



1
00:00:08,629 --> 00:00:05,430
good afternoon everyone and welcome to

2
00:00:10,150 --> 00:00:08,639
our sts 132 flight readiness review news

3
00:00:11,830 --> 00:00:10,160
conference we're here today to talk

4
00:00:14,390 --> 00:00:11,840
about the results of the meeting and

5
00:00:16,390 --> 00:00:14,400
joining us today are nasa's associate

6
00:00:19,910 --> 00:00:16,400
administrator for space operations mr

7
00:00:24,150 --> 00:00:21,750
space shuttle program manager john

8
00:00:26,070 --> 00:00:24,160
shannon

9
00:00:28,230 --> 00:00:26,080
and space shuttle launch director mike

10
00:00:29,669 --> 00:00:28,240
leinbach good afternoon

11
00:00:30,950 --> 00:00:29,679
we'll begin with some opening comments

12
00:00:34,389 --> 00:00:30,960
and then we'll be happy to take your

13
00:00:36,870 --> 00:00:34,399

questions mr gerstenmaier thanks mike

14

00:00:39,030 --> 00:00:36,880

again we had a very thorough review

15

00:00:40,950 --> 00:00:39,040

today we went through all the

16

00:00:43,670 --> 00:00:40,960

things that have happened on the vehicle

17

00:00:45,670 --> 00:00:43,680

both the shuttle and also the station

18

00:00:46,549 --> 00:00:45,680

in general the station is in very good

19

00:00:47,590 --> 00:00:46,559

shape

20

00:00:49,430 --> 00:00:47,600

all the

21

00:00:50,630 --> 00:00:49,440

basic life support systems are

22

00:00:53,029 --> 00:00:50,640

functioning

23

00:00:55,189 --> 00:00:53,039

the urine processor the water processor

24

00:00:56,869 --> 00:00:55,199

the oxygen generation system the carbon

25

00:00:58,790 --> 00:00:56,879

dioxide removal system they're all up

26

00:01:00,790 --> 00:00:58,800

and operating they're not maybe

27

00:01:02,310 --> 00:01:00,800

operating a hundred percent uh but

28

00:01:04,310 --> 00:01:02,320

they're all functioning and doing the

29

00:01:06,230 --> 00:01:04,320

job that they need to go do and and i

30

00:01:07,990 --> 00:01:06,240

think we're really kind of learning how

31

00:01:09,190 --> 00:01:08,000

to operate in space and how to fix

32

00:01:10,630 --> 00:01:09,200

systems

33

00:01:13,510 --> 00:01:10,640

if you remember during the last flight

34

00:01:15,910 --> 00:01:13,520

the nitrogen valve on the ammonia system

35

00:01:17,510 --> 00:01:15,920

failed to open or the regulator failed

36

00:01:19,670 --> 00:01:17,520

to control the pressure to the ammonia

37

00:01:21,910 --> 00:01:19,680

system the teams were able to fix that

38

00:01:23,749 --> 00:01:21,920

during a cold period and they got that

39

00:01:25,510 --> 00:01:23,759

system functioning and now it's up and

40

00:01:26,789 --> 00:01:25,520

operating so again i think

41

00:01:28,550 --> 00:01:26,799

there's something to be learned here the

42

00:01:30,789 --> 00:01:28,560

way we operate in space for long

43

00:01:32,870 --> 00:01:30,799

duration when you've cut the

44

00:01:35,109 --> 00:01:32,880

ability to go bring the vehicle back or

45

00:01:36,870 --> 00:01:35,119

bring the hardware back uh continuing to

46

00:01:38,630 --> 00:01:36,880

pursue things spending extra time to

47

00:01:40,630 --> 00:01:38,640

work on things is really an effective

48

00:01:42,870 --> 00:01:40,640

way to manage things so that was very

49

00:01:44,630 --> 00:01:42,880

good on the shuttle side

50

00:01:47,190 --> 00:01:44,640

the teams have done a phenomenal job

51
00:01:50,149 --> 00:01:47,200
down here again the vehicle is is ready

52
00:01:51,670 --> 00:01:50,159
to go fly is a true testament to the the

53
00:01:54,469 --> 00:01:51,680
work that the teams have done down here

54
00:01:56,550 --> 00:01:54,479
at the cape uh you know i watched the

55
00:01:58,789 --> 00:01:56,560
status reports each day and the

56
00:02:00,709 --> 00:01:58,799
propellant loading was full of

57
00:02:03,510 --> 00:02:00,719
challenges with quick disconnects and

58
00:02:05,749 --> 00:02:03,520
gse and and mike and the teams down here

59
00:02:07,350 --> 00:02:05,759
just did a phenomenal job of handling

60
00:02:08,389 --> 00:02:07,360
each one of those items and working

61
00:02:10,070 --> 00:02:08,399
forward

62
00:02:11,910 --> 00:02:10,080
the program gave them some extra

63
00:02:13,190 --> 00:02:11,920

challenges with some ceramic plugs that

64

00:02:14,869 --> 00:02:13,200

john will talk to you about a little bit

65

00:02:16,949 --> 00:02:14,879

to fit in some of our tile and they did

66

00:02:17,990 --> 00:02:16,959

some extra installations of those they

67

00:02:19,830 --> 00:02:18,000

did some

68

00:02:21,589 --> 00:02:19,840

inspections on those and again the team

69

00:02:24,390 --> 00:02:21,599

down here has just done a phenomenal job

70

00:02:26,550 --> 00:02:24,400

and it's also a real testimony to the

71

00:02:28,630 --> 00:02:26,560

last flight you know we're not many days

72

00:02:30,070 --> 00:02:28,640

from the last landing and here we are

73

00:02:31,750 --> 00:02:30,080

getting ready to go launch again and

74

00:02:34,630 --> 00:02:31,760

that's only possible because the other

75

00:02:36,869 --> 00:02:34,640

vehicle works so smooth and and again

76
00:02:39,509 --> 00:02:36,879
the teams have done a phenomenal job

77
00:02:41,270 --> 00:02:39,519
with the ku band antenna they

78
00:02:43,430 --> 00:02:41,280
found the problem they've isolated it to

79
00:02:45,110 --> 00:02:43,440
a particular transistor and the outside

80
00:02:46,869 --> 00:02:45,120
of the deployed unit which is

81
00:02:48,949 --> 00:02:46,879
unbelievable work for them to know

82
00:02:51,270 --> 00:02:48,959
already at this point what the failure

83
00:02:53,430 --> 00:02:51,280
is and the implications so we we had a

84
00:02:56,229 --> 00:02:53,440
very good review i think we're ready to

85
00:02:57,750 --> 00:02:56,239
go fly i continue to kind of push on the

86
00:02:59,830 --> 00:02:57,760
team to make sure we haven't forgotten

87
00:03:02,309 --> 00:02:59,840
anything that we're not taking things

88
00:03:04,869 --> 00:03:02,319

easy we're not rushing into things and

89

00:03:06,869 --> 00:03:04,879

and i see no indications of those

90

00:03:09,190 --> 00:03:06,879

again i ask you to take a good hard look

91

00:03:10,630 --> 00:03:09,200

at the the videos for this flight the

92

00:03:12,869 --> 00:03:10,640

evas

93

00:03:15,190 --> 00:03:12,879

they are not trivial at all on station

94

00:03:16,949 --> 00:03:15,200

the battery installation the ku band

95

00:03:18,949 --> 00:03:16,959

install are pretty amazing evas

96

00:03:19,830 --> 00:03:18,959

especially eva number one if you look at

97

00:03:28,630 --> 00:03:19,840

the

98

00:03:30,309 --> 00:03:28,640

it's a it's a pretty uh eye opening eva

99

00:03:32,390 --> 00:03:30,319

if you take a look at those activities

100

00:03:36,390 --> 00:03:32,400

so again a very good review and we set

101
00:03:37,430 --> 00:03:36,400
the launch date for may 14th at 2 20 p.m

102
00:03:39,430 --> 00:03:37,440
john

103
00:03:41,910 --> 00:03:39,440
didn't leave me much that was great

104
00:03:43,670 --> 00:03:41,920
it was a very a very smooth flight

105
00:03:45,350 --> 00:03:43,680
readiness review

106
00:03:48,710 --> 00:03:45,360
i am amazed at this team because

107
00:03:51,670 --> 00:03:48,720
discovery did just land 15 days ago

108
00:03:53,830 --> 00:03:51,680
we're the beneficiaries of of its very

109
00:03:55,270 --> 00:03:53,840
trouble-free mission

110
00:03:58,710 --> 00:03:55,280
atlantis has

111
00:04:00,149 --> 00:03:58,720
had a very trouble-free processing flow

112
00:04:01,429 --> 00:04:00,159
he was a little we had some weather

113
00:04:03,350 --> 00:04:01,439

trying to roll out mike can tell you

114

00:04:04,789 --> 00:04:03,360

about that you know and then what curse

115

00:04:07,190 --> 00:04:04,799

talked about with the uh with the

116

00:04:08,869 --> 00:04:07,200

propellant loading but it's uh you know

117

00:04:10,309 --> 00:04:08,879

the team came to me about uh i don't

118

00:04:12,470 --> 00:04:10,319

know two weeks ago said we only have one

119

00:04:14,070 --> 00:04:12,480

contingency day and we've carried one

120

00:04:15,910 --> 00:04:14,080

contingency day throughout and they've

121

00:04:17,749 --> 00:04:15,920

over we've given them extra work and

122

00:04:20,310 --> 00:04:17,759

they've overcome problems and and

123

00:04:22,230 --> 00:04:20,320

they're just a very mature uh efficient

124

00:04:24,950 --> 00:04:22,240

uh

125

00:04:26,710 --> 00:04:24,960

unbelievable team

126

00:04:30,390 --> 00:04:26,720

two issues we talked about

127

00:04:32,150 --> 00:04:30,400

that bill mentioned one was the ku band

128

00:04:35,270 --> 00:04:32,160

communications antenna that we used to

129

00:04:36,790 --> 00:04:35,280

bring down video and high rate data

130

00:04:38,790 --> 00:04:36,800

the team was able to actually get in

131

00:04:41,430 --> 00:04:38,800

discovery take out the electronics box

132

00:04:43,670 --> 00:04:41,440

send it to our logistics depot where we

133

00:04:45,830 --> 00:04:43,680

where we troubleshoot electronics they

134

00:04:48,070 --> 00:04:45,840

already identified the failed component

135

00:04:50,070 --> 00:04:48,080

uh we took a look at the testing that we

136

00:04:52,150 --> 00:04:50,080

did for atlantis ku band antenna we

137

00:04:53,749 --> 00:04:52,160

don't see any issues there although we

138

00:04:55,430 --> 00:04:53,759

didn't see them on discovery either so

139

00:04:56,950 --> 00:04:55,440

we're we're susceptible to maybe the

140

00:04:59,030 --> 00:04:56,960

transistor failing but it's good to know

141

00:05:00,710 --> 00:04:59,040

that it was not some other problem that

142

00:05:02,550 --> 00:05:00,720

this was just a random electronics kind

143

00:05:04,550 --> 00:05:02,560

of failure and and we feel pretty good

144

00:05:07,830 --> 00:05:04,560

about how we're going into

145

00:05:10,310 --> 00:05:07,840

into launch of atlantis with the ku band

146

00:05:12,469 --> 00:05:10,320

bill talked about the ceramic plugs

147

00:05:14,469 --> 00:05:12,479

they're these um

148

00:05:15,510 --> 00:05:14,479

i got one so i'm gonna pull it out here

149

00:05:17,590 --> 00:05:15,520

they got

150

00:05:20,469 --> 00:05:17,600

they they put these little ceramic plugs

151

00:05:23,110 --> 00:05:20,479

over fasteners around the tiles that

152

00:05:24,310 --> 00:05:23,120

that uh that go around the windows and

153

00:05:25,590 --> 00:05:24,320

sorry mike i didn't tell them i was

154

00:05:26,950 --> 00:05:25,600

going to show up but they're just real

155

00:05:27,990 --> 00:05:26,960

little bitty ceramic plugs that are

156

00:05:28,790 --> 00:05:28,000

threaded

157

00:05:30,870 --> 00:05:28,800

and

158

00:05:33,830 --> 00:05:30,880

there's a there's an insert over the

159

00:05:37,029 --> 00:05:33,840

fastener and it uh there you go they're

160

00:05:41,350 --> 00:05:38,710

what happened on this last flight is we

161

00:05:43,670 --> 00:05:41,360

had one of these uh

162

00:05:45,670 --> 00:05:43,680

leave the vehicle during reentry we

163

00:05:47,110 --> 00:05:45,680

think pretty late in reentry

164

00:05:48,950 --> 00:05:47,120

and um

165

00:05:52,629 --> 00:05:48,960

so we had a lot of discussion about how

166

00:05:55,510 --> 00:05:52,639

they're secured in we actually use a

167

00:05:57,270 --> 00:05:55,520

cord to increase the friction

168

00:06:00,390 --> 00:05:57,280

and when we did some bench tests we

169

00:06:03,110 --> 00:06:00,400

didn't like the results so what we asked

170

00:06:04,950 --> 00:06:03,120

you know mike's team to go do is is go

171

00:06:07,029 --> 00:06:04,960

replace all of them around the windows

172

00:06:08,150 --> 00:06:07,039

and the ford rcs

173

00:06:09,909 --> 00:06:08,160

system

174

00:06:11,670 --> 00:06:09,919

here recently

175

00:06:13,590 --> 00:06:11,680

with a little bit thicker cord that gave

176

00:06:15,749 --> 00:06:13,600

us more friction so that we will not

177

00:06:18,070 --> 00:06:15,759

have those issues anymore and we ran

178

00:06:19,830 --> 00:06:18,080

through that in great detail

179

00:06:21,270 --> 00:06:19,840

and the team was happy with that story

180

00:06:22,950 --> 00:06:21,280

and where we are and the testing that

181

00:06:25,350 --> 00:06:22,960

was done on it and i think they'll

182

00:06:28,309 --> 00:06:25,360

finish up that work probably today so it

183

00:06:30,469 --> 00:06:28,319

was uh that was a good discussion uh so

184

00:06:32,950 --> 00:06:30,479

very few issues uh very few things going

185

00:06:35,590 --> 00:06:32,960

on this is a very exciting mission um

186

00:06:38,150 --> 00:06:35,600

it's it's nice that uh that we have this

187

00:06:40,950 --> 00:06:38,160

for the team to uh to go and execute for

188

00:06:43,749 --> 00:06:40,960

uh atlantis uh last scheduled

189

00:06:46,469 --> 00:06:43,759

mission uh 12 days three va's tons of

190

00:06:48,710 --> 00:06:46,479

robotics uh we're putting on spares that

191

00:06:50,309 --> 00:06:48,720

make us feel good about the the long

192

00:06:52,950 --> 00:06:50,319

term

193

00:06:54,309 --> 00:06:52,960

sustainability of iss

194

00:06:55,670 --> 00:06:54,319

replacing batteries that have been up

195

00:06:57,189 --> 00:06:55,680

there for a while docking a russian

196

00:06:58,950 --> 00:06:57,199

build iss module this flight has a

197

00:07:01,189 --> 00:06:58,960

little bit of everything

198

00:07:03,350 --> 00:07:01,199

and it's a it's been a great uh great

199

00:07:05,350 --> 00:07:03,360

preparation for the team

200

00:07:06,870 --> 00:07:05,360

about all new that i can add is

201
00:07:08,870 --> 00:07:06,880
is kind of the uh

202
00:07:10,230 --> 00:07:08,880
the tone of the meeting was extremely

203
00:07:11,749 --> 00:07:10,240
positive

204
00:07:13,909 --> 00:07:11,759
nobody mentioned

205
00:07:15,270 --> 00:07:13,919
and it wasn't it wasn't

206
00:07:16,950 --> 00:07:15,280
purposely avoiding it but nobody

207
00:07:19,430 --> 00:07:16,960
mentioned this was atlantis last planned

208
00:07:21,749 --> 00:07:19,440
flight it's just folks are so focused

209
00:07:23,670 --> 00:07:21,759
and in doing their jobs and they're

210
00:07:25,749 --> 00:07:23,680
performing with such pride all the way

211
00:07:27,589 --> 00:07:25,759
to the end you know that it's uh it's

212
00:07:29,749 --> 00:07:27,599
just normal business and the team's very

213
00:07:32,230 --> 00:07:29,759

mature and is looking at the data and

214

00:07:34,070 --> 00:07:32,240

and looking for things they can do it's

215

00:07:35,909 --> 00:07:34,080

you know you might ask well did you

216

00:07:38,070 --> 00:07:35,919

really have to go and replace all of the

217

00:07:39,510 --> 00:07:38,080

braided cord on all of these these plugs

218

00:07:41,270 --> 00:07:39,520

which have performed pretty well in the

219

00:07:42,790 --> 00:07:41,280

past and the answer was we think we'll

220

00:07:44,469 --> 00:07:42,800

make it better and

221

00:07:46,790 --> 00:07:44,479

because it'll make it better then then

222

00:07:48,230 --> 00:07:46,800

we're gonna go do it and uh and that's

223

00:07:50,550 --> 00:07:48,240

that's the kind of attitude this team

224

00:07:53,430 --> 00:07:50,560

has and i just they're such an asset to

225

00:07:55,270 --> 00:07:53,440

uh to human space flight and and uh i

226

00:07:57,670 --> 00:07:55,280

just i could not be more proud of them

227

00:07:59,110 --> 00:07:57,680

so we're ready to go next friday it's 15

228

00:08:00,230 --> 00:07:59,120

days since we last landed nine days

229

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

until we launched this is the kind of

230

00:08:04,150 --> 00:08:02,720

pace that this team thrives on

231

00:08:05,830 --> 00:08:04,160

okay thanks john

232

00:08:07,670 --> 00:08:05,840

well i'd like to recognize two people

233

00:08:09,510 --> 00:08:07,680

from the atlantis team for all the work

234

00:08:11,110 --> 00:08:09,520

that's been done out the launch pad to

235

00:08:13,350 --> 00:08:11,120

recover from two days late rolling out

236

00:08:15,189 --> 00:08:13,360

from the vab as it was mentioned angie

237

00:08:16,869 --> 00:08:15,199

brewer the flow director on the nasa

238

00:08:18,790 --> 00:08:16,879

side and jim taylor the integrated flow

239

00:08:21,110 --> 00:08:18,800

manager on united space alliance have

240

00:08:22,309 --> 00:08:21,120

both done an outstanding job of dealing

241

00:08:23,749 --> 00:08:22,319

with the different challenges that we

242

00:08:25,670 --> 00:08:23,759

presented them the additional work that

243

00:08:27,189 --> 00:08:25,680

you just heard about

244

00:08:28,950 --> 00:08:27,199

and they've maintained that schedule we

245

00:08:30,390 --> 00:08:28,960

do have one more contingency day left

246

00:08:32,469 --> 00:08:30,400

it'll be this saturday so we'll be able

247

00:08:34,230 --> 00:08:32,479

to give the whole team a day off and get

248

00:08:37,029 --> 00:08:34,240

into launch countdown mid next week and

249

00:08:38,870 --> 00:08:37,039

looking for a t-zero on friday the 14th

250

00:08:40,310 --> 00:08:38,880

the remaining pad flow is very standard

251
00:08:42,230 --> 00:08:40,320
for us we completed our ordinance

252
00:08:44,630 --> 00:08:42,240
installation monday night

253
00:08:46,470 --> 00:08:44,640
we'll get into the f closeout and and

254
00:08:48,070 --> 00:08:46,480
payload operations today and and

255
00:08:49,910 --> 00:08:48,080
tomorrow and friday

256
00:08:51,670 --> 00:08:49,920
and then come back next week pressurize

257
00:08:53,509 --> 00:08:51,680
the high pressure tanks on the on the

258
00:08:55,030 --> 00:08:53,519
orbiter and then be ready for launch

259
00:08:56,070 --> 00:08:55,040
countdown so that right now we've

260
00:08:58,230 --> 00:08:56,080
overcome

261
00:08:59,990 --> 00:08:58,240
a lot of challenges at the pad and those

262
00:09:01,829 --> 00:09:00,000
two folks have led their team through

263
00:09:03,750 --> 00:09:01,839

this extremely well i'm

264

00:09:06,310 --> 00:09:03,760

i'm grateful to be able to to recognize

265

00:09:08,470 --> 00:09:06,320

them and and uh they've done a superb

266

00:09:10,070 --> 00:09:08,480

job along with everybody else

267

00:09:11,509 --> 00:09:10,080

so we're ready to go we're not tracking

268

00:09:13,910 --> 00:09:11,519

anything right now at the launch pad

269

00:09:15,269 --> 00:09:13,920

that would represent a constraint and

270

00:09:18,150 --> 00:09:15,279

we're feeling good about atlantis

271

00:09:20,310 --> 00:09:18,160

launching a week and friday

272

00:09:21,990 --> 00:09:20,320

all right thank you all right we'll take

273

00:09:23,990 --> 00:09:22,000

questions here at kennedy space center

274

00:09:25,990 --> 00:09:24,000

and we'd ask for you to please identify

275

00:09:27,670 --> 00:09:26,000

yourself and your affiliation and to

276

00:09:31,750 --> 00:09:27,680

whom your question is addressed and

277

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

marcia done associated press with short

278

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

question and a longer question could you

279

00:09:39,910 --> 00:09:38,320

just say how many days you have to keep

280

00:09:42,389 --> 00:09:39,920

trying until you'd have to stand down

281

00:09:44,870 --> 00:09:42,399

for whatever reason

282

00:09:46,790 --> 00:09:44,880

over the next few weeks or yeah there

283

00:09:48,790 --> 00:09:46,800

are a couple things that get us there's

284

00:09:50,389 --> 00:09:48,800

a there's a delta on the range their

285

00:09:52,310 --> 00:09:50,399

launch date is the 20th

286

00:09:54,470 --> 00:09:52,320

and in order to reconfigure

287

00:09:56,550 --> 00:09:54,480

the range for them we we can't launch

288

00:09:57,910 --> 00:09:56,560

after the 18th we have the 18th as a

289

00:10:00,389 --> 00:09:57,920

launch date

290

00:10:01,990 --> 00:10:00,399

and so starting on the 14th we have four

291

00:10:03,910 --> 00:10:02,000

attempts in five days and then we'd have

292

00:10:05,750 --> 00:10:03,920

to stand down for the delta and then a

293

00:10:08,230 --> 00:10:05,760

lot of other constraints kind of kick in

294

00:10:09,750 --> 00:10:08,240

after the 18th and the 20th and that

295

00:10:11,509 --> 00:10:09,760

says we wouldn't be able to get back on

296

00:10:13,350 --> 00:10:11,519

until sometime in june

297

00:10:15,190 --> 00:10:13,360

but our history says that you know four

298

00:10:17,110 --> 00:10:15,200

attempts in five days is plenty for us

299

00:10:18,870 --> 00:10:17,120

and and barring something some major

300

00:10:20,630 --> 00:10:18,880

issue we should be in good shape

301

00:10:22,389 --> 00:10:20,640

at the beginning of june yeah i think

302

00:10:24,710 --> 00:10:22,399

it's the end yeah it's the end of june

303

00:10:25,910 --> 00:10:24,720

oh the end of june yeah june 29th

304

00:10:28,230 --> 00:10:25,920

29th

305

00:10:31,030 --> 00:10:28,240

um and um probably for

306

00:10:32,870 --> 00:10:31,040

bill um i know that you know there's

307

00:10:35,190 --> 00:10:32,880

there are only three scheduled flights

308

00:10:37,269 --> 00:10:35,200

left but jerry ross would like to see

309

00:10:40,310 --> 00:10:37,279

one last hurrah for atlantis as he put

310

00:10:43,030 --> 00:10:40,320

it monday and if you were to

311

00:10:46,230 --> 00:10:43,040

if that were to come about um

312

00:10:48,069 --> 00:10:46,240

would it would it be a crew of four as

313

00:10:49,430 --> 00:10:48,079

we've heard and how would you manage

314

00:10:51,670 --> 00:10:49,440

their rescue

315

00:10:53,509 --> 00:10:51,680

if that were to be needed and how how

316

00:10:56,230 --> 00:10:53,519

would you manage that flight if it

317

00:10:58,069 --> 00:10:56,240

somebody said go for it

318

00:10:59,509 --> 00:10:58,079

it would probably be a crew of four and

319

00:11:01,829 --> 00:10:59,519

that would be driven by the fact we

320

00:11:04,550 --> 00:11:01,839

would use potentially soyuz vehicles to

321

00:11:05,430 --> 00:11:04,560

return crew if they got stranded on

322

00:11:06,710 --> 00:11:05,440

orbit

323

00:11:09,190 --> 00:11:06,720

you know we've been looking at that we

324

00:11:10,949 --> 00:11:09,200

wouldn't we can you know we can fly a

325

00:11:12,710 --> 00:11:10,959

soyuz up with two crew members return

326

00:11:14,470 --> 00:11:12,720

one or fly it up with one crew member

327

00:11:16,150 --> 00:11:14,480

and then return to so we'd have to work

328

00:11:17,590 --> 00:11:16,160

all that out i don't know if we'd

329

00:11:18,790 --> 00:11:17,600

protect all that formally with the

330

00:11:21,190 --> 00:11:18,800

russians i don't know if we would do all

331

00:11:23,110 --> 00:11:21,200

the contract mods and those things but

332

00:11:24,870 --> 00:11:23,120

you know we would look at it we're also

333

00:11:26,630 --> 00:11:24,880

looking again just at our cscs

334

00:11:28,470 --> 00:11:26,640

requirement you know we're looking at

335

00:11:29,670 --> 00:11:28,480

how the tank performed this last time

336

00:11:31,910 --> 00:11:29,680

we're looking at what we're seeing on

337

00:11:34,470 --> 00:11:31,920

the orbiter we're evaluating what we

338

00:11:36,069 --> 00:11:34,480

really get from cscs protection you know

339

00:11:38,949 --> 00:11:36,079

this time we're very lucky in the fact

340

00:11:42,230 --> 00:11:38,959

that we have a very robust station we

341

00:11:43,750 --> 00:11:42,240

have 125 days on on orbit capability for

342

00:11:45,910 --> 00:11:43,760

all the crew members on this flight to

343

00:11:47,590 --> 00:11:45,920

stay from a cscs standpoint so we can

344

00:11:50,230 --> 00:11:47,600

support all the way till the september

345

00:11:52,310 --> 00:11:50,240

16th date so we can accommodate that

346

00:11:54,150 --> 00:11:52,320

very well we think that can get expanded

347

00:11:56,310 --> 00:11:54,160

even more as the station systems get

348

00:11:59,030 --> 00:11:56,320

more robust so so we think we've got a

349

00:12:00,389 --> 00:11:59,040

plan that provides some capability and

350

00:12:01,829 --> 00:12:00,399

we'd have to still review that with a

351

00:12:06,629 --> 00:12:01,839

lot of people if we were going to make

352

00:12:13,110 --> 00:12:09,110

who would be these four people have you

353

00:12:17,829 --> 00:12:15,670

bill harwood um the horowitz cbs for

354

00:12:19,350 --> 00:12:17,839

first for mike uh as john said this is a

355

00:12:21,269 --> 00:12:19,360

nice fast pace you guys like that but

356

00:12:23,110 --> 00:12:21,279

then you're going into a pretty long

357

00:12:25,430 --> 00:12:23,120

uh downtime or hiatus before the next

358

00:12:27,030 --> 00:12:25,440

flight so uh is that an issue for you

359

00:12:29,750 --> 00:12:27,040

for the for the teams keep everybody

360

00:12:31,509 --> 00:12:29,760

toasty and uh ready to go whenever 133

361

00:12:33,030 --> 00:12:31,519

goes well not really you know from the

362

00:12:34,870 --> 00:12:33,040

launch team perspective we'll we'll

363

00:12:36,550 --> 00:12:34,880

throw in more simulations more training

364

00:12:38,790 --> 00:12:36,560

runs for the team

365

00:12:40,710 --> 00:12:38,800

the processing guys uh they go through

366

00:12:42,550 --> 00:12:40,720

their standard training regimen and

367

00:12:43,829 --> 00:12:42,560

their periodic re-certifications are

368

00:12:45,430 --> 00:12:43,839

required so they'll be going through all

369

00:12:47,750 --> 00:12:45,440

those you know we've we've gone through

370

00:12:49,670 --> 00:12:47,760

down times in the past obviously and and

371

00:12:51,269 --> 00:12:49,680

uh has not been a problem for us so i

372

00:12:54,470 --> 00:12:51,279

would expect more launch count sims this

373

00:12:57,190 --> 00:12:55,590

i guess this was the same type of

374

00:12:58,550 --> 00:12:57,200

transistor in the ka that failed back in

375

00:12:59,430 --> 00:12:58,560

92 even though it's not in the same

376

00:13:00,870 --> 00:12:59,440

place

377

00:13:02,230 --> 00:13:00,880

um

378

00:13:03,509 --> 00:13:02,240

i mean statistically i would guess the

379

00:13:05,590 --> 00:13:03,519

odds of another one failing on this

380

00:13:07,190 --> 00:13:05,600

flight are probably zero but

381

00:13:08,710 --> 00:13:07,200

just just so i know there's nothing on

382

00:13:10,230 --> 00:13:08,720

this flight that requires k numbers if

383

00:13:12,389 --> 00:13:10,240

you had the same problem on this flight

384

00:13:14,230 --> 00:13:12,399

you could still execute this mission uh

385

00:13:16,790 --> 00:13:14,240

the way you've got it laid out

386

00:13:18,790 --> 00:13:16,800

yeah the uh transistor is uh a different

387

00:13:21,829 --> 00:13:18,800

but similar build of the one that failed

388

00:13:24,550 --> 00:13:21,839

in sts-91

389

00:13:26,790 --> 00:13:24,560

i think it was and

390

00:13:28,310 --> 00:13:26,800

if we had the same kind of so there is

391

00:13:29,269 --> 00:13:28,320

some potential that you could lose the

392

00:13:31,269 --> 00:13:29,279

ku

393

00:13:32,790 --> 00:13:31,279

the team did a marvelous job last flight

394

00:13:34,470 --> 00:13:32,800

of working around it getting all of the

395

00:13:36,150 --> 00:13:34,480

inspection data down

396

00:13:37,990 --> 00:13:36,160

the crew flew the rendezvous without the

397

00:13:38,710 --> 00:13:38,000

rendezvous radar did an outstanding job

398

00:13:39,990 --> 00:13:38,720

so

399

00:13:43,189 --> 00:13:40,000

you would see the exact same thing on

400

00:13:44,230 --> 00:13:43,199

this flight if that were to occur

401
00:13:47,990 --> 00:13:44,240
james

402
00:13:49,430 --> 00:13:48,000
hopefully pretty quick questions first i

403
00:13:51,430 --> 00:13:49,440
was just curious

404
00:13:53,110 --> 00:13:51,440
i didn't understand why

405
00:13:54,710 --> 00:13:53,120
mrm is

406
00:13:56,870 --> 00:13:54,720
why the shuttle is launching this mrm

407
00:13:59,670 --> 00:13:56,880
when the first one

408
00:14:01,269 --> 00:13:59,680
got up there separately

409
00:14:03,189 --> 00:14:01,279
again in our discussions with the

410
00:14:04,710 --> 00:14:03,199
russians from you know they were going

411
00:14:06,550 --> 00:14:04,720
to have to use a proton vehicle to go

412
00:14:08,550 --> 00:14:06,560
ahead and launch this vehicle so they

413
00:14:10,949 --> 00:14:08,560

saw it advantageous to use the shuttle

414

00:14:12,790 --> 00:14:10,959

to do that we were able to put a little

415

00:14:15,509 --> 00:14:12,800

bit over a metric ton about a metric ton

416

00:14:18,470 --> 00:14:15,519

and a half of us cargo inside the

417

00:14:20,310 --> 00:14:18,480

mrm so it's kind of a unique uh

418

00:14:21,750 --> 00:14:20,320

unique mixture for us you could think of

419

00:14:24,629 --> 00:14:21,760

almost like a

420

00:14:26,790 --> 00:14:24,639

an mplm in a sense filled with us cargo

421

00:14:28,470 --> 00:14:26,800

in fact it's so filled with cargo

422

00:14:30,069 --> 00:14:28,480

that the crew is going to have to start

423

00:14:32,550 --> 00:14:30,079

unloading it during this mission and

424

00:14:34,470 --> 00:14:32,560

then they won't get it totally on on

425

00:14:36,710 --> 00:14:34,480

unloaded before the soyuz is going to

426

00:14:38,389 --> 00:14:36,720

come up and dock to it here in june so

427

00:14:39,829 --> 00:14:38,399

there's a pretty quick timeline of

428

00:14:41,829 --> 00:14:39,839

getting all the stuff out of there but

429

00:14:43,750 --> 00:14:41,839

it's filled with u.s equipment so it was

430

00:14:45,430 --> 00:14:43,760

a nice mix between the russians and us

431

00:14:46,790 --> 00:14:45,440

they needed the module launched we were

432

00:14:49,030 --> 00:14:46,800

able to launch it we were able to fill

433

00:14:51,030 --> 00:14:49,040

it full of our cargo so in the spirit of

434

00:14:53,430 --> 00:14:51,040

international cooperation we worked on a

435

00:14:55,030 --> 00:14:53,440

very nice approach with them to take

436

00:14:56,790 --> 00:14:55,040

effective use of the shuttle that meets

437

00:14:59,269 --> 00:14:56,800

our needs and meets their needs as well

438

00:15:01,030 --> 00:14:59,279

so again we treat station and treat

439

00:15:02,710 --> 00:15:01,040

transportation as an international

440

00:15:04,470 --> 00:15:02,720

activity how can we optimize that for

441

00:15:06,389 --> 00:15:04,480

the partnership and this is a nice way

442

00:15:08,949 --> 00:15:06,399

to do that

443

00:15:10,949 --> 00:15:08,959

thanks for for mike lomback

444

00:15:13,430 --> 00:15:10,959

looking ahead a little bit when atlantis

445

00:15:14,550 --> 00:15:13,440

returns i was just wondering how far

446

00:15:17,189 --> 00:15:14,560

into its

447

00:15:18,710 --> 00:15:17,199

next into the lon flow

448

00:15:21,189 --> 00:15:18,720

will it go will it be

449

00:15:22,310 --> 00:15:21,199

prepared right up to to roll over and

450

00:15:25,189 --> 00:15:22,320

will

451

00:15:26,550 --> 00:15:25,199

its stack be fully stacked in the vab

452

00:15:28,550 --> 00:15:26,560

until that decision is made or will it

453

00:15:30,710 --> 00:15:28,560

only go so far before you know

454

00:15:32,470 --> 00:15:30,720

well we'll be processing or

455

00:15:34,550 --> 00:15:32,480

as if it's a real flight

456

00:15:35,749 --> 00:15:34,560

to begin with um somewhere along the

457

00:15:37,509 --> 00:15:35,759

line we expect to hear whether we're

458

00:15:39,189 --> 00:15:37,519

going to launch or not and at that point

459

00:15:41,350 --> 00:15:39,199

in time we'd either press on or stop

460

00:15:42,710 --> 00:15:41,360

that processing but in order to support

461

00:15:44,550 --> 00:15:42,720

that obviously we have to we have to

462

00:15:45,670 --> 00:15:44,560

press on when she gets home maybe a

463

00:15:48,150 --> 00:15:45,680

little bit

464

00:15:50,310 --> 00:15:48,160
expanded out not quite sure yet

465

00:15:52,550 --> 00:15:50,320
but we need to go through the normal

466

00:15:54,470 --> 00:15:52,560
de-servicing steps obviously after the

467

00:15:56,150 --> 00:15:54,480
orbiter comes home first

468

00:15:57,430 --> 00:15:56,160
get the payload equipment out that type

469

00:15:58,230 --> 00:15:57,440
of thing

470

00:15:59,430 --> 00:15:58,240
so

471

00:16:01,189 --> 00:15:59,440
basically to answer your question we

472

00:16:02,949 --> 00:16:01,199
have to prepare atlantis and the stack

473

00:16:05,350 --> 00:16:02,959
as if we're going to fly again because

474

00:16:07,110 --> 00:16:05,360
it is the lon mission

475

00:16:09,749 --> 00:16:07,120
so with that

476

00:16:10,790 --> 00:16:09,759

we need to be ready to go

477

00:16:14,629 --> 00:16:10,800

irene

478

00:16:17,829 --> 00:16:14,639

have a couple for bill and then i think

479

00:16:19,749 --> 00:16:17,839

one for john um when's the uh the uh

480

00:16:22,629 --> 00:16:19,759

rossvat supposed to be used for the

481

00:16:24,310 --> 00:16:22,639

first time

482

00:16:26,310 --> 00:16:24,320

um

483

00:16:28,949 --> 00:16:26,320

well it's going to be we'll actually

484

00:16:30,949 --> 00:16:28,959

ingress it during this mission and

485

00:16:32,069 --> 00:16:30,959

the crews will start unpacking during

486

00:16:34,710 --> 00:16:32,079

this one

487

00:16:36,550 --> 00:16:34,720

docking port it'll be used for the soyuz

488

00:16:37,829 --> 00:16:36,560

launch on i think the launch is june

489

00:16:40,550 --> 00:16:37,839

14th

490

00:16:42,550 --> 00:16:40,560

so it's the june soyuz the first soyuz

491

00:16:44,310 --> 00:16:42,560

will dock to it at that point it also

492

00:16:46,230 --> 00:16:44,320

has on the outside it has a radiator

493

00:16:48,550 --> 00:16:46,240

that's going to be potentially attached

494

00:16:51,509 --> 00:16:48,560

to the mlm module which is supposed to

495

00:16:53,670 --> 00:16:51,519

launch in 2012. it also contains spare

496

00:16:56,550 --> 00:16:53,680

parts for the robotic

497

00:16:58,629 --> 00:16:56,560

european robotic arm on the outside it

498

00:17:00,550 --> 00:16:58,639

also carries a workstation on the

499

00:17:03,189 --> 00:17:00,560

outside for the robotic arm that goes on

500

00:17:05,750 --> 00:17:03,199

the mlm module out in the future so so

501
00:17:07,829 --> 00:17:05,760
it carries some components for future

502
00:17:09,590 --> 00:17:07,839
russian modules well in the future it

503
00:17:12,949 --> 00:17:09,600
carries u.s cargo on the inside it'll be

504
00:17:17,429 --> 00:17:15,029
the other question for you is that

505
00:17:19,110 --> 00:17:17,439
there's going to be about four months if

506
00:17:21,429 --> 00:17:19,120
the shuttle launches as planned in in

507
00:17:23,669 --> 00:17:21,439
may before you get back up there again

508
00:17:26,069 --> 00:17:23,679
is there anything that you're

509
00:17:28,950 --> 00:17:26,079
have changed as far as um in this

510
00:17:30,630 --> 00:17:28,960
mission 132 with how you want to leave

511
00:17:31,270 --> 00:17:30,640
the station because you're not going to

512
00:17:32,789 --> 00:17:31,280
be

513
00:17:34,070 --> 00:17:32,799

back with the shuttle crew for four

514

00:17:35,830 --> 00:17:34,080

months

515

00:17:37,430 --> 00:17:35,840

yeah we kind of looked at that to see if

516

00:17:39,430 --> 00:17:37,440

there's anything unique we needed to do

517

00:17:42,070 --> 00:17:39,440

from either a resupply or consumable

518

00:17:43,830 --> 00:17:42,080

standpoint or anything on station and we

519

00:17:45,430 --> 00:17:43,840

we talked to the station team about that

520

00:17:46,950 --> 00:17:45,440

i think they're in good shape with their

521

00:17:49,029 --> 00:17:46,960

consumables good shape with all their

522

00:17:51,029 --> 00:17:49,039

systems to go ahead and fly through the

523

00:17:52,390 --> 00:17:51,039

summer period and there'll be some evas

524

00:17:55,029 --> 00:17:52,400

during the summer

525

00:17:57,590 --> 00:17:55,039

there's the the russian soyuz landing in

526

00:17:59,270 --> 00:17:57,600

june and then a launch in june and so

527

00:18:00,870 --> 00:17:59,280

it's a pretty busy time for station

528

00:18:02,950 --> 00:18:00,880

there's also some progress launches

529

00:18:04,710 --> 00:18:02,960

there's probably some kind of

530

00:18:06,470 --> 00:18:04,720

transportation activity going on with

531

00:18:08,870 --> 00:18:06,480

station almost every three weeks this

532

00:18:10,950 --> 00:18:08,880

year so it's a it's a pretty busy time

533

00:18:12,549 --> 00:18:10,960

for station but i think that it's

534

00:18:13,909 --> 00:18:12,559

another good chance also to get a lot of

535

00:18:15,590 --> 00:18:13,919

research done so we're going to have a

536

00:18:17,830 --> 00:18:15,600

lot of research pre-positioned on

537

00:18:19,830 --> 00:18:17,840

station so we'll be able to really start

538

00:18:21,909 --> 00:18:19,840

doing a lot of quality science onboard

539

00:18:23,350 --> 00:18:21,919

station with the crew over the summer so

540

00:18:24,870 --> 00:18:23,360

i think we're ready for this period on

541

00:18:26,390 --> 00:18:24,880

board station and we'll make really

542

00:18:29,190 --> 00:18:26,400

effective use of station during this

543

00:18:31,669 --> 00:18:29,200

time thanks um and for john how much

544

00:18:32,630 --> 00:18:31,679

money would be needed to fly the 135

545

00:18:35,190 --> 00:18:32,640

flight

546

00:18:36,870 --> 00:18:35,200

and um are there any uh can you just

547

00:18:39,110 --> 00:18:36,880

give us a little update on if there's

548

00:18:41,590 --> 00:18:39,120

any work on going on

549

00:18:44,310 --> 00:18:41,600

kind of unmanned shuttle or

550

00:18:46,390 --> 00:18:44,320

shuttle c or side mount shuttle kind of

551
00:18:47,190 --> 00:18:46,400
in the heavy lift mode of things that

552
00:18:48,710 --> 00:18:47,200
was

553
00:18:50,870 --> 00:18:48,720
brought up

554
00:18:53,110 --> 00:18:50,880
i guess with the the new budget rollout

555
00:18:54,470 --> 00:18:53,120
thanks sure

556
00:18:58,789 --> 00:18:54,480
the question on

557
00:19:00,710 --> 00:18:58,799
what would it cost to go fly 135

558
00:19:03,110 --> 00:19:00,720
is completely a function of when you go

559
00:19:05,350 --> 00:19:03,120
fly it you know and you would

560
00:19:08,230 --> 00:19:05,360
if you flew it you know

561
00:19:10,310 --> 00:19:08,240
in in calendar year 11 you know we think

562
00:19:11,510 --> 00:19:10,320
we can get the team down to from our

563
00:19:14,070 --> 00:19:11,520

current

564

00:19:16,870 --> 00:19:14,080

monthly spend rate of about 200 million

565

00:19:18,310 --> 00:19:16,880

dollars a month down into the 175

566

00:19:20,150 --> 00:19:18,320

million dollars a month maybe even a

567

00:19:21,909 --> 00:19:20,160

little bit less than that

568

00:19:23,350 --> 00:19:21,919

that's just through our workforce

569

00:19:25,029 --> 00:19:23,360

reduction so

570

00:19:26,950 --> 00:19:25,039

it would depend on when the mission were

571

00:19:29,110 --> 00:19:26,960

uh were scheduled and how long we would

572

00:19:32,150 --> 00:19:29,120

keep the team employed and that's a

573

00:19:34,470 --> 00:19:32,160

fairly easy thing to uh to determine

574

00:19:35,990 --> 00:19:34,480

um the other question was about other

575

00:19:38,310 --> 00:19:36,000

studies that have been going on out

576

00:19:42,390 --> 00:19:40,310

all of the studies that were

577

00:19:44,710 --> 00:19:42,400

internal to the shuttle program were

578

00:19:46,710 --> 00:19:44,720

done as a result of

579

00:19:49,270 --> 00:19:46,720

of questions from the transition team

580

00:19:52,549 --> 00:19:49,280

back when the administration changed or

581

00:19:55,190 --> 00:19:52,559

from the augustine commission and that

582

00:19:57,110 --> 00:19:55,200

work wrapped up fairly quickly and we've

583

00:20:00,070 --> 00:19:57,120

documented all of that work but there's

584

00:20:02,470 --> 00:20:00,080

no additional work ongoing right now

585

00:20:03,669 --> 00:20:02,480

unmanned shuttles been discussed for

586

00:20:05,110 --> 00:20:03,679

years and years and years we're not

587

00:20:07,750 --> 00:20:05,120

doing anything actively with that right

588

00:20:09,590 --> 00:20:07,760

now at all other than

589

00:20:12,230 --> 00:20:09,600

when we did return to flight we

590

00:20:13,590 --> 00:20:12,240

developed the capability to return fly

591

00:20:16,310 --> 00:20:13,600

vehicle back

592

00:20:18,390 --> 00:20:16,320

unmanned and put that cabling up on

593

00:20:20,149 --> 00:20:18,400

station to be able to do that

594

00:20:21,350 --> 00:20:20,159

so we still have that capability but

595

00:20:23,190 --> 00:20:21,360

other than that we have not done

596

00:20:24,870 --> 00:20:23,200

anything

597

00:20:26,630 --> 00:20:24,880

i'll take a question from todd and then

598

00:20:28,470 --> 00:20:26,640

we'll take a question after that from

599

00:20:30,230 --> 00:20:28,480

our phone bridge todd okay todd

600

00:20:31,750 --> 00:20:30,240

halverson of florida today and i

601
00:20:33,270 --> 00:20:31,760
actually have a couple if i could the

602
00:20:35,590 --> 00:20:33,280
first one's for john

603
00:20:38,230 --> 00:20:35,600
and i'm wondering if you could uh

604
00:20:41,430 --> 00:20:38,240
further elaborate on the

605
00:20:45,710 --> 00:20:41,440
little slithers of opportunity of in

606
00:20:48,390 --> 00:20:45,720
late november and december to fly the

607
00:20:51,190 --> 00:20:48,400
sts-134 mission could you give me an

608
00:20:54,470 --> 00:20:51,200
idea of what's out there as the uh

609
00:20:56,390 --> 00:20:54,480
constraints and what little time period

610
00:20:57,830 --> 00:20:56,400
you have to work with yeah i screwed up

611
00:20:59,909 --> 00:20:57,840
i didn't bring my manifest heart that

612
00:21:01,830 --> 00:20:59,919
has all the uh all the different uh

613
00:21:03,110 --> 00:21:01,840

constraints do you have a bill i got it

614

00:21:04,549 --> 00:21:03,120

somewhere

615

00:21:09,110 --> 00:21:04,559

can we get back to you on that

616

00:21:12,390 --> 00:21:10,870

in the meantime i'm going to ask bill

617

00:21:14,390 --> 00:21:12,400

gerstenmaier a question while he's

618

00:21:17,750 --> 00:21:14,400

trying to flip through that

619

00:21:20,070 --> 00:21:17,760

um to answer your question and um

620

00:21:22,950 --> 00:21:20,080

uh maybe i'll just ask mike weinbach

621

00:21:23,990 --> 00:21:22,960

something in the meantime mike um

622

00:21:26,630 --> 00:21:24,000

that's fine

623

00:21:28,870 --> 00:21:26,640

i'm just wondering you know how you

624

00:21:33,430 --> 00:21:28,880

personally feel after all of these years

625

00:21:35,909 --> 00:21:33,440

as you're about to do one of the first

626

00:21:38,470 --> 00:21:35,919

lasts in terms of the shuttle program

627

00:21:40,149 --> 00:21:38,480

the last flight of shuttle atlantis

628

00:21:41,669 --> 00:21:40,159

which you've been involved with that

629

00:21:43,590 --> 00:21:41,679

bird for a long time

630

00:21:44,390 --> 00:21:43,600

well yeah all of us have been it's not

631

00:21:46,310 --> 00:21:44,400

it's not

632

00:21:48,390 --> 00:21:46,320

me by any means it's uh the whole team

633

00:21:50,470 --> 00:21:48,400

has been involved with atlanta since

634

00:21:52,310 --> 00:21:50,480

since its first mission in 1985 i was

635

00:21:54,630 --> 00:21:52,320

just looking at the previous missions of

636

00:21:56,470 --> 00:21:54,640

atlantis and reminiscing a little bit

637

00:21:58,710 --> 00:21:56,480

um yeah she's been around a long time

638

00:22:00,950 --> 00:21:58,720

and and a lot of us have known that ship

639

00:22:03,190 --> 00:22:00,960

for 25 years

640

00:22:07,510 --> 00:22:03,200

so it'll be bittersweet to be sure she's

641

00:22:09,029 --> 00:22:07,520

flown 31 times already 115 million miles

642

00:22:10,870 --> 00:22:09,039

from a number of flight perspective

643

00:22:13,029 --> 00:22:10,880

about a third of her design life so just

644

00:22:15,510 --> 00:22:13,039

kind of just kind of third through the

645

00:22:17,029 --> 00:22:15,520

way through now um but our mission is

646

00:22:18,230 --> 00:22:17,039

coming to an end and so we're coming to

647

00:22:21,029 --> 00:22:18,240

grips with that the team is very

648

00:22:23,110 --> 00:22:21,039

professional and uh we know it's it's

649

00:22:24,789 --> 00:22:23,120

the last one probably and and but that

650

00:22:26,390 --> 00:22:24,799

doesn't affect the way we process or

651

00:22:28,630 --> 00:22:26,400

launch this thing we're going to do it

652

00:22:31,270 --> 00:22:28,640

we're going to do it safely and surely

653

00:22:34,950 --> 00:22:31,280

and we hope we do it next next friday

654

00:22:38,630 --> 00:22:36,710

okay and we can answer your manifest

655

00:22:40,390 --> 00:22:38,640

questions

656

00:22:41,830 --> 00:22:40,400

did i stall long enough yes he did you

657

00:22:44,549 --> 00:22:41,840

did good

658

00:22:47,110 --> 00:22:44,559

we have a beta cut out from november 7th

659

00:22:48,870 --> 00:22:47,120

through the 23rd of november so that

660

00:22:50,789 --> 00:22:48,880

means we have to be after the 23rd of

661

00:22:54,549 --> 00:22:50,799

november then there's a soyuz activity

662

00:22:56,630 --> 00:22:54,559

that runs from the 24th to the 26th

663

00:22:58,950 --> 00:22:56,640

so then that leaves us open november

664

00:23:00,310 --> 00:22:58,960

27th through december 8th this is the

665

00:23:02,390 --> 00:23:00,320

real window

666

00:23:05,190 --> 00:23:02,400

then the 9th to the 12th of december is

667

00:23:06,710 --> 00:23:05,200

another soyuz docking activity which we

668

00:23:09,190 --> 00:23:06,720

might be able to negotiate something

669

00:23:10,230 --> 00:23:09,200

with but it sits there in in in that

670

00:23:12,390 --> 00:23:10,240

period

671

00:23:14,710 --> 00:23:12,400

then there's december 15th through the

672

00:23:15,750 --> 00:23:14,720

end of the year we have the year

673

00:23:17,909 --> 00:23:15,760

the

674

00:23:19,909 --> 00:23:17,919

year-end rollover issue where we can't

675

00:23:21,909 --> 00:23:19,919

fly the shuttle over the end of the year

676

00:23:24,789 --> 00:23:21,919

and then after that we we pop into the

677

00:23:27,510 --> 00:23:24,799

next year and then there's an atv and an

678

00:23:29,270 --> 00:23:27,520

htv that's it next year and if we want

679

00:23:31,029 --> 00:23:29,280

to move the htv

680

00:23:33,590 --> 00:23:31,039

with the arm you remember that before we

681

00:23:35,190 --> 00:23:33,600

can't dock a shuttle with the htv down

682

00:23:37,190 --> 00:23:35,200

on the node we actually have to pick the

683

00:23:38,710 --> 00:23:37,200

htv up and stick it temporarily up on

684

00:23:40,789 --> 00:23:38,720

top on the zenith port while we would

685

00:23:42,870 --> 00:23:40,799

bring a shuttle up we could do that and

686

00:23:45,110 --> 00:23:42,880

then that would open up

687

00:23:46,950 --> 00:23:45,120

sometime in february available for a

688

00:23:48,870 --> 00:23:46,960

launch but if we don't do that with the

689

00:23:51,029 --> 00:23:48,880

htv then that pushes us probably to the

690

00:23:53,029 --> 00:23:51,039

end of february so the bottom line of

691

00:23:55,350 --> 00:23:53,039

all that discussion is probably november

692

00:23:56,950 --> 00:23:55,360

27th through december 8th is is that

693

00:23:59,110 --> 00:23:56,960

little sliver of a window that you were

694

00:24:01,190 --> 00:23:59,120

you were looking at 21 between 12th and

695

00:24:02,549 --> 00:24:01,200

15th and probably another and depending

696

00:24:04,070 --> 00:24:02,559

on what we do with soyuz that might

697

00:24:06,149 --> 00:24:04,080

expand a little bit and then there's

698

00:24:07,430 --> 00:24:06,159

maybe another little window in december

699

00:24:10,470 --> 00:24:07,440

probably

700

00:24:12,470 --> 00:24:10,480

three or four days in december

701

00:24:15,350 --> 00:24:12,480

just just to follow that real quickly it

702

00:24:18,230 --> 00:24:15,360

sounds like there's pretty much zero

703

00:24:20,950 --> 00:24:18,240

opportunity in january

704

00:24:23,190 --> 00:24:20,960

january is pretty full with the

705

00:24:25,029 --> 00:24:23,200

htv and the atv activities that are

706

00:24:27,909 --> 00:24:25,039

going to occur atv occurs in december

707

00:24:29,269 --> 00:24:27,919

then htv occurs in january okay thanks

708

00:24:32,070 --> 00:24:29,279

and um

709

00:24:34,789 --> 00:24:32,080

bill i was uh wondering if you could

710

00:24:37,750 --> 00:24:34,799

give me an idea of what russian elements

711

00:24:41,029 --> 00:24:37,760

are still going to be added to the

712

00:24:43,669 --> 00:24:41,039

international space station

713

00:24:46,950 --> 00:24:43,679

after this particular mission and maybe

714

00:24:49,350 --> 00:24:46,960

after the u.s assembly is complete and i

715

00:24:53,110 --> 00:24:49,360

was actually curious about your views

716

00:24:55,830 --> 00:24:53,120

about the uh proposal to

717

00:24:58,070 --> 00:24:55,840

invest in commercial crew transportation

718

00:25:00,230 --> 00:24:58,080

to the international space station if

719

00:25:03,350 --> 00:25:00,240

you think that

720

00:25:06,950 --> 00:25:03,360

the commercial folks can do it better

721

00:25:09,750 --> 00:25:06,960

cheaper faster than the government guys

722

00:25:12,310 --> 00:25:09,760

okay in terms of russian modules the the

723

00:25:13,350 --> 00:25:12,320

major module is their mlm module which

724

00:25:15,990 --> 00:25:13,360

is a

725

00:25:17,669 --> 00:25:16,000

it looks it's about the size of an fgb

726

00:25:19,269 --> 00:25:17,679

in fact it was a i think the fgb

727

00:25:21,269 --> 00:25:19,279

structural test article and i think

728

00:25:24,149 --> 00:25:21,279

that's scheduled currently on the

729

00:25:25,510 --> 00:25:24,159

manifest sometime in the 2012 time frame

730

00:25:27,590 --> 00:25:25,520

but that's kind of moved around a little

731

00:25:29,510 --> 00:25:27,600

bit but the components that are on the

732

00:25:32,230 --> 00:25:29,520

outside of the

733

00:25:34,310 --> 00:25:32,240

of the mrm1 are some components that are

734

00:25:36,149 --> 00:25:34,320

already being pre-positioned for that

735

00:25:38,390 --> 00:25:36,159

other larger module that comes up that's

736

00:25:40,549 --> 00:25:38,400

the european arm and then the radiator

737

00:25:42,390 --> 00:25:40,559

that would be potentially added to that

738

00:25:45,269 --> 00:25:42,400

laboratory module so you could think of

739

00:25:47,110 --> 00:25:45,279

it as another major logistics or major

740

00:25:50,630 --> 00:25:47,120

laboratory module for the russians they

741

00:25:52,390 --> 00:25:50,640

treat both mrm1 and mrm2 as many

742

00:25:54,470 --> 00:25:52,400

logistics modules and then this is a

743

00:25:56,470 --> 00:25:54,480

bigger module in similar size to what's

744

00:25:57,830 --> 00:25:56,480

in the fgb and those are the the things

745

00:26:02,630 --> 00:25:57,840

that i'm aware of from a russian

746

00:26:06,149 --> 00:26:04,470

i think you know there's lots of

747

00:26:08,549 --> 00:26:06,159

challenges with our business it's not

748

00:26:10,470 --> 00:26:08,559

easy to to do these activities it's not

749

00:26:11,750 --> 00:26:10,480

easy to design spacecraft

750

00:26:13,669 --> 00:26:11,760

you know we'll work with them to help

751
00:26:16,390 --> 00:26:13,679
them as much as we can i think it would

752
00:26:17,830 --> 00:26:16,400
be wrong to totally uh let them go work

753
00:26:19,269 --> 00:26:17,840
all this in a vacuum without some

754
00:26:21,269 --> 00:26:19,279
assistance from us you know we've

755
00:26:23,190 --> 00:26:21,279
learned a lot over these years of what

756
00:26:24,549 --> 00:26:23,200
what works and doesn't work you know

757
00:26:26,149 --> 00:26:24,559
we'd like to be in a cooperative

758
00:26:28,310 --> 00:26:26,159
arrangement with them where we can help

759
00:26:29,830 --> 00:26:28,320
them and and share some of our lessons

760
00:26:32,310 --> 00:26:29,840
learned the real lessons we've learned

761
00:26:34,950 --> 00:26:32,320
and and help them actually deliver some

762
00:26:36,630 --> 00:26:34,960
hardware to us so i think we've got some

763
00:26:37,909 --> 00:26:36,640

work to do with them and

764

00:26:39,990 --> 00:26:37,919

and work with them i think they can

765

00:26:42,950 --> 00:26:40,000

bring some creative things to us they

766

00:26:44,230 --> 00:26:42,960

have some potential maybe in contracting

767

00:26:45,909 --> 00:26:44,240

they can do things a little bit faster

768

00:26:47,590 --> 00:26:45,919

than we can do they can do some other

769

00:26:49,350 --> 00:26:47,600

things with a little bit less overhead

770

00:26:50,870 --> 00:26:49,360

than we do and in that sense they can be

771

00:26:52,470 --> 00:26:50,880

a little more efficient but the

772

00:26:54,230 --> 00:26:52,480

technical challenges are real it doesn't

773

00:26:55,590 --> 00:26:54,240

matter who's flying the safety

774

00:26:57,590 --> 00:26:55,600

challenges are real it doesn't matter

775

00:26:59,590 --> 00:26:57,600

who's flying we've got to figure out a

776

00:27:01,430 --> 00:26:59,600

way we work collectively with them to

777

00:27:03,029 --> 00:27:01,440

buy down risk to get us the capability

778

00:27:04,710 --> 00:27:03,039

to have a u.s crew transportation

779

00:27:06,549 --> 00:27:04,720

capability for our crews in the future

780

00:27:08,390 --> 00:27:06,559

and we'll figure out a way to go do that

781

00:27:10,310 --> 00:27:08,400

in the next couple years

782

00:27:12,950 --> 00:27:10,320

okay let's uh take a question from our

783

00:27:14,630 --> 00:27:12,960

phone bridge please

784

00:27:17,190 --> 00:27:14,640

thank you this is uh tarik malik from

785

00:27:19,110 --> 00:27:17,200

space.com can you hear me

786

00:27:21,590 --> 00:27:19,120

go ahead tark great thank you if i have

787

00:27:23,669 --> 00:27:21,600

a just a few short questions i think for

788

00:27:25,990 --> 00:27:23,679

for bill and then for mike um bill i'm

789

00:27:26,789 --> 00:27:26,000

just curious if there's um an estimated

790

00:27:30,470 --> 00:27:26,799

cost

791

00:27:31,269 --> 00:27:30,480

for the uh the russian module uh in um

792

00:27:34,070 --> 00:27:31,279

in

793

00:27:35,909 --> 00:27:34,080

atlanta's payload bay and what types of

794

00:27:37,190 --> 00:27:35,919

u.s hardware you've managed to pack in

795

00:27:39,029 --> 00:27:37,200

there if it's just loading things in

796

00:27:40,710 --> 00:27:39,039

bags and cramming them in or or if

797

00:27:42,310 --> 00:27:40,720

there's a i guess more science to it

798

00:27:43,909 --> 00:27:42,320

than that

799

00:27:46,470 --> 00:27:43,919

yeah i don't know the cost of the

800

00:27:49,350 --> 00:27:46,480

russian module we i don't know if that's

801
00:27:51,110 --> 00:27:49,360
even available to us but

802
00:27:52,710 --> 00:27:51,120
we'd have to probably talk to energia or

803
00:27:54,310 --> 00:27:52,720
russia to get the costa module so i

804
00:27:55,590 --> 00:27:54,320
don't have a number for that the things

805
00:27:57,269 --> 00:27:55,600
that are in there are mostly stored in

806
00:27:58,870 --> 00:27:57,279
bags and and stowed on the inside

807
00:28:01,430 --> 00:27:58,880
they're things that we could soft stow

808
00:28:04,310 --> 00:28:01,440
and and pack and store on the inside so

809
00:28:05,830 --> 00:28:04,320
there there's nothing that's uh uniquely

810
00:28:07,510 --> 00:28:05,840
that i'm aware of that's uniquely hard

811
00:28:09,430 --> 00:28:07,520
mounted or mounted on the inside but

812
00:28:11,590 --> 00:28:09,440
it's critical stuff that we need it's

813
00:28:12,789 --> 00:28:11,600

got some logistics stuff for us it's got

814

00:28:16,310 --> 00:28:12,799

some

815

00:28:18,789 --> 00:28:16,320

research stuff for so it's got a mixture

816

00:28:20,789 --> 00:28:18,799

of things that we needed to go fly

817

00:28:23,269 --> 00:28:20,799

thank you and from mike you mentioned

818

00:28:25,029 --> 00:28:23,279

that um that uh the team is real focused

819

00:28:26,549 --> 00:28:25,039

on this point uh even though it is uh

820

00:28:27,909 --> 00:28:26,559

the last for atlanta so i'm curious if

821

00:28:29,750 --> 00:28:27,919

there are any um

822

00:28:31,510 --> 00:28:29,760

maybe unofficial commemorations or or

823

00:28:34,310 --> 00:28:31,520

celebrations the team is doing at each

824

00:28:35,190 --> 00:28:34,320

of the milestones um to kind of just

825

00:28:37,510 --> 00:28:35,200

mark

826

00:28:38,710 --> 00:28:37,520

atlantis uh potential last flight uh

827

00:28:40,070 --> 00:28:38,720

into space

828

00:28:41,750 --> 00:28:40,080

yeah that's a good question in fact

829

00:28:44,549 --> 00:28:41,760

andrew brewer the flow director for

830

00:28:46,630 --> 00:28:44,559

atlantis has led a team looking at at

831

00:28:49,590 --> 00:28:46,640

what we can do as a as a space center

832

00:28:51,269 --> 00:28:49,600

and as a program to commemorate the last

833

00:28:53,190 --> 00:28:51,279

several flights and so it's not limited

834

00:28:54,789 --> 00:28:53,200

to just atlantis but the types of things

835

00:28:57,190 --> 00:28:54,799

we've done you saw for roll out we had

836

00:28:58,470 --> 00:28:57,200

the big xenon lights on the vehicle we

837

00:29:00,549 --> 00:28:58,480

we invited

838

00:29:01,990 --> 00:29:00,559

workers families to come out to the

839

00:29:04,789 --> 00:29:02,000

rollout and be right up next to the

840

00:29:06,149 --> 00:29:04,799

crawlerway to see the vehicle uh just so

841

00:29:07,990 --> 00:29:06,159

happened that because we delayed a

842

00:29:10,230 --> 00:29:08,000

couple of days that the crew was in town

843

00:29:12,310 --> 00:29:10,240

and and ken ham and his crew came out

844

00:29:13,430 --> 00:29:12,320

and and shook hands with the families

845

00:29:15,669 --> 00:29:13,440

along the crawler way and that was

846

00:29:18,149 --> 00:29:15,679

special for them we have different photo

847

00:29:20,230 --> 00:29:18,159

opportunities for the workers as the

848

00:29:21,909 --> 00:29:20,240

vehicles roll out of the opf and out of

849

00:29:23,909 --> 00:29:21,919

the vab and then once we get to the

850

00:29:26,230 --> 00:29:23,919

launch pad we've scheduled quite a few

851
00:29:27,590 --> 00:29:26,240
photos out there so there's a variety of

852
00:29:29,430 --> 00:29:27,600
things that that we're doing uh

853
00:29:32,310 --> 00:29:29,440
consciously to to celebrate the last

854
00:29:33,750 --> 00:29:32,320
several flows and and

855
00:29:35,830 --> 00:29:33,760
angie's in charge of all that and she's

856
00:29:37,269 --> 00:29:35,840
doing a great job

857
00:29:40,789 --> 00:29:37,279
thank you

858
00:29:42,789 --> 00:29:40,799
kennedy and bill harwood

859
00:29:44,950 --> 00:29:42,799
one more manifest question for those of

860
00:29:47,269 --> 00:29:44,960
us i guess are obsessed with manifest

861
00:29:49,269 --> 00:29:47,279
um when you look at 134 and that little

862
00:29:49,990 --> 00:29:49,279
sliver out there of availability and of

863
00:29:51,510 --> 00:29:50,000

course we don't know what's going to

864

00:29:54,310 --> 00:29:51,520

happen to the ams yet and if they're

865

00:29:57,110 --> 00:29:54,320

really going to get here in august

866

00:29:58,710 --> 00:29:57,120

how does processing 133 play into all of

867

00:29:59,669 --> 00:29:58,720

that from a cscs standpoint in other

868

00:30:03,110 --> 00:29:59,679

words if

869

00:30:05,909 --> 00:30:03,120

if that if 134 slipped to late february

870

00:30:07,909 --> 00:30:05,919

can you launch 133 in mid-september and

871

00:30:10,310 --> 00:30:07,919

still provide the cscs capability needed

872

00:30:11,830 --> 00:30:10,320

would would that plus payload issues

873

00:30:13,510 --> 00:30:11,840

move that flight into october which is

874

00:30:15,830 --> 00:30:13,520

what everybody seems to think and i

875

00:30:17,590 --> 00:30:15,840

think from a cscs standpoint we'll have

876

00:30:21,190 --> 00:30:17,600

about the same capability we do on

877

00:30:23,590 --> 00:30:21,200

station now so that's roughly 125 to 150

878

00:30:25,110 --> 00:30:23,600

days so that would allow it to to move

879

00:30:28,630 --> 00:30:25,120

almost wherever it needs to move and it

880

00:30:30,630 --> 00:30:28,640

wouldn't drag 133 with it so from a cscs

881

00:30:32,950 --> 00:30:30,640

standpoint i don't think that would

882

00:30:35,830 --> 00:30:32,960

would cause them to move well there's

883

00:30:38,549 --> 00:30:35,840

payload issues with 133

884

00:30:40,070 --> 00:30:38,559

not necessarily the the

885

00:30:41,350 --> 00:30:40,080

mplm or whatever it's going to be but

886

00:30:43,269 --> 00:30:41,360

the things you want to add to that

887

00:30:46,230 --> 00:30:43,279

flight can you do that and launch in

888

00:30:48,470 --> 00:30:46,240

september yeah i think again if if mike

889

00:30:50,149 --> 00:30:48,480

was here he would tell you that there's

890

00:30:52,789 --> 00:30:50,159

there's not much margin to that schedule

891

00:30:54,549 --> 00:30:52,799

they're working some large orus

892

00:30:56,630 --> 00:30:54,559

replacement units some of the advanced

893

00:30:57,990 --> 00:30:56,640

life support the life support systems

894

00:30:59,990 --> 00:30:58,000

we've talked about they would like to

895

00:31:01,830 --> 00:31:00,000

get those there they're on pretty much

896

00:31:03,509 --> 00:31:01,840

very tight schedules so again we'll see

897

00:31:05,509 --> 00:31:03,519

how the teams do and how they work the

898

00:31:06,549 --> 00:31:05,519

schedules right now it fits on september

899

00:31:08,789 --> 00:31:06,559

16th

900

00:31:10,549 --> 00:31:08,799

if they run into any problems it may

901
00:31:11,830 --> 00:31:10,559
force a movement somewhere and we'll let

902
00:31:13,509 --> 00:31:11,840
you know as soon as that happens but

903
00:31:15,110 --> 00:31:13,519
right now everything kind of fits on the

904
00:31:17,590 --> 00:31:15,120
overall schedule

905
00:31:18,789 --> 00:31:17,600
marcia marcia done associated press for

906
00:31:19,590 --> 00:31:18,799
bill um

907
00:31:22,149 --> 00:31:19,600
if

908
00:31:23,909 --> 00:31:22,159
can you just do you need to know anytime

909
00:31:26,230 --> 00:31:23,919
this year whether you get an extra

910
00:31:28,470 --> 00:31:26,240
flight for atlantis uh or any shuttle

911
00:31:29,909 --> 00:31:28,480
for that matter i mean can what happens

912
00:31:31,909 --> 00:31:29,919
i know you get it ready for a lunch on

913
00:31:33,430 --> 00:31:31,919

need but how long can you just keep

914

00:31:35,430 --> 00:31:33,440

going

915

00:31:37,590 --> 00:31:35,440

without really knowing whether you

916

00:31:39,110 --> 00:31:37,600

really do have a flight for that one you

917

00:31:40,710 --> 00:31:39,120

know i think we'd like to know in the

918

00:31:42,149 --> 00:31:40,720

june kind of time frame because if you

919

00:31:43,750 --> 00:31:42,159

think about it we we would have to

920

00:31:46,070 --> 00:31:43,760

assign a crew we got to do some crew

921

00:31:48,149 --> 00:31:46,080

training we we kind of know what cargo

922

00:31:50,149 --> 00:31:48,159

we would fly you know it and so we've

923

00:31:51,509 --> 00:31:50,159

got that kind of figured out but if

924

00:31:53,990 --> 00:31:51,519

we're really going to do this we need to

925

00:31:55,509 --> 00:31:54,000

know sometime in june

926
00:31:56,870 --> 00:31:55,519
do you even have a launch on the crew

927
00:31:58,549 --> 00:31:56,880
picked out for that one yet do you know

928
00:32:05,110 --> 00:31:58,559
which

929
00:32:06,950 --> 00:32:05,120
and lastly for for this flight a

930
00:32:08,070 --> 00:32:06,960
question about this flight um you say

931
00:32:10,549 --> 00:32:08,080
you couldn't get off until the end of

932
00:32:11,990 --> 00:32:10,559
june is that basically the soyuz launch

933
00:32:13,350 --> 00:32:12,000
that's

934
00:32:15,029 --> 00:32:13,360
eaten up that month or is there

935
00:32:17,750 --> 00:32:15,039
something else there's another beta cut

936
00:32:18,789 --> 00:32:17,760
out in june when is that do you know

937
00:32:26,950 --> 00:32:18,799
yeah

938
00:32:31,669 --> 00:32:28,549

it's june

939

00:32:34,549 --> 00:32:31,679

well we've got to be careful

940

00:32:36,549 --> 00:32:34,559

but it's like june 12th to june 29th

941

00:32:38,310 --> 00:32:36,559

somewhere in that time frame

942

00:32:39,830 --> 00:32:38,320

so it's the latter latter part of june

943

00:32:41,590 --> 00:32:39,840

and so the first part of june gets tied

944

00:32:43,830 --> 00:32:41,600

up with the soyuz activities and in the

945

00:32:45,750 --> 00:32:43,840

later part of june is

946

00:32:48,070 --> 00:32:45,760

his debate to cut out

947

00:32:51,430 --> 00:32:48,080

james

948

00:32:52,950 --> 00:32:51,440

have talked about the

949

00:32:54,630 --> 00:32:52,960

great work done by the processing teams

950

00:32:55,750 --> 00:32:54,640

i'm just wondering for mike or whoever

951
00:32:58,070 --> 00:32:55,760
would like to comment if you could just

952
00:33:00,310 --> 00:32:58,080
uh comment a little more generally about

953
00:33:01,750 --> 00:33:00,320
as we get into the the final what's

954
00:33:03,590 --> 00:33:01,760
scheduled to be the final processing

955
00:33:06,470 --> 00:33:03,600
flow for each vehicle

956
00:33:08,549 --> 00:33:06,480
this unique four or five month process

957
00:33:11,110 --> 00:33:08,559
that it takes to to get a space shuttle

958
00:33:13,350 --> 00:33:11,120
ready for launch obviously much of that

959
00:33:14,870 --> 00:33:13,360
work done by our workforce here a lot of

960
00:33:16,870 --> 00:33:14,880
it behind the scenes

961
00:33:18,950 --> 00:33:16,880
and that you know is

962
00:33:20,710 --> 00:33:18,960
going to stop for you know possibly

963
00:33:22,070 --> 00:33:20,720

years before another vehicle is ready um

964

00:33:23,029 --> 00:33:22,080

we just talked a little bit about that

965

00:33:24,230 --> 00:33:23,039

unique

966

00:33:25,909 --> 00:33:24,240

event a

967

00:33:28,310 --> 00:33:25,919

processing flow

968

00:33:29,509 --> 00:33:28,320

i'll start off and other guys can fill

969

00:33:36,350 --> 00:33:29,519

in

970

00:33:38,789 --> 00:33:36,360

vehicle the same way we processed all

971

00:33:39,990 --> 00:33:38,799

131 i believe it is

972

00:33:41,990 --> 00:33:40,000

um

973

00:33:44,149 --> 00:33:42,000

you know the guys as i've said before

974

00:33:46,310 --> 00:33:44,159

the the guys when they're working on the

975

00:33:47,750 --> 00:33:46,320

vehicle are absolutely committed to

976
00:33:50,070 --> 00:33:47,760
their tasks

977
00:33:50,950 --> 00:33:50,080
and and they do them properly

978
00:33:53,110 --> 00:33:50,960
um

979
00:33:55,029 --> 00:33:53,120
if you start getting the question about

980
00:33:57,029 --> 00:33:55,039
are they distracted when they're working

981
00:33:58,630 --> 00:33:57,039
on the vehicle no when they're in the

982
00:34:01,110 --> 00:33:58,640
lunchroom they're talking about the

983
00:34:03,110 --> 00:34:01,120
future that's what that's when they

984
00:34:04,950 --> 00:34:03,120
start to vent a little bit about the end

985
00:34:06,310 --> 00:34:04,960
of the program

986
00:34:08,790 --> 00:34:06,320
but when we're working on the vehicle

987
00:34:11,190 --> 00:34:08,800
they're absolutely focused and dedicated

988
00:34:12,149 --> 00:34:11,200

that to that machine nothing special no

989

00:34:14,629 --> 00:34:12,159

special

990

00:34:16,310 --> 00:34:14,639

processing uh requirements for the last

991

00:34:19,190 --> 00:34:16,320

missions um

992

00:34:20,389 --> 00:34:19,200

probably a lot of a lot of hugs you know

993

00:34:22,230 --> 00:34:20,399

at the end of the day

994

00:34:26,310 --> 00:34:22,240

but uh when we're working on the

995

00:34:29,669 --> 00:34:28,230

i really and i wouldn't i would just add

996

00:34:31,109 --> 00:34:29,679

a little bit

997

00:34:33,190 --> 00:34:31,119

the other thing that's going on too is

998

00:34:35,030 --> 00:34:33,200

like in in new orleans the external tank

999

00:34:37,750 --> 00:34:35,040

folks right you know we have a tank in

1000

00:34:39,909 --> 00:34:37,760

route here right the through the gulf

1001
00:34:41,750 --> 00:34:39,919
sunday it's going to come here on sunday

1002
00:34:43,030 --> 00:34:41,760
and they've done a phenomenal job of

1003
00:34:44,389 --> 00:34:43,040
getting the tanks ready and in fact

1004
00:34:46,389 --> 00:34:44,399
they're actually beating some of the

1005
00:34:49,430 --> 00:34:46,399
schedules the delivery schedules

1006
00:34:51,589 --> 00:34:49,440
and and so i you talk about

1007
00:34:53,909 --> 00:34:51,599
here but it's but it's program wide i

1008
00:34:55,589 --> 00:34:53,919
mean everybody is really focused and

1009
00:34:56,470 --> 00:34:55,599
they're very

1010
00:34:58,150 --> 00:34:56,480
um

1011
00:35:00,950 --> 00:34:58,160
very excited about getting to do what

1012
00:35:02,870 --> 00:35:00,960
they normally get to do and and they

1013
00:35:05,109 --> 00:35:02,880

know about the end but they're really

1014

00:35:06,630 --> 00:35:05,119

enjoying as much as they can this last

1015

00:35:09,109 --> 00:35:06,640

activity to do something that's really

1016

00:35:12,069 --> 00:35:09,119

special so i see that the tank guys i

1017

00:35:14,630 --> 00:35:12,079

see the the solid rocket motor guys

1018

00:35:16,870 --> 00:35:14,640

it's program wide and this is a really

1019

00:35:19,510 --> 00:35:16,880

special workforce that has this ability

1020

00:35:21,750 --> 00:35:19,520

to stay focused to compartmentalize and

1021

00:35:23,990 --> 00:35:21,760

is what mike was describing that when it

1022

00:35:26,150 --> 00:35:24,000

comes time to do this work we need to go

1023

00:35:27,829 --> 00:35:26,160

do it and i'm trying from kind of our

1024

00:35:29,270 --> 00:35:27,839

perspective is to kind of keep things as

1025

00:35:31,589 --> 00:35:29,280

normal as we can you know there's going

1026

00:35:33,750 --> 00:35:31,599

to be lots of folks that want to do all

1027

00:35:35,510 --> 00:35:33,760

kinds of big celebrations and different

1028

00:35:36,950 --> 00:35:35,520

things and do things different ways i

1029

00:35:38,150 --> 00:35:36,960

want the teams to figure out what they

1030

00:35:39,349 --> 00:35:38,160

want to do and we're going to keep it

1031

00:35:40,870 --> 00:35:39,359

kind of low-key and we're going to just

1032

00:35:42,150 --> 00:35:40,880

kind of stay focused and it's just

1033

00:35:43,750 --> 00:35:42,160

another shuttle flight we're going to do

1034

00:35:46,069 --> 00:35:43,760

the absolute best we can and just keep

1035

00:35:47,910 --> 00:35:46,079

moving forward and and then but in your

1036

00:35:49,750 --> 00:35:47,920

heart kind of remember that this is a

1037

00:35:51,589 --> 00:35:49,760

special time and cherish a little bit

1038

00:35:53,750 --> 00:35:51,599

what you're getting to go do because it

1039

00:35:55,670 --> 00:35:53,760

is a unique experience that may not be

1040

00:35:57,510 --> 00:35:55,680

repeated for a little while but the best

1041

00:35:58,870 --> 00:35:57,520

thing we can do is to keep focused keep

1042

00:36:00,550 --> 00:35:58,880

flying that assures that there's a

1043

00:36:02,230 --> 00:36:00,560

future and ready to move forward and the

1044

00:36:03,910 --> 00:36:02,240

team really knows that and they are

1045

00:36:05,589 --> 00:36:03,920

phenomenal in doing what they're doing

1046

00:36:07,910 --> 00:36:05,599

and it's it's not just here but it's

1047

00:36:10,230 --> 00:36:07,920

it's program wide and it the the spirit

1048

00:36:11,670 --> 00:36:10,240

is really strong across the team

1049

00:36:13,190 --> 00:36:11,680

yeah this might add a little bit to that

1050

00:36:15,190 --> 00:36:13,200

if i may bill you know the spirit is

1051

00:36:17,190 --> 00:36:15,200

absolutely strong and and what i'd like

1052

00:36:19,430 --> 00:36:17,200

to add is let's take ourselves back in

1053

00:36:21,190 --> 00:36:19,440

time and maybe a year or 18 months or so

1054

00:36:22,550 --> 00:36:21,200

where when we were talking about the end

1055

00:36:24,390 --> 00:36:22,560

of the program and a lot of people

1056

00:36:25,990 --> 00:36:24,400

didn't believe it and and

1057

00:36:27,670 --> 00:36:26,000

and we're in denial because we thought

1058

00:36:29,750 --> 00:36:27,680

well heck you know the program can't end

1059

00:36:31,670 --> 00:36:29,760

we're gonna we're gonna fly forever

1060

00:36:34,069 --> 00:36:31,680

well now we know that's not the case the

1061

00:36:35,829 --> 00:36:34,079

program will end um people have

1062

00:36:37,270 --> 00:36:35,839

absolutely come to grips with that when

1063

00:36:38,870 --> 00:36:37,280

i talked to the to the folks on the

1064

00:36:40,230 --> 00:36:38,880

floor of the processing facilities and

1065

00:36:41,670 --> 00:36:40,240

i'm sure it was the same at math and in

1066

00:36:43,190 --> 00:36:41,680

utah

1067

00:36:44,950 --> 00:36:43,200

they know the end is is coming and

1068

00:36:47,910 --> 00:36:44,960

they're making their plans and so we've

1069

00:36:49,910 --> 00:36:47,920

gotten past the the denial stage of of

1070

00:36:51,589 --> 00:36:49,920

change and we're into that we're into

1071

00:36:53,109 --> 00:36:51,599

the exploration and the acceptance

1072

00:36:54,630 --> 00:36:53,119

change and and that's good that's very

1073

00:36:55,829 --> 00:36:54,640

healthy for the people to to go through

1074

00:36:57,510 --> 00:36:55,839

that process

1075

00:36:59,030 --> 00:36:57,520

um and we're there

1076
00:37:00,390 --> 00:36:59,040
again that doesn't that does not change

1077
00:37:02,550 --> 00:37:00,400
the way they work on the vehicle it's

1078
00:37:04,310 --> 00:37:02,560
just it's just their their their mental

1079
00:37:05,510 --> 00:37:04,320
capacity they have accepted the fact

1080
00:37:09,349 --> 00:37:05,520
that the program is going to end and

1081
00:37:10,390 --> 00:37:09,359
they need to make plans for the future

1082
00:37:13,190 --> 00:37:10,400
irene

1083
00:37:16,630 --> 00:37:13,200
um john is the trider going to be flying

1084
00:37:18,870 --> 00:37:16,640
on 132 and uh bill if um are there any

1085
00:37:19,990 --> 00:37:18,880
proposals to use that for a um the

1086
00:37:22,630 --> 00:37:20,000
automated

1087
00:37:24,069 --> 00:37:22,640
uh docking for any uh vehicles going up

1088
00:37:27,270 --> 00:37:24,079

to station

1089

00:37:29,670 --> 00:37:27,280

yeah no tridar is uh is a discovery only

1090

00:37:30,870 --> 00:37:29,680

capability uh we only wired up discovery

1091

00:37:33,589 --> 00:37:30,880

to fly it

1092

00:37:35,990 --> 00:37:33,599

um and we collected a bunch of data this

1093

00:37:38,550 --> 00:37:36,000

last flight and

1094

00:37:40,069 --> 00:37:38,560

and it could be used in the future for

1095

00:37:41,990 --> 00:37:40,079

some kind of an autonomous rendezvous

1096

00:37:44,150 --> 00:37:42,000

and docking and and the teams are very

1097

00:37:47,910 --> 00:37:44,160

happy to have that data yeah and we're

1098

00:37:49,510 --> 00:37:47,920

flying another device i think on the

1099

00:37:50,950 --> 00:37:49,520

i don't know which vehicle it is now but

1100

00:37:52,310 --> 00:37:50,960

it's the station

1101

00:37:54,630 --> 00:37:52,320

excuse me it's the constellation

1102

00:37:57,030 --> 00:37:54,640

programs device it's a flash lidar that

1103

00:37:59,270 --> 00:37:57,040

does a similar kind of function as as

1104

00:38:01,829 --> 00:37:59,280

the tridar and then we've also flown a

1105

00:38:03,990 --> 00:38:01,839

device for spacex dragoneye which is a

1106

00:38:05,990 --> 00:38:04,000

rendezvous prox ops device so what's

1107

00:38:07,430 --> 00:38:06,000

neat is we've used the shuttle to fly

1108

00:38:09,109 --> 00:38:07,440

essentially three different sensor

1109

00:38:10,950 --> 00:38:09,119

suites we also flew one on the hubble

1110

00:38:12,230 --> 00:38:10,960

mission it was a goddard

1111

00:38:13,430 --> 00:38:12,240

payload i don't remember what it was

1112

00:38:15,670 --> 00:38:13,440

called but it was another rendezvous

1113

00:38:17,750 --> 00:38:15,680

prox off sensor so we've actually flown

1114

00:38:19,829 --> 00:38:17,760

four different rendezvous prox sensors

1115

00:38:21,829 --> 00:38:19,839

on the shuttle we've flown the trider a

1116

00:38:23,750 --> 00:38:21,839

couple times so we've got repeat data on

1117

00:38:25,430 --> 00:38:23,760

it but we're able to now kind of compare

1118

00:38:27,510 --> 00:38:25,440

performance of these different devices

1119

00:38:29,510 --> 00:38:27,520

see which one looks best which one gives

1120

00:38:31,030 --> 00:38:29,520

us good data so i think out of this

1121

00:38:33,030 --> 00:38:31,040

we'll take a look at all this data and

1122

00:38:35,510 --> 00:38:33,040

we'll probably settle on some some

1123

00:38:37,430 --> 00:38:35,520

standards across the program for all

1124

00:38:39,109 --> 00:38:37,440

potential spacecraft and we may home in

1125

00:38:40,710 --> 00:38:39,119

on some rendezvous proximal sensors out

1126

00:38:41,910 --> 00:38:40,720

of this work so again

1127

00:38:43,589 --> 00:38:41,920

the neat thing that i see from the

1128

00:38:45,670 --> 00:38:43,599

shuttle is the shuttle legacy has kind

1129

00:38:47,430 --> 00:38:45,680

of really continued forward we're

1130

00:38:49,109 --> 00:38:47,440

actually paving the way by understanding

1131

00:38:50,470 --> 00:38:49,119

what rendezvous prox sensors will be

1132

00:38:51,829 --> 00:38:50,480

used in the future and hopefully out of

1133

00:38:53,990 --> 00:38:51,839

this we can actually pick a standard

1134

00:38:55,829 --> 00:38:54,000

that will then become a standard for for

1135

00:38:57,430 --> 00:38:55,839

all all folks you know we're working on

1136

00:38:59,109 --> 00:38:57,440

international docking standard i don't

1137

00:39:01,109 --> 00:38:59,119

know if you know that but we're trying

1138

00:39:03,270 --> 00:39:01,119

to get a docking system that will be

1139

00:39:05,030 --> 00:39:03,280

used will be the standard for all

1140

00:39:06,470 --> 00:39:05,040

spacecraft in the future and the idea

1141

00:39:08,230 --> 00:39:06,480

then is

1142

00:39:10,470 --> 00:39:08,240

if somebody wants to use this docking

1143

00:39:12,230 --> 00:39:10,480

system to come up and dock

1144

00:39:13,910 --> 00:39:12,240

then you have compatibility between

1145

00:39:15,510 --> 00:39:13,920

various spacecrafts no matter who builds

1146

00:39:17,589 --> 00:39:15,520

them so we're going to try to publish at

1147

00:39:19,190 --> 00:39:17,599

least we're fairly close we're probably

1148

00:39:20,630 --> 00:39:19,200

about another two months away from

1149

00:39:23,190 --> 00:39:20,640

actually getting a standard that the

1150

00:39:25,589 --> 00:39:23,200

russians agreed to the europeans agreed

1151
00:39:27,190 --> 00:39:25,599
to and nasa agrees to as a standard and

1152
00:39:28,950 --> 00:39:27,200
then we hopefully put that out then that

1153
00:39:31,190 --> 00:39:28,960
gets adopted by other countries and then

1154
00:39:33,030 --> 00:39:31,200
we have compatibility between

1155
00:39:35,030 --> 00:39:33,040
various spacecraft and then if we can

1156
00:39:36,790 --> 00:39:35,040
then standardize the rendezvous proxop

1157
00:39:39,589 --> 00:39:36,800
sensor we've now then even made it

1158
00:39:41,589 --> 00:39:39,599
better so we're starting to begin the

1159
00:39:43,589 --> 00:39:41,599
the infrastructure to put in place to

1160
00:39:45,510 --> 00:39:43,599
actually have an international

1161
00:39:48,870 --> 00:39:45,520
capability to have spacecraft dock with

1162
00:39:50,550 --> 00:39:48,880
each other and made up in space

1163
00:39:52,310 --> 00:39:50,560

um and the last question i had for you

1164

00:39:54,950 --> 00:39:52,320

is um

1165

00:39:57,670 --> 00:39:54,960

how are you operating um i guess

1166

00:39:59,910 --> 00:39:57,680

with all your contingency planning if

1167

00:40:00,790 --> 00:39:59,920

you get a continuing resolution budget

1168

00:40:03,270 --> 00:40:00,800

which

1169

00:40:04,309 --> 00:40:03,280

theoretically i guess would keep shuttle

1170

00:40:07,270 --> 00:40:04,319

funded

1171

00:40:10,870 --> 00:40:07,280

um or does it end because of some other

1172

00:40:12,150 --> 00:40:10,880

um some other

1173

00:40:13,510 --> 00:40:12,160

regulation

1174

00:40:16,230 --> 00:40:13,520

and um

1175

00:40:17,750 --> 00:40:16,240

and and going forward with the or if the

1176

00:40:19,990 --> 00:40:17,760

budget that

1177

00:40:22,150 --> 00:40:20,000

the white house has proposed has passed

1178

00:40:23,990 --> 00:40:22,160

that kind of is a whole different set of

1179

00:40:25,750 --> 00:40:24,000

plans and programs if you could just

1180

00:40:27,430 --> 00:40:25,760

maybe kind of outline

1181

00:40:29,589 --> 00:40:27,440

all the um

1182

00:40:31,109 --> 00:40:29,599

i guess all the different um

1183

00:40:33,270 --> 00:40:31,119

modes that you're kind of preparing to

1184

00:40:35,270 --> 00:40:33,280

operate in thanks and when we get

1185

00:40:37,829 --> 00:40:35,280

continuing resolution

1186

00:40:39,430 --> 00:40:37,839

you can either continue at your fy 10

1187

00:40:41,750 --> 00:40:39,440

budget levels or if there's a general

1188

00:40:43,510 --> 00:40:41,760

consensus that the fy 11 budget levels

1189

00:40:45,510 --> 00:40:43,520

are the appropriate level they may

1190

00:40:47,990 --> 00:40:45,520

approve the continuing resolution to be

1191

00:40:49,910 --> 00:40:48,000

at that level so we could we could at

1192

00:40:52,470 --> 00:40:49,920

the end of this year even in continuing

1193

00:40:54,470 --> 00:40:52,480

resolution get our shuttle budget cut

1194

00:40:57,109 --> 00:40:54,480

back to the levels that were planned for

1195

00:40:57,990 --> 00:40:57,119

2011 in the president's budget

1196

00:40:59,910 --> 00:40:58,000

so

1197

00:41:02,230 --> 00:40:59,920

what we're doing like always is we've

1198

00:41:04,150 --> 00:41:02,240

got about 15 different options and 15

1199

00:41:06,710 --> 00:41:04,160

different budget levels and different

1200

00:41:08,470 --> 00:41:06,720

manifests and whatever and we're we're

1201
00:41:10,870 --> 00:41:08,480
being prepared and we're asking all the

1202
00:41:12,870 --> 00:41:10,880
what-if questions to be prepared to to

1203
00:41:13,829 --> 00:41:12,880
be ready to support whatever we're given

1204
00:41:15,030 --> 00:41:13,839
so

1205
00:41:16,550 --> 00:41:15,040
you know it's not a whole lot different

1206
00:41:19,589 --> 00:41:16,560
than

1207
00:41:21,670 --> 00:41:19,599
my my washington political budget world

1208
00:41:23,349 --> 00:41:21,680
is not a whole lot different than my

1209
00:41:25,030 --> 00:41:23,359
spacecraft technical world right you

1210
00:41:26,309 --> 00:41:25,040
never know what hardware is going to not

1211
00:41:28,230 --> 00:41:26,319
work at the right time so you're

1212
00:41:29,829 --> 00:41:28,240
building contingency plans i don't ever

1213
00:41:31,349 --> 00:41:29,839

discuss those contingency plans with you

1214

00:41:34,470 --> 00:41:31,359

because then you publish them and then i

1215

00:41:36,069 --> 00:41:34,480

get in trouble so so i and you know but

1216

00:41:37,910 --> 00:41:36,079

we've got them and we're doing exactly

1217

00:41:39,910 --> 00:41:37,920

the same thing in the budget world we

1218

00:41:41,990 --> 00:41:39,920

have figured out almost any scenario we

1219

00:41:43,990 --> 00:41:42,000

can end up with and and i've got john

1220

00:41:45,670 --> 00:41:44,000

and suff and the rest of the space ops

1221

00:41:47,349 --> 00:41:45,680

team the space communication guys the

1222

00:41:49,589 --> 00:41:47,359

launch vehicle guys all work in all

1223

00:41:51,910 --> 00:41:49,599

these various cases and we're prepared

1224

00:41:53,510 --> 00:41:51,920

as best we can for whatever we get and

1225

00:41:55,510 --> 00:41:53,520

if they pick one that's not one of our

1226
00:41:57,030 --> 00:41:55,520
scenarios we probably have covered the

1227
00:41:59,030 --> 00:41:57,040
waterfront with enough different

1228
00:42:00,550 --> 00:41:59,040
scenarios that we can easily morph one

1229
00:42:03,109 --> 00:42:00,560
of those scenarios into whatever they

1230
00:42:04,630 --> 00:42:03,119
give us so again it's it's what we get

1231
00:42:05,990 --> 00:42:04,640
every day with life you never know what

1232
00:42:07,349 --> 00:42:06,000
you're going to get the next day but if

1233
00:42:09,589 --> 00:42:07,359
you're really prepared and you've built

1234
00:42:11,270 --> 00:42:09,599
those contingency plans you're ready to

1235
00:42:13,430 --> 00:42:11,280
go execute and that's what we're doing

1236
00:42:15,430 --> 00:42:13,440
in space ops so it's it's operations as

1237
00:42:17,109 --> 00:42:15,440
usual it's not too big a deal to us

1238
00:42:19,109 --> 00:42:17,119

we've been through

1239

00:42:21,030 --> 00:42:19,119

lots of exciting times in the past at

1240

00:42:24,069 --> 00:42:21,040

budget cycles and and this one's not a

1241

00:42:25,910 --> 00:42:24,079

whole lot different to us at this point

1242

00:42:27,430 --> 00:42:25,920

all right seeing no further questions

1243

00:42:30,069 --> 00:42:27,440

we're going to wrap things up with a

1244

00:42:31,670 --> 00:42:30,079

reminder that the sts-132 astronauts

1245

00:42:34,550 --> 00:42:31,680

will arrive here at kennedy space center

1246

00:42:37,270 --> 00:42:34,560

for launch on monday

1247

00:42:39,109 --> 00:42:37,280

may 10th at 7 pm eastern time

1248

00:42:41,829 --> 00:42:39,119

and again a reminder that the launch has

1249

00:42:44,390 --> 00:42:41,839

been set officially today for may 14th 2

1250

00:42:46,630 --> 00:42:44,400

20 pm eastern time and you can keep up

1251

00:42:47,910 --> 00:42:46,640

with all the happenings on sts-132 by

1252

00:42:50,950 --> 00:42:47,920

going to our web