:53,830 --> 00:03:51,599

complex scenarios that you've seen uh it

68

00:03:55,429 --> 00:03:53,840

bore that out to be absolutely true we

69

00:03:58,390 --> 00:03:55,439

really need their help and they have

70

00:04:00,229 --> 00:03:58,400

just done a fantastic job

71

00:04:01,589 --> 00:04:00,239

this whole evolution was designed to

72

00:04:03,429 --> 00:04:01,599

really showcase the mission control

73

00:04:06,149 --> 00:04:03,439

center so i want to keep this real short

74

00:04:08,149 --> 00:04:06,159

just very quickly uh to my left is the

75

00:04:09,990 --> 00:04:08,159

pilot doug hurley uh doug hurley is a

76

00:04:13,110 --> 00:04:10,000

colonel in the marine corps uh he's a

77

00:04:16,550 --> 00:04:13,120

veteran of a single space flight sts 129

78

00:04:19,830 --> 00:04:16,560

and to doug's left is sandy magnus sandy

79

00:04:21,189 --> 00:04:19,840

magnus a veteran of uh singles well

80

00:04:22,469 --> 00:04:21,199

several space flights depending on how

81

00:04:24,870 --> 00:04:22,479

you count them but

82

00:04:26,550 --> 00:04:24,880

she flew a shuttle flight sts-112 and

83

00:04:28,350 --> 00:04:26,560

then did a four and a half months

84

00:04:30,629 --> 00:04:28,360

station increment she went up with me on

85

00:04:32,310 --> 00:04:30,639

sts-126 and came back i believe on

86

00:04:33,590 --> 00:04:32,320

sts-119

87

00:04:35,510 --> 00:04:33,600

don't try to figure the numbers out they

88

00:04:38,310 --> 00:04:35,520

don't make sense uh

89

00:04:40,870 --> 00:04:38,320

and to her left is uh is rex walheim uh

90

00:04:42,710 --> 00:04:40,880

rex this will be rex's third third space

91

00:04:43,909 --> 00:04:42,720

flight he's a retired air force colonel

92

00:04:46,870 --> 00:04:43,919

he uh

93

00:04:48,550 --> 00:04:46,880

flew on sts-110 122 and this will be his

94

00:04:50,710 --> 00:04:48,560

uh third flight so

95

00:04:52,230 --> 00:04:50,720

again uh this this whole evolution is

96

00:04:53,430 --> 00:04:52,240

more about the mission control center so

97

00:04:54,390 --> 00:04:53,440

i'll go ahead and knock it off there i

98

00:05:06,550 --> 00:04:54,400

think we're going to open it up for

99

00:05:12,230 --> 00:05:09,270

my name is kevin fong with the bbc

100

00:05:15,430 --> 00:05:12,240

i guess is for everyone but um

101  
00:05:16,950 --> 00:05:15,440  
we're 22 odd days before launch now at

102  
00:05:18,950 --> 00:05:16,960  
what point

103  
00:05:24,390 --> 00:05:18,960  
do you really believe this is it and

104  
00:05:30,710 --> 00:05:27,029  
chris was nice fergie was nice enough to

105  
00:05:32,469 --> 00:05:30,720  
make me answer this one i i i fully uh i

106  
00:05:33,430 --> 00:05:32,479  
fully turned my attention to it's time

107  
00:05:34,230 --> 00:05:33,440  
to go

108  
00:05:36,550 --> 00:05:34,240  
uh

109  
00:05:39,510 --> 00:05:36,560  
once we're inside of t minus nine and as

110  
00:05:41,590 --> 00:05:39,520  
on 133 sometimes it's not almost there

111  
00:05:43,909 --> 00:05:41,600  
as as well but um

112  
00:05:46,230 --> 00:05:43,919  
yeah inside of t minus nine minutes and

113  
00:05:47,670 --> 00:05:46,240

and everyone is saying go for launch

114

00:05:50,469 --> 00:05:47,680

that's kind of when i when i turn my

115

00:05:52,950 --> 00:05:50,479

attention to okay here we go but uh

116

00:05:55,270 --> 00:05:52,960

really it's it's that mission doesn't

117

00:05:56,710 --> 00:05:55,280

start until those srbs light so you

118

00:05:57,749 --> 00:05:56,720

never know what will happen uh in

119

00:06:00,070 --> 00:05:57,759

between

120

00:06:02,150 --> 00:06:00,080

go for launch and and srb's life so

121

00:06:04,469 --> 00:06:02,160

we're ready to handle it

122

00:06:06,710 --> 00:06:04,479

ryan coursgard from kprc-tv here in

123

00:06:08,390 --> 00:06:06,720

houston what are your reflections as we

124

00:06:10,550 --> 00:06:08,400

end and we visited about this a moment

125

00:06:12,550 --> 00:06:10,560

ago as we end the shuttle program as as

126

00:06:15,749 --> 00:06:12,560

we tick down these final days you

127

00:06:18,390 --> 00:06:15,759

prepare for this last launch each of you

128

00:06:20,550 --> 00:06:18,400

well um you know the the task at hand

129

00:06:22,550 --> 00:06:20,560

right now is to make sure that we're

130

00:06:24,550 --> 00:06:22,560

clicking along as a team

131

00:06:26,230 --> 00:06:24,560

and doing all the right things at the

132

00:06:28,550 --> 00:06:26,240

right time without

133

00:06:30,309 --> 00:06:28,560

stepping on each other and so those are

134

00:06:32,710 --> 00:06:30,319

all my thoughts some of my thoughts

135

00:06:34,710 --> 00:06:32,720

returned to the vehicle itself

136

00:06:36,469 --> 00:06:34,720

we just went through a tanking test over

137

00:06:39,189 --> 00:06:36,479

at kennedy space center so our kennedy

138

00:06:40,950 --> 00:06:39,199

space center uh counterparts are working

139

00:06:43,110 --> 00:06:40,960

to make sure that the the vehicle is

140

00:06:44,469 --> 00:06:43,120

ready to go and so what we're paying

141

00:06:47,189 --> 00:06:44,479

attention to all of that getting ready

142

00:06:49,510 --> 00:06:47,199

for launch so we're we're worrying about

143

00:06:51,110 --> 00:06:49,520

every single aspect of the mission

144

00:06:52,710 --> 00:06:51,120

of making sure that we're prepared to

145

00:06:58,309 --> 00:06:52,720

handle not only the nominal but the

146

00:07:01,670 --> 00:07:00,390

commander ferguson pat patton getting

147

00:07:04,469 --> 00:07:01,680

you service

148

00:07:06,950 --> 00:07:04,479

and i wanted to ask you how you feel

149

00:07:08,710 --> 00:07:06,960

about being the commander for nasa's

150

00:07:11,670 --> 00:07:08,720

last space mission

151

00:07:13,430 --> 00:07:11,680

well i i feel extremely fortunate i

152

00:07:14,550 --> 00:07:13,440

think probably the word however is more

153

00:07:15,909 --> 00:07:14,560

lucky

154

00:07:17,350 --> 00:07:15,919

any one of a number of people in our

155

00:07:18,230 --> 00:07:17,360

office could have taken this position

156

00:07:19,110 --> 00:07:18,240

and

157

00:07:21,029 --> 00:07:19,120

uh

158

00:07:22,230 --> 00:07:21,039

you know being the commander is is it's

159

00:07:24,230 --> 00:07:22,240

interesting and title but you know we

160

00:07:25,749 --> 00:07:24,240

have a fantastic crew

161

00:07:28,230 --> 00:07:25,759

not only on board but we have an

162

00:07:30,230 --> 00:07:28,240

outstanding uh team who support us on

163

00:07:32,070 --> 00:07:30,240

the ground and make this all happen so

164

00:07:33,430 --> 00:07:32,080

like i said commander's a title but

165

00:07:35,270 --> 00:07:33,440

we're literally standing on the

166

00:07:38,150 --> 00:07:35,280

shoulders of some incredible people who

167

00:07:39,670 --> 00:07:38,160

make this entire program happy um

168

00:07:41,510 --> 00:07:39,680

you know and we've had several last

169

00:07:42,629 --> 00:07:41,520

missions we really have at one time or

170

00:07:43,830 --> 00:07:42,639

another i think

171

00:07:45,909 --> 00:07:43,840

three different flights were the last

172

00:07:47,430 --> 00:07:45,919

mission uh and this is just the way this

173

00:07:48,869 --> 00:07:47,440

this whole thing has worked out i guess

174

00:07:50,710 --> 00:07:48,879

as you know when the dice all fell and

175

00:07:52,950 --> 00:07:50,720

numbers came up you know we ended up

176

00:07:54,150 --> 00:07:52,960

actually going last but uh uh you know

177

00:07:56,390 --> 00:07:54,160

we're approaching this mission with the

178

00:07:58,309 --> 00:07:56,400

tenacity of of all the missions that

179

00:08:00,230 --> 00:07:58,319

preceded it we have a very busy job to

180

00:08:02,710 --> 00:08:00,240

do and i think only after the the final

181

00:08:04,629 --> 00:08:02,720

wheel stop call uh will we really uh you

182

00:08:06,790 --> 00:08:04,639

know the finality of

183

00:08:09,350 --> 00:08:06,800

of you know the historic events that

184

00:08:10,950 --> 00:08:09,360

have gone by uh will begin to hit us so

185

00:08:13,029 --> 00:08:10,960

but until then we're most of the

186

00:08:14,550 --> 00:08:13,039

grindstone we're very busy

187

00:08:16,550 --> 00:08:14,560

sure

188

00:08:18,710 --> 00:08:16,560

hi robert perlman with collectspace.com

189

00:08:21,029 --> 00:08:18,720

with a question for each of the crew um

190

00:08:22,629 --> 00:08:21,039

you know commander ferguson you just met

191

00:08:24,629 --> 00:08:22,639

you just talked about the many different

192

00:08:26,790 --> 00:08:24,639

finals that there are um but this was

193

00:08:28,230 --> 00:08:26,800

your last suited run and there have been

194

00:08:30,070 --> 00:08:28,240

a lot of laughs in fact just about

195

00:08:32,630 --> 00:08:30,080

everything you're doing is a last

196

00:08:34,949 --> 00:08:32,640

have there been more poignant lasts

197

00:08:36,070 --> 00:08:34,959

among what you've accomplished so far

198

00:08:40,709 --> 00:08:36,080

and uh

199

00:08:42,550 --> 00:08:40,719

and what has meant the most to you

200

00:08:43,990 --> 00:08:42,560

yeah we i mean we've it seems like

201  
00:08:45,829 --> 00:08:44,000  
almost every day now that's what we're

202  
00:08:48,150 --> 00:08:45,839  
what we're seeing we just did the last

203  
00:08:49,829 --> 00:08:48,160  
uh probably the last sta out of el paso

204  
00:08:50,870 --> 00:08:49,839  
and just see the folks that we used to

205  
00:08:51,750 --> 00:08:50,880  
see

206  
00:08:54,070 --> 00:08:51,760  
almost

207  
00:08:55,269 --> 00:08:54,080  
every couple weeks you know just you

208  
00:08:57,590 --> 00:08:55,279  
know and the way they maintain the

209  
00:08:59,350 --> 00:08:57,600  
runways out there and just all the the

210  
00:09:01,030 --> 00:08:59,360  
great memories we've had you know we've

211  
00:09:02,630 --> 00:09:01,040  
been flying out to el paso since you

212  
00:09:04,790 --> 00:09:02,640  
know right when you start and then you

213  
00:09:06,550 --> 00:09:04,800

know as we see people leaving to go do

214

00:09:08,310 --> 00:09:06,560

other things it's it's been tough you

215

00:09:10,150 --> 00:09:08,320

know but uh you know we're gonna do the

216

00:09:12,070 --> 00:09:10,160

best we can to honor them and and have a

217

00:09:14,310 --> 00:09:12,080

great mission and uh we look forward to

218

00:09:17,110 --> 00:09:14,320

seeing them when we get back

219

00:09:22,389 --> 00:09:20,389

oh thanks mark caro for aviation week um

220

00:09:24,470 --> 00:09:22,399

after you get on orbit what's the pace

221

00:09:26,470 --> 00:09:24,480

of your activity is going to be like uh

222

00:09:28,150 --> 00:09:26,480

you've got 12 days

223

00:09:30,230 --> 00:09:28,160

going into this for the whole mission

224

00:09:33,509 --> 00:09:30,240

duration can you extend anything on

225

00:09:35,110 --> 00:09:33,519

orbit is it going to be pretty frantic

226

00:09:36,470 --> 00:09:35,120

what are you guys going in trying to do

227

00:09:38,389 --> 00:09:36,480

to make sure you have enough time to get

228

00:09:40,790 --> 00:09:38,399

everything done yeah mark i'd have to

229

00:09:41,910 --> 00:09:40,800

say with the crew of four and that is um

230

00:09:43,509 --> 00:09:41,920

you know probably the one thing that

231

00:09:45,750 --> 00:09:43,519

concerns me the most but i think the the

232

00:09:47,350 --> 00:09:45,760

person who is most uh

233

00:09:49,030 --> 00:09:47,360

highly qualified to answer that is going

234

00:09:50,470 --> 00:09:49,040

to be sandy because she is going to be

235

00:09:52,389 --> 00:09:50,480

the frantic one on the mid deck so i'm

236

00:09:54,150 --> 00:09:52,399

going to turn it over to her

237

00:09:55,350 --> 00:09:54,160

yeah basically i am the mid deck you

238

00:09:57,030 --> 00:09:55,360

know we normally have two or three

239

00:09:58,790 --> 00:09:57,040

people down there and doug and rex come

240

00:10:00,870 --> 00:09:58,800

down and help me occasionally but you

241

00:10:02,470 --> 00:10:00,880

know usually with any mission that the

242

00:10:03,990 --> 00:10:02,480

tone of the mission starts with post

243

00:10:06,069 --> 00:10:04,000

insertion and how well you can get

244

00:10:08,470 --> 00:10:06,079

yourself organized once you get to orbit

245

00:10:09,430 --> 00:10:08,480

and start in that groove and i think you

246

00:10:11,269 --> 00:10:09,440

know we are a little bit of a

247

00:10:12,949 --> 00:10:11,279

disadvantage because we're a four person

248

00:10:15,110 --> 00:10:12,959

crew but that also means we have less

249

00:10:17,750 --> 00:10:15,120

stuff to deal with we have

250

00:10:19,509 --> 00:10:17,760

three less suits three less seats

251  
00:10:21,910 --> 00:10:19,519  
and things like that so i think we'll be

252  
00:10:24,230 --> 00:10:21,920  
okay it's going to be very busy

253  
00:10:27,190 --> 00:10:24,240  
we have practiced that day

254  
00:10:28,949 --> 00:10:27,200  
very often so we have a good uh plan for

255  
00:10:30,870 --> 00:10:28,959  
it and i think we'll be able to hit the

256  
00:10:34,870 --> 00:10:30,880  
ground running and settle into our group

257  
00:10:40,069 --> 00:10:35,829  
flame

258  
00:10:40,079 --> 00:10:42,949  
consideration

259  
00:10:42,959 --> 00:11:04,069  
uh

260  
00:11:09,110 --> 00:11:06,870  
okay i translate a little bit so she

261  
00:11:12,470 --> 00:11:09,120  
wants to know how do you feel to be the

262  
00:11:13,350 --> 00:11:12,480  
last crew going in space uh

263  
00:11:16,550 --> 00:11:13,360

in a

264

00:11:19,590 --> 00:11:16,560

american program proud lucky how do you

265

00:11:21,509 --> 00:11:19,600

really feel and she's a woman so what

266

00:11:23,509 --> 00:11:21,519

are you going to sh it's a question of a

267

00:11:25,750 --> 00:11:23,519

woman what are you going to say to your

268

00:11:29,190 --> 00:11:25,760

children if you have and to your husband

269

00:11:31,190 --> 00:11:29,200

if you have uh to them before flying and

270

00:11:32,310 --> 00:11:31,200

as we are known in france as french

271

00:11:34,150 --> 00:11:32,320

lovers

272

00:11:38,389 --> 00:11:34,160

she wants to know

273

00:11:39,829 --> 00:11:38,399

what about the love thing in space

274

00:11:41,590 --> 00:11:39,839

well we certainly don't have time for

275

00:11:43,590 --> 00:11:41,600

anything like that nor the inclination

276

00:11:45,750 --> 00:11:43,600

but let me let me let rex address the

277

00:11:48,310 --> 00:11:45,760

rest of the question as far as the

278

00:11:49,829 --> 00:11:48,320

last flight well it is as as our

279

00:11:51,430 --> 00:11:49,839

commander said it's a great honor to be

280

00:11:53,269 --> 00:11:51,440

on this last flight it's one of those

281

00:11:54,710 --> 00:11:53,279

things where we kind of knew we were

282

00:11:55,990 --> 00:11:54,720

getting close to being assigned but

283

00:11:57,350 --> 00:11:56,000

didn't know whether we would get there

284

00:11:58,870 --> 00:11:57,360

before the line closed down and so we

285

00:12:01,110 --> 00:11:58,880

were really excited when it so happened

286

00:12:02,629 --> 00:12:01,120

that we got to fly on this flight

287

00:12:05,190 --> 00:12:02,639

my kids have been involved we kind of

288

00:12:06,629 --> 00:12:05,200

have a tradition in my family we we go

289

00:12:07,430 --> 00:12:06,639

over to space center houston and watch

290

00:12:10,949 --> 00:12:07,440

the

291

00:12:12,150 --> 00:12:10,959

next mission when it's my mission as we

292

00:12:13,670 --> 00:12:12,160

kind of sit in the audience and watch as

293

00:12:14,949 --> 00:12:13,680

they explain about the mission and stuff

294

00:12:16,470 --> 00:12:14,959

that's kind of fun

295

00:12:17,350 --> 00:12:16,480

and then they once during the training

296

00:12:19,430 --> 00:12:17,360

flow they come over to the neutral

297

00:12:20,710 --> 00:12:19,440

buoyancy lab and watch us in the pool as

298

00:12:22,550 --> 00:12:20,720

they've been following along my boys are

299

00:12:24,629 --> 00:12:22,560

13 and 14 and this fellow they'll really

300

00:12:27,350 --> 00:12:24,639

enjoy it a lot more than than the others

301

00:12:28,710 --> 00:12:27,360

but it is harder on on the families it's

302

00:12:30,150 --> 00:12:28,720

it's it's one thing for us to have a

303

00:12:32,150 --> 00:12:30,160

little bit of sense of control when

304

00:12:33,829 --> 00:12:32,160

we're out in a vehicle and getting ready

305

00:12:35,110 --> 00:12:33,839

to fly and they just have to watch and

306

00:12:36,150 --> 00:12:35,120

even when we're out there watching our

307

00:12:37,910 --> 00:12:36,160

friends on missions that we're not

308

00:12:39,110 --> 00:12:37,920

assigned to it's tough to sit there and

309

00:12:40,949 --> 00:12:39,120

not be able to do anything and watch

310

00:12:46,470 --> 00:12:40,959

people fly so the families really have

311

00:12:50,389 --> 00:12:48,389

jackie goddard for the sunday telegraph

312

00:12:53,829 --> 00:12:50,399

newspaper of london thank you for having

313

00:12:56,870 --> 00:12:53,839

us along today i wanted to ask um any or

314

00:12:59,269 --> 00:12:56,880

all of you um how do you balance that

315

00:13:01,509 --> 00:12:59,279

sense of making this a celebration of 30

316

00:13:02,949 --> 00:13:01,519

years of the space shuttle against also

317

00:13:05,350 --> 00:13:02,959

that sense that some people have

318

00:13:07,590 --> 00:13:05,360

expressed some good long in the tooth

319

00:13:09,190 --> 00:13:07,600

nasa veterans that this feels more like

320

00:13:10,550 --> 00:13:09,200

a funeral because it's the last one how

321

00:13:12,389 --> 00:13:10,560

do you get that balance and how will you

322

00:13:13,829 --> 00:13:12,399

be feeling uh that's a great question

323

00:13:15,430 --> 00:13:13,839

and i'm gonna i'm gonna turn to richard

324

00:13:17,910 --> 00:13:15,440

in just a second but because i think

325

00:13:19,509 --> 00:13:17,920

it's largely uh his group of folks who's

326

00:13:20,790 --> 00:13:19,519

uh who are gonna be the most affected at

327

00:13:21,990 --> 00:13:20,800

least in the near term when the

328

00:13:24,470 --> 00:13:22,000

mission's over

329

00:13:27,350 --> 00:13:24,480

um you know this this whole uh drawdown

330

00:13:28,949 --> 00:13:27,360

of nasa's uh contractor workforce has

331

00:13:30,870 --> 00:13:28,959

been it's been a force to be reckoned

332

00:13:32,550 --> 00:13:30,880

with throughout the training flow uh we

333

00:13:34,389 --> 00:13:32,560

have made ample trips to the kennedy

334

00:13:36,310 --> 00:13:34,399

space center to make sure that we get as

335

00:13:38,550 --> 00:13:36,320

much one-on-one contact with the

336

00:13:40,870 --> 00:13:38,560

individuals who are touching the vehicle

337

00:13:43,430 --> 00:13:40,880

who work on the space hardware because

338

00:13:45,430 --> 00:13:43,440

it's an it's uh it's it's a pivotal time

339

00:13:47,990 --> 00:13:45,440

for them in their lives they want to see

340

00:13:50,710 --> 00:13:48,000

the shuttle program through as safely uh

341

00:13:52,949 --> 00:13:50,720

and as successfully as the

342

00:13:54,790 --> 00:13:52,959

missions that preceded it but at the

343

00:13:56,069 --> 00:13:54,800

same time they have other factors on

344

00:13:58,389 --> 00:13:56,079

their mind as well like what are they

345

00:14:00,550 --> 00:13:58,399

gonna do uh when this is all over so we

346

00:14:01,990 --> 00:14:00,560

have made many trips back and forth and

347

00:14:03,910 --> 00:14:02,000

i'll tell you i think i speak for

348

00:14:05,430 --> 00:14:03,920

everybody when i say that uh you know

349

00:14:07,910 --> 00:14:05,440

this workforce is has been

350

00:14:10,230 --> 00:14:07,920

extraordinarily professional uh up until

351

00:14:12,230 --> 00:14:10,240

the very very end and i am i'm

352

00:14:13,350 --> 00:14:12,240

enormously proud of every single one of

353

00:14:14,870 --> 00:14:13,360

the folks who touched the vehicle out

354

00:14:15,829 --> 00:14:14,880

there at the kennedy space center i

355

00:14:17,509 --> 00:14:15,839

don't know if you paid attention a

356

00:14:18,949 --> 00:14:17,519

little bit we had a kind of a major

357

00:14:20,870 --> 00:14:18,959

milestone yesterday we filled the

358

00:14:22,629 --> 00:14:20,880

external tank with hydrogen

359

00:14:25,030 --> 00:14:22,639

and oxygen and we just waited to see

360

00:14:27,350 --> 00:14:25,040

what happened and uh you know we found a

361

00:14:28,870 --> 00:14:27,360

little bit of leak a leak in one area

362

00:14:30,069 --> 00:14:28,880

and we're going to go back and fix that

363

00:14:31,590 --> 00:14:30,079

in the course of the normal flow

364

00:14:33,509 --> 00:14:31,600

hopefully it will preserve our current

365

00:14:35,509 --> 00:14:33,519

launch date so living proof that we have

366

00:14:37,030 --> 00:14:35,519

the same number of uh you know the same

367

00:14:37,829 --> 00:14:37,040

capabilities we've always had and i'm

368

00:14:40,150 --> 00:14:37,839

going to turn it over to richard because

369

00:14:42,150 --> 00:14:40,160

he's going to lose a few folks here too

370

00:14:44,550 --> 00:14:42,160

i'll just uh amplify what fergie just

371

00:14:46,949 --> 00:14:44,560

said right now just just a little bit

372

00:14:48,470 --> 00:14:46,959

the professionalism that i have observed

373

00:14:49,509 --> 00:14:48,480

in all of the folks that are here in

374

00:14:53,509 --> 00:14:49,519

this room

375

00:14:56,550 --> 00:14:53,519

different centers that uh that are

376

00:14:59,350 --> 00:14:56,560

involved in this program uh it's almost

377

00:15:01,590 --> 00:14:59,360

unbelievable and you know with so much

378

00:15:03,430 --> 00:15:01,600

weighing on on these folks minds with

379

00:15:04,550 --> 00:15:03,440

respect to this transition what is next

380

00:15:05,829 --> 00:15:04,560

for them

381

00:15:11,110 --> 00:15:05,839

this

382

00:15:15,110 --> 00:15:11,120

their job is the most important thing to

383

00:15:17,829 --> 00:15:15,120

them uh at this moment and to make to

384

00:15:21,590 --> 00:15:17,839

have that actually be the case

385

00:15:23,430 --> 00:15:21,600

it's uh it's just part of

386

00:15:25,350 --> 00:15:23,440

it's what makes this this program

387

00:15:27,189 --> 00:15:25,360

special because the people that are

388

00:15:28,790 --> 00:15:27,199

working these jobs

389

00:15:30,629 --> 00:15:28,800

want that to be the first thing that

390

00:15:31,829 --> 00:15:30,639

they're they're thinking about want it

391

00:15:34,389 --> 00:15:31,839

to be the first thing that they're

392

00:15:35,910 --> 00:15:34,399

accomplishing that day want it to be

393

00:15:37,910 --> 00:15:35,920

uh the most special thing that they can

394

00:15:39,430 --> 00:15:37,920

be and make it the most safest

395

00:15:41,590 --> 00:15:39,440

most successful mission that they can be

396

00:15:43,430 --> 00:15:41,600

and it's uh

397

00:15:44,790 --> 00:15:43,440

i'm amazed when i see that but at the

398

00:15:46,790 --> 00:15:44,800

same time

399

00:15:49,110 --> 00:15:46,800

it doesn't surprise me because when in

400

00:15:50,710 --> 00:15:49,120

this community we're all family and

401  
00:15:52,069 --> 00:15:50,720  
we're all going through the same thing

402  
00:15:53,350 --> 00:15:52,079  
and

403  
00:16:02,230 --> 00:15:53,360  
it

404  
00:16:05,110 --> 00:16:02,240  
nasaspaceflight.com um

405  
00:16:07,350 --> 00:16:05,120  
for the commander um on that last run

406  
00:16:09,189 --> 00:16:07,360  
with the systems aoa it sounded like

407  
00:16:11,670 --> 00:16:09,199  
just listening to the flight control

408  
00:16:13,350 --> 00:16:11,680  
team here that they were really busy and

409  
00:16:14,710 --> 00:16:13,360  
it sounded like uh the four of you are

410  
00:16:17,110 --> 00:16:14,720  
really busy

411  
00:16:19,110 --> 00:16:17,120  
and i know uh in the past you've sat in

412  
00:16:21,110 --> 00:16:19,120  
the capcom seat in this room

413  
00:16:22,870 --> 00:16:21,120

who would you say has the the harder job

414

00:16:24,870 --> 00:16:22,880

in that situation the folks in this room

415

00:16:27,189 --> 00:16:24,880

or the folks on the flight deck i have

416

00:16:29,269 --> 00:16:27,199

an opinion on that

417

00:16:30,230 --> 00:16:29,279

i'll tell you um

418

00:16:32,069 --> 00:16:30,240

and

419

00:16:35,269 --> 00:16:32,079

i'll talk about the systems aoa that we

420

00:16:37,829 --> 00:16:35,279

did this morning in just a second but

421

00:16:40,230 --> 00:16:37,839

after working we have a big simulation

422

00:16:42,550 --> 00:16:40,240

coming up a week actually monday a fido

423

00:16:44,949 --> 00:16:42,560

booster which is a it's it's rather

424

00:16:45,910 --> 00:16:44,959

intense it involves a lot of very unique

425

00:16:47,829 --> 00:16:45,920

uh

426

00:16:50,310 --> 00:16:47,839

launch abort scenarios

427

00:16:52,470 --> 00:16:50,320

and i had been through it a couple times

428

00:16:54,550 --> 00:16:52,480

over in the box and then when i started

429

00:16:57,110 --> 00:16:54,560

working as a capcom i'd been over uh

430

00:16:58,949 --> 00:16:57,120

working through it here and i remember

431

00:17:00,470 --> 00:16:58,959

my exact feelings that when i finished

432

00:17:02,629 --> 00:17:00,480

that first one as a capcom i said that

433

00:17:04,710 --> 00:17:02,639

was 10 times harder than being over in

434

00:17:06,309 --> 00:17:04,720

the box and simply following the very

435

00:17:08,470 --> 00:17:06,319

explicit direction

436

00:17:10,230 --> 00:17:08,480

of you know of the capcom so uh

437

00:17:12,150 --> 00:17:10,240

coordinating it all

438

00:17:13,510 --> 00:17:12,160

and this is where we really uh hats off

439

00:17:15,510 --> 00:17:13,520

to the flight control team and what they

440

00:17:16,949 --> 00:17:15,520

do over here yeah when we get over there

441

00:17:19,429 --> 00:17:16,959

and some of those uh some of those sims

442

00:17:21,270 --> 00:17:19,439

it's it's uh it's a lot easier

443

00:17:23,189 --> 00:17:21,280

compliments of them

444

00:17:24,789 --> 00:17:23,199

um with regard to today's scenario that

445

00:17:25,750 --> 00:17:24,799

was a little different i wasn't

446

00:17:27,909 --> 00:17:25,760

expecting that but it was

447

00:17:29,669 --> 00:17:27,919

extraordinarily well scripted

448

00:17:31,190 --> 00:17:29,679

you know we had we had folks standing we

449

00:17:32,789 --> 00:17:31,200

had to bring the motion down and the

450

00:17:34,150 --> 00:17:32,799

simulator so we could get people out of

451  
00:17:35,350 --> 00:17:34,160  
their seats so they could start throwing

452  
00:17:36,549 --> 00:17:35,360  
all the switches that they needed to

453  
00:17:38,310 --> 00:17:36,559  
throw to do everything it was very

454  
00:17:40,150 --> 00:17:38,320  
unusual to run through a scenario like

455  
00:17:42,150 --> 00:17:40,160  
that uh but

456  
00:17:44,150 --> 00:17:42,160  
it's uh it's very important we practice

457  
00:17:45,590 --> 00:17:44,160  
we have a very small crew this time we

458  
00:17:47,430 --> 00:17:45,600  
don't have anyone in the mid deck so we

459  
00:17:48,549 --> 00:17:47,440  
uh i think it was it was a great script

460  
00:17:50,630 --> 00:17:48,559  
and gave us an opportunity and the

461  
00:17:52,390 --> 00:17:50,640  
mission control team an opportunity to

462  
00:17:53,669 --> 00:17:52,400  
see just what our capabilities are with

463  
00:17:55,190 --> 00:17:53,679

regard to getting people out of their

464

00:17:57,110 --> 00:17:55,200

seats shortly after the main engines cut

465

00:17:58,710 --> 00:17:57,120

off and go through the multitude of

466

00:18:01,430 --> 00:17:58,720

switches that we had to throw today i

467

00:18:05,029 --> 00:18:01,440

think we had we left no switch unturned

468

00:18:09,909 --> 00:18:07,350

mark kramer from cbs news for chris or

469

00:18:11,270 --> 00:18:09,919

doug you've had a somewhat foreshortened

470

00:18:13,669 --> 00:18:11,280

preparation period for this mission

471

00:18:16,390 --> 00:18:13,679

compared to what you'd normally have

472

00:18:18,310 --> 00:18:16,400

how have the number of simulations for

473

00:18:20,070 --> 00:18:18,320

this compared with what you'd usually

474

00:18:22,070 --> 00:18:20,080

expect and how did you jam all the

475

00:18:24,950 --> 00:18:22,080

preparation into that shorter period of

476

00:18:26,870 --> 00:18:24,960

time and a follow-up on that is every

477

00:18:29,270 --> 00:18:26,880

failure that you see in a simulation

478

00:18:31,190 --> 00:18:29,280

unique do you have a favorite are some

479

00:18:33,590 --> 00:18:31,200

repeated because

480

00:18:35,270 --> 00:18:33,600

because they're more likely

481

00:18:37,190 --> 00:18:35,280

yeah let me let me see if i can remember

482

00:18:38,950 --> 00:18:37,200

all that uh

483

00:18:40,390 --> 00:18:38,960

you know our training flow has been

484

00:18:41,430 --> 00:18:40,400

compressed they kind of waited to the

485

00:18:43,750 --> 00:18:41,440

last

486

00:18:44,950 --> 00:18:43,760

possible moment to assign us just

487

00:18:46,710 --> 00:18:44,960

because we weren't sure whether the

488

00:18:49,110 --> 00:18:46,720

mission was going to fly so it's been

489

00:18:50,870 --> 00:18:49,120

been very compressed we probably

490

00:18:53,750 --> 00:18:50,880

were surely not going to get the maximum

491

00:18:56,789 --> 00:18:53,760

number of sims i know fergie was on his

492

00:18:58,630 --> 00:18:56,799

first flight for a sign for four

493

00:18:59,830 --> 00:18:58,640

four years so he probably saw a lot more

494

00:19:01,510 --> 00:18:59,840

sims then

495

00:19:03,830 --> 00:19:01,520

uh than we're gonna see but we're

496

00:19:06,230 --> 00:19:03,840

definitely getting a good amount and uh

497

00:19:07,430 --> 00:19:06,240

you know frankly we're just probably uh

498

00:19:09,029 --> 00:19:07,440

you know like these guys in mission

499

00:19:10,870 --> 00:19:09,039

control we're just working longer days

500

00:19:12,710 --> 00:19:10,880

to make sure we get every every base

501  
00:19:14,870 --> 00:19:12,720  
covered

502  
00:19:16,549 --> 00:19:14,880  
and i i think they're doing a great job

503  
00:19:19,990 --> 00:19:16,559  
i mean that sim today was

504  
00:19:21,029 --> 00:19:20,000  
was just crazy at times but it was uh

505  
00:19:23,110 --> 00:19:21,039  
you know they just fed us the

506  
00:19:24,390 --> 00:19:23,120  
information we needed and at the time we

507  
00:19:26,150 --> 00:19:24,400  
needed it and

508  
00:19:27,590 --> 00:19:26,160  
then we just you know the old alligator

509  
00:19:28,470 --> 00:19:27,600  
closest to the boat that's what we were

510  
00:19:29,510 --> 00:19:28,480  
doing

511  
00:19:32,150 --> 00:19:29,520  
and uh

512  
00:19:33,669 --> 00:19:32,160  
and as far as my favorite malfunction

513  
00:19:35,510 --> 00:19:33,679

uh

514

00:19:37,669 --> 00:19:35,520

i don't know like today's was great and

515

00:19:40,630 --> 00:19:37,679

it was a freebie we had a helium leak on

516

00:19:42,950 --> 00:19:40,640

an engine and my mic was stuck

517

00:19:44,789 --> 00:19:42,960

so as we're trying to sort that and what

518

00:19:45,750 --> 00:19:44,799

happens is now

519

00:19:47,270 --> 00:19:45,760

we're on

520

00:19:48,870 --> 00:19:47,280

anybody talking in the cockpit the

521

00:19:51,669 --> 00:19:48,880

ground hears as they're trying to get us

522

00:19:53,270 --> 00:19:51,679

information and luckily you know we we

523

00:19:54,470 --> 00:19:53,280

work through it but it was just uh it

524

00:19:55,909 --> 00:19:54,480

was interesting because it was an actual

525

00:19:58,310 --> 00:19:55,919

hardware failure and and it's not

526

00:19:59,750 --> 00:19:58,320

uncommon to have that unit that

527

00:20:01,590 --> 00:19:59,760

interface unit that we have that we use

528

00:20:03,510 --> 00:20:01,600

to talk to the ground uh sometimes it

529

00:20:05,190 --> 00:20:03,520

breaks but that was a good one today and

530

00:20:08,789 --> 00:20:05,200

it was like i said it wasn't really

531

00:20:12,789 --> 00:20:11,190

yeah greg milam sky news um

532

00:20:14,390 --> 00:20:12,799

it's clear from what you've said that

533

00:20:15,750 --> 00:20:14,400

the team is very important in putting

534

00:20:17,029 --> 00:20:15,760

all of this together have you allowed

535

00:20:18,870 --> 00:20:17,039

yourself this to the crew have you

536

00:20:20,070 --> 00:20:18,880

allowed yourself to think about

537

00:20:21,510 --> 00:20:20,080

the emotions you'll feel when this

538

00:20:22,870 --> 00:20:21,520

mission is over can you can you give

539

00:20:23,909 --> 00:20:22,880

yourself a chance to think about those

540

00:20:25,190 --> 00:20:23,919

things

541

00:20:27,110 --> 00:20:25,200

yeah

542

00:20:29,350 --> 00:20:27,120

actually we haven't i think it hasn't

543

00:20:30,710 --> 00:20:29,360

hit us completely yet it's hit us in

544

00:20:32,470 --> 00:20:30,720

bits and pieces

545

00:20:33,990 --> 00:20:32,480

gradually as we've gotten closer for

546

00:20:36,630 --> 00:20:34,000

example we had a crew equipment

547

00:20:38,630 --> 00:20:36,640

interface test back in april in florida

548

00:20:40,630 --> 00:20:38,640

and we were down there this is typically

549

00:20:42,470 --> 00:20:40,640

a test we do with the orbiter while it's

550

00:20:43,669 --> 00:20:42,480

still in the processing facility and we

551  
00:20:44,950 --> 00:20:43,679  
go into the orbiter we look at the

552  
00:20:46,549 --> 00:20:44,960  
orbiter make sure everything's the way

553  
00:20:48,710 --> 00:20:46,559  
we would like it to be and and the

554  
00:20:49,830 --> 00:20:48,720  
ground team there shows us the different

555  
00:20:52,230 --> 00:20:49,840  
pieces of hardware we're going to

556  
00:20:53,909 --> 00:20:52,240  
interface with and the day after we had

557  
00:20:55,190 --> 00:20:53,919  
this test about half the team we were

558  
00:20:56,630 --> 00:20:55,200  
working with

559  
00:20:57,750 --> 00:20:56,640  
was going to be let go that was their

560  
00:20:59,590 --> 00:20:57,760  
last day

561  
00:21:01,190 --> 00:20:59,600  
and that's really for me the first time

562  
00:21:02,950 --> 00:21:01,200  
it became

563  
00:21:04,789 --> 00:21:02,960

i guess i became emotional about it

564

00:21:06,390 --> 00:21:04,799

because it was just so

565

00:21:07,990 --> 00:21:06,400

it was very sad but it was also very

566

00:21:10,630 --> 00:21:08,000

inspiring because you see these people

567

00:21:12,470 --> 00:21:10,640

who are so dedicated and so passionate

568

00:21:14,310 --> 00:21:12,480

about what they do that

569

00:21:16,149 --> 00:21:14,320

um even though they were leaving a job

570

00:21:17,669 --> 00:21:16,159

that they had for decades they were

571

00:21:18,870 --> 00:21:17,679

still very excited about being a part of

572

00:21:20,549 --> 00:21:18,880

the space program and they were very

573

00:21:21,990 --> 00:21:20,559

determined that they were going to give

574

00:21:24,470 --> 00:21:22,000

us atlantis in the best shape that it

575

00:21:25,909 --> 00:21:24,480

could be in and it just it hits home

576  
00:21:27,990 --> 00:21:25,919  
again it's like what a spectacular

577  
00:21:29,350 --> 00:21:28,000  
workforce we have and it's just

578  
00:21:30,710 --> 00:21:29,360  
unfortunate that our transition is

579  
00:21:33,029 --> 00:21:30,720  
taking place in such a way that we're

580  
00:21:35,110 --> 00:21:33,039  
going to lose such good people and that

581  
00:21:37,029 --> 00:21:35,120  
will really hit home even more after we

582  
00:21:47,350 --> 00:21:37,039  
land and we really start saying goodbye

583  
00:21:50,950 --> 00:21:49,190  
hey ted oberg from channel 13 here in

584  
00:21:52,630 --> 00:21:50,960  
town i i think the question was asked

585  
00:21:54,310 --> 00:21:52,640  
earlier about is this a celebration or a

586  
00:21:56,070 --> 00:21:54,320  
funeral i i wonder if you guys could

587  
00:21:59,510 --> 00:21:56,080  
help us in houston

588  
00:22:01,029 --> 00:21:59,520

do we end this program heads held high

589

00:22:03,350 --> 00:22:01,039

uh with

590

00:22:05,190 --> 00:22:03,360

30 years of accomplishments behind us

591

00:22:07,430 --> 00:22:05,200

or should we sort of slump and say hey

592

00:22:09,270 --> 00:22:07,440

look we're ending too soon i'm just

593

00:22:11,029 --> 00:22:09,280

curious from your point of view how we

594

00:22:12,710 --> 00:22:11,039

should all see this well in an ideal

595

00:22:15,029 --> 00:22:12,720

world if there was enough funds to tran

596

00:22:16,630 --> 00:22:15,039

to continue to operate this program at

597

00:22:18,390 --> 00:22:16,640

the same time as you develop a new

598

00:22:19,270 --> 00:22:18,400

program then yes we could potentially go

599

00:22:20,470 --> 00:22:19,280

on but

600

00:22:22,149 --> 00:22:20,480

being realistic about the money

601  
00:22:24,710 --> 00:22:22,159  
situation the countries and we it's hard

602  
00:22:26,390 --> 00:22:24,720  
to do both so then you say okay what is

603  
00:22:28,070 --> 00:22:26,400  
our goal our goal is to go beyond low

604  
00:22:29,830 --> 00:22:28,080  
earth orbit we need to get beyond the

605  
00:22:31,590 --> 00:22:29,840  
200 miles up to the space station we

606  
00:22:33,990 --> 00:22:31,600  
need to get back to exploring places

607  
00:22:35,909 --> 00:22:34,000  
where we've very rarely or never been

608  
00:22:37,430 --> 00:22:35,919  
and to do that we need a new vehicle so

609  
00:22:39,029 --> 00:22:37,440  
i think we we do need to make that

610  
00:22:41,110 --> 00:22:39,039  
transition now part of that hard

611  
00:22:42,630 --> 00:22:41,120  
transition is retiring the space shuttle

612  
00:22:44,470 --> 00:22:42,640  
and that is no question going to be

613  
00:22:45,990 --> 00:22:44,480

going to be very very difficult but as

614

00:22:47,750 --> 00:22:46,000

far as i look at it you look at almost

615

00:22:49,909 --> 00:22:47,760

like a what a person when a person

616

00:22:51,990 --> 00:22:49,919

retires after 30 years of a magnificent

617

00:22:53,510 --> 00:22:52,000

career you have a big celebration you

618

00:22:55,190 --> 00:22:53,520

talk about what they did in the case of

619

00:22:57,270 --> 00:22:55,200

the space shuttle it launched probes to

620

00:22:59,430 --> 00:22:57,280

the sun to the planets it launched the

621

00:23:00,789 --> 00:22:59,440

hubble space telescope and it fixed the

622

00:23:03,110 --> 00:23:00,799

hubble space telescope and then the

623

00:23:04,630 --> 00:23:03,120

crown jewel it built the entire the us

624

00:23:06,310 --> 00:23:04,640

segment of the of the international

625

00:23:08,310 --> 00:23:06,320

space station so you take a look at all

626  
00:23:09,669 --> 00:23:08,320  
those you see those legacies live on you

627  
00:23:11,909 --> 00:23:09,679  
know the hubble will still be out there

628  
00:23:13,750 --> 00:23:11,919  
taking pictures and answering questions

629  
00:23:15,029 --> 00:23:13,760  
about the origins of the universe the sp

630  
00:23:16,549 --> 00:23:15,039  
the international space station will be

631  
00:23:18,470 --> 00:23:16,559  
there as the premier

632  
00:23:20,470 --> 00:23:18,480  
space research facility and so you

633  
00:23:21,990 --> 00:23:20,480  
celebrate those and you let the space

634  
00:23:24,070 --> 00:23:22,000  
shuttle take its rest now the space

635  
00:23:25,430 --> 00:23:24,080  
shuttle also won't stop inspiring people

636  
00:23:26,710 --> 00:23:25,440  
they're going to park atlantis down the

637  
00:23:28,149 --> 00:23:26,720  
kennedy space center and little kids are

638  
00:23:30,230 --> 00:23:28,159

going to go up real close for the first

639

00:23:32,070 --> 00:23:30,240

time to get to see the atlantis and say

640

00:23:33,990 --> 00:23:32,080

wow that's amazing we could launch those

641

00:23:35,510 --> 00:23:34,000

things into space and hopefully they get

642

00:23:37,830 --> 00:23:35,520

the same kid reactions get well do it

643

00:23:39,190 --> 00:23:37,840

again do it again and so i'm hoping that

644

00:23:40,870 --> 00:23:39,200

it inspires people when they go up and

645

00:23:42,149 --> 00:23:40,880

see it close that hey we do need to keep

646

00:23:45,510 --> 00:23:42,159

doing this and we need to go farther

647

00:23:50,870 --> 00:23:47,350

hi robert perlman with collectspace.com

648

00:23:52,310 --> 00:23:50,880

again uh for richard and chris um you

649

00:23:54,870 --> 00:23:52,320

had a couple of runs today that i

650

00:23:56,870 --> 00:23:54,880

believe were um uh transatlantic aborts

651  
00:23:59,590 --> 00:23:56,880  
and assuming atlantis gets to orbit fine

652  
00:24:00,950 --> 00:23:59,600  
knock on wood um they will that will be

653  
00:24:03,190 --> 00:24:00,960  
an activity that has never been

654  
00:24:04,789 --> 00:24:03,200  
performed uh through the shuttle program

655  
00:24:06,789 --> 00:24:04,799  
can you weigh

656  
00:24:08,789 --> 00:24:06,799  
the time that was spent training for

657  
00:24:09,990 --> 00:24:08,799  
that activity versus

658  
00:24:11,110 --> 00:24:10,000  
um

659  
00:24:12,710 --> 00:24:11,120  
what might have been given other

660  
00:24:15,029 --> 00:24:12,720  
priorities versus

661  
00:24:16,950 --> 00:24:15,039  
given that you in hindsight we never had

662  
00:24:17,750 --> 00:24:16,960  
to do that type of activity

663  
00:24:19,830 --> 00:24:17,760

yeah

664

00:24:21,269 --> 00:24:19,840

you know and let me quote john young of

665

00:24:23,190 --> 00:24:21,279

course john young is a legacy in our

666

00:24:26,549 --> 00:24:23,200

office and uh

667

00:24:28,470 --> 00:24:26,559

when i first got here in 1998 um when we

668

00:24:29,750 --> 00:24:28,480

talked about these kind of aborts and he

669

00:24:31,510 --> 00:24:29,760

talked openly of course he was the first

670

00:24:33,669 --> 00:24:31,520

one that flew the shuttle

671

00:24:37,190 --> 00:24:33,679

even at that time around the vicinity of

672

00:24:38,549 --> 00:24:37,200

sts 98 99 100 he said that he found it

673

00:24:40,789 --> 00:24:38,559

absolutely incredible that we hadn't

674

00:24:42,149 --> 00:24:40,799

executed some type of abort up to this

675

00:24:44,230 --> 00:24:42,159

point in the program

676

00:24:46,950 --> 00:24:44,240

so i i think just to answer your

677

00:24:48,710 --> 00:24:46,960

question me personally you know was it

678

00:24:51,269 --> 00:24:48,720

perhaps time wasted doing all that well

679

00:24:53,269 --> 00:24:51,279

absolutely not because i think we are we

680

00:24:54,390 --> 00:24:53,279

are you know we've had we've had one

681

00:24:56,230 --> 00:24:54,400

very late

682

00:25:00,310 --> 00:24:56,240

ssme failure very early on in the

683

00:25:01,830 --> 00:25:00,320

program but uh you know we it's the ssme

684

00:25:03,510 --> 00:25:01,840

is an amazing thing

685

00:25:06,230 --> 00:25:03,520

but it's a seven thousand pounds swiss

686

00:25:07,990 --> 00:25:06,240

watch and and one small thing can can

687

00:25:09,190 --> 00:25:08,000

lead to lead to an abort and we always

688

00:25:11,830 --> 00:25:09,200

need to be prepared for something like

689

00:25:13,029 --> 00:25:11,840

that so uh you know knock on wood we're

690

00:25:15,350 --> 00:25:13,039

gonna get through this program without

691

00:25:18,470 --> 00:25:15,360

executing you know our intact aborts a

692

00:25:19,510 --> 00:25:18,480

towel or perhaps an rtls or an aoa but

693

00:25:21,190 --> 00:25:19,520

uh

694

00:25:22,870 --> 00:25:21,200

no i think we need to do this plus it

695

00:25:24,230 --> 00:25:22,880

helps everybody understand the system a

696

00:25:25,830 --> 00:25:24,240

lot better i've talked a little bit

697

00:25:27,430 --> 00:25:25,840

longer than you turned over to richard

698

00:25:28,390 --> 00:25:27,440

gosh fergie said what i was about to say

699

00:25:30,470 --> 00:25:28,400

there at the end

700

00:25:31,830 --> 00:25:30,480

um it teaches us about the the orbiter

701  
00:25:33,830 --> 00:25:31,840  
every one of these simulations that we

702  
00:25:35,909 --> 00:25:33,840  
do whether it's an ascent an orbit or an

703  
00:25:37,190 --> 00:25:35,919  
entry simulation we learn things about

704  
00:25:39,029 --> 00:25:37,200  
the vehicle we learn things about

705  
00:25:40,789 --> 00:25:39,039  
ourselves we learn things about our

706  
00:25:42,870 --> 00:25:40,799  
procedures and we learn about

707  
00:25:44,870 --> 00:25:42,880  
deficiencies that have to be filled or

708  
00:25:47,350 --> 00:25:44,880  
we learn about things that just just

709  
00:25:49,269 --> 00:25:47,360  
need a little bit more attention and so

710  
00:25:50,870 --> 00:25:49,279  
uh no matter what you're doing even

711  
00:25:53,430 --> 00:25:50,880  
though we've spent all this time

712  
00:25:55,990 --> 00:25:53,440  
practicing all of these ascent or entry

713  
00:25:57,590 --> 00:25:56,000

ascent related aborts

714

00:25:58,950 --> 00:25:57,600

that's what makes us stronger makes us

715

00:26:01,029 --> 00:25:58,960

what we are and

716

00:26:03,029 --> 00:26:01,039

i think in a way it makes this look

717

00:26:05,029 --> 00:26:03,039

routine

718

00:26:06,310 --> 00:26:05,039

that's what it does and so

719

00:26:08,549 --> 00:26:06,320

all of the work that we're putting in

720

00:26:09,909 --> 00:26:08,559

down here translates to gosh

721

00:26:13,510 --> 00:26:09,919

everything's looking pretty normal up

722

00:26:17,269 --> 00:26:15,350

uh mark caro for aviation week and this

723

00:26:18,149 --> 00:26:17,279

may be for rich or chris i'm not sure

724

00:26:20,470 --> 00:26:18,159

what

725

00:26:21,990 --> 00:26:20,480

uh but do you and i'm following up an

726

00:26:24,549 --> 00:26:22,000

earlier question about extension

727

00:26:26,870 --> 00:26:24,559

potential for the mission is it possible

728

00:26:29,110 --> 00:26:26,880

at all is it depend on how much power

729

00:26:30,470 --> 00:26:29,120

you can serve

730

00:26:31,750 --> 00:26:30,480

what are you looking at in the back

731

00:26:33,909 --> 00:26:31,760

pocket if you

732

00:26:36,789 --> 00:26:33,919

well my understanding right now

733

00:26:38,870 --> 00:26:36,799

the limiting criteria is i cryo our

734

00:26:40,789 --> 00:26:38,880

cryogenic capability that the the

735

00:26:43,110 --> 00:26:40,799

consumables ever loading on the orbiter

736

00:26:46,390 --> 00:26:43,120

even if we lift off on time we're not

737

00:26:48,310 --> 00:26:46,400

going to have enough cryo to make an

738

00:26:51,029 --> 00:26:48,320

extra day that we could add to the

739

00:26:54,310 --> 00:26:51,039

mission so right now my understanding is

740

00:26:55,990 --> 00:26:54,320

uh we have a 12-day mission and

741

00:26:57,990 --> 00:26:56,000

a nominal 12-day mission is all that

742

00:27:00,230 --> 00:26:58,000

we're going to get it's unless we do

743

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

something very heroic in terms of a

744

00:27:06,149 --> 00:27:02,000

power down

745

00:27:07,470 --> 00:27:06,159

we're not going to get that extra day

746

00:27:09,269 --> 00:27:07,480

philip sloss with the

747

00:27:12,710 --> 00:27:09,279

[nasaspaceflight.com](http://nasaspaceflight.com) i

748

00:27:13,830 --> 00:27:12,720

i guess is maybe for sandy uh

749

00:27:16,470 --> 00:27:13,840

where uh

750

00:27:18,870 --> 00:27:16,480

where does it stand in terms of uh

751

00:27:20,310 --> 00:27:18,880

the the transfers um i guess i've seen

752

00:27:23,430 --> 00:27:20,320

some information that says you're going

753

00:27:24,950 --> 00:27:23,440

to try and get the mplm about 70 full

754

00:27:26,149 --> 00:27:24,960

coming down

755

00:27:31,510 --> 00:27:26,159

if you do

756

00:27:34,789 --> 00:27:31,520

pack it even more full than that or is

757

00:27:36,549 --> 00:27:34,799

that about or is it you know that's it

758

00:27:38,389 --> 00:27:36,559

i'm giggling because i've been i've been

759

00:27:40,149 --> 00:27:38,399

pushing all along we need to take more

760

00:27:41,350 --> 00:27:40,159

foam back with us when we return because

761

00:27:43,110 --> 00:27:41,360

you know as a station crew member that's

762

00:27:45,029 --> 00:27:43,120

a challenge to get all the packing

763

00:27:46,789 --> 00:27:45,039

material out of the space station bring

764

00:27:48,549 --> 00:27:46,799

it home because packing material takes

765

00:27:50,230 --> 00:27:48,559

up a lot of space and we use it very

766

00:27:51,909 --> 00:27:50,240

enthusiastically

767

00:27:54,549 --> 00:27:51,919

we do have about a 70

768

00:27:55,669 --> 00:27:54,559

a full mplm you know it's very dynamic

769

00:27:57,830 --> 00:27:55,679

at that part of the mission there'll be

770

00:27:59,590 --> 00:27:57,840

things i'm sure that are added on as the

771

00:28:00,389 --> 00:27:59,600

space station program takes a look at

772

00:28:05,029 --> 00:28:00,399

what

773

00:28:06,950 --> 00:28:05,039

have time to get ready for us so

774

00:28:08,549 --> 00:28:06,960

hopefully we can bring more than that

775

00:28:10,070 --> 00:28:08,559

and we'll see we'll certainly be ready

776

00:28:11,830 --> 00:28:10,080

to and i'm sure we'll be asked to bring

777

00:28:13,350 --> 00:28:11,840

more than that as well and as far as

778

00:28:16,789 --> 00:28:13,360

time goes i think we'll be able to get

779

00:28:20,789 --> 00:28:18,470

jackie goddard for the sunday telegraph

780

00:28:22,870 --> 00:28:20,799

again um i wanted to ask who's the last

781

00:28:24,389 --> 00:28:22,880

person that will get off atlantis after

782

00:28:26,470 --> 00:28:24,399

wheel stop i'm assuming it's you

783

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

commander and if i'm correct what will

784

00:28:31,190 --> 00:28:28,799

you do and what will you say um to bid

785

00:28:32,870 --> 00:28:31,200

farewell to the shuttle into the end of

786

00:28:34,870 --> 00:28:32,880

this era

787

00:28:37,430 --> 00:28:34,880

well traditionally the commander gets

788

00:28:39,830 --> 00:28:37,440

off uh last and unless chunky here does

789

00:28:42,950 --> 00:28:39,840

something to me uh i

790

00:28:44,230 --> 00:28:42,960

i plan on i plan on getting off last um

791

00:28:45,590 --> 00:28:44,240

you know what we'll have some words

792

00:28:47,190 --> 00:28:45,600

hopefully that will acknowledge the

793

00:28:49,590 --> 00:28:47,200

significance of the event uh after the

794

00:28:51,750 --> 00:28:49,600

wheels stop and uh you know i near the

795

00:28:53,430 --> 00:28:51,760

very end i don't know i'll probably just

796

00:28:54,789 --> 00:28:53,440

try to find something i'm not preparing

797

00:28:56,230 --> 00:28:54,799

anything but i'm sure we'll have some

798

00:28:58,549 --> 00:28:56,240

really good words for the control team

799

00:29:00,310 --> 00:28:58,559

here in houston uh you know to thank

800

00:29:01,750 --> 00:29:00,320

them because you know not only are we

801  
00:29:03,669 --> 00:29:01,760  
climbing out of the orbiter for the last

802  
00:29:06,310 --> 00:29:03,679  
time but this room that we're standing

803  
00:29:08,470 --> 00:29:06,320  
in here um you know it may be one of the

804  
00:29:10,070 --> 00:29:08,480  
maybe one of the last times that it ever

805  
00:29:12,549 --> 00:29:10,080  
gets used at least in the configuration

806  
00:29:14,630 --> 00:29:12,559  
that it's in right now so i'm not quite

807  
00:29:16,549 --> 00:29:14,640  
sure how everybody's gonna feel uh i i

808  
00:29:18,950 --> 00:29:16,559  
think it'll be it'll be an emotionally

809  
00:29:20,950 --> 00:29:18,960  
challenging time um i think it'll be a

810  
00:29:22,549 --> 00:29:20,960  
celebration because uh

811  
00:29:23,830 --> 00:29:22,559  
you know we're in effect we've we're

812  
00:29:25,990 --> 00:29:23,840  
mission accomplished we've done

813  
00:29:27,190 --> 00:29:26,000

everything we set to do in a span of 30

814

00:29:28,870 --> 00:29:27,200

years

815

00:29:30,389 --> 00:29:28,880

but at the same time you know you always

816

00:29:31,830 --> 00:29:30,399

hate to lose your

817

00:29:33,269 --> 00:29:31,840

lose your first airplane i can't

818

00:29:34,710 --> 00:29:33,279

remember the first airplane i ever flew

819

00:29:36,389 --> 00:29:34,720

i hated stop flying it because i really

820

00:29:45,029 --> 00:29:36,399

liked it and the space shuttle is no

821

00:29:48,630 --> 00:29:46,950

just say god bless you and it's an honor

822

00:29:51,110 --> 00:29:48,640

and privilege to be here with you pat

823

00:29:54,070 --> 00:29:51,120

patton goodry news thanks so very much

824

00:29:56,070 --> 00:29:54,080

pat

825

00:29:57,430 --> 00:29:56,080

with that that wraps up the uh media

826

00:29:59,350 --> 00:29:57,440

portion in the questions and just a

827

00:30:01,190 --> 00:29:59,360

reminder there are addition additional

828

00:30:03,669 --> 00:30:01,200

interview opportunities following this

829

00:30:05,510 --> 00:30:03,679

including with the lead space station

830

00:30:08,230 --> 00:30:05,520

flight director chris edelen and also

831

00:30:09,350 --> 00:30:08,240

quatsi oliverojo who is the lead shuttle

832

00:30:10,710 --> 00:30:09,360

flight director for the mission they'll