
NASA

1
00:00:08,390 --> 00:00:05,590
good afternoon and welcome everyone to

2
00:00:10,230 --> 00:00:08,400
today's sts-133 post

3
00:00:12,230 --> 00:00:10,240
flight readiness review

4
00:00:13,830 --> 00:00:12,240
with us today to talk about the the

5
00:00:15,829 --> 00:00:13,840
meeting are nasa's associate

6
00:00:18,550 --> 00:00:15,839
administrator for space operations mr

7
00:00:20,470 --> 00:00:18,560
bill gerstenmaier good afternoon space

8
00:00:23,509 --> 00:00:20,480
shuttle program launch integration

9
00:00:25,429 --> 00:00:23,519
manager mike moses

10
00:00:27,750 --> 00:00:25,439
and shuttle launch director mike

11
00:00:29,349 --> 00:00:27,760
lineback good afternoon

12
00:00:30,870 --> 00:00:29,359
we'll start things off with opening

13
00:00:34,150 --> 00:00:30,880

comments and then we'll be happy to take

14
00:00:35,830 --> 00:00:34,160
your questions mr grossmeier thanks mike

15
00:00:38,229 --> 00:00:35,840
again we had a very thorough review

16
00:00:39,990 --> 00:00:38,239
today we went through

17
00:00:43,830 --> 00:00:40,000
all the systems that are getting ready

18
00:00:45,350 --> 00:00:43,840
to go fly here on this sts-133

19
00:00:46,790 --> 00:00:45,360
we looked back at the

20
00:00:48,229 --> 00:00:46,800
previous flows and looked at all the

21
00:00:50,310 --> 00:00:48,239
anomalies to make sure that they'd all

22
00:00:51,510 --> 00:00:50,320
been thoroughly resolved

23
00:00:53,270 --> 00:00:51,520
we looked at the problems that have

24
00:00:55,510 --> 00:00:53,280
occurred during this flow and and it's

25
00:00:57,750 --> 00:00:55,520
really been pretty minor from the the

26
00:00:59,349 --> 00:00:57,760
previous problems and then also the

27
00:01:01,510 --> 00:00:59,359
flow's been pretty smooth the entire

28
00:01:03,110 --> 00:01:01,520
time we spent a little bit of time

29
00:01:04,469 --> 00:01:03,120
talking about the the new systems that

30
00:01:07,109 --> 00:01:04,479
are going up to space station the

31
00:01:08,870 --> 00:01:07,119
permanent mplm which will add some nice

32
00:01:11,109 --> 00:01:08,880
stowage capability to the station and

33
00:01:12,950 --> 00:01:11,119
also some research capability

34
00:01:15,590 --> 00:01:12,960
we talked quite a bit about the iss

35
00:01:17,830 --> 00:01:15,600
systems on orbit the oxygen generation

36
00:01:19,670 --> 00:01:17,840
system the carbon dioxide removal system

37
00:01:22,710 --> 00:01:19,680
the new sabati a system which was just

38
00:01:24,310 --> 00:01:22,720

recently activated on orbit uh knows

39
00:01:25,749 --> 00:01:24,320
systems and how they affect the ability

40
00:01:27,350 --> 00:01:25,759
to support

41
00:01:29,109 --> 00:01:27,360
the contingency crew if they need to

42
00:01:30,710 --> 00:01:29,119
stay on board station

43
00:01:32,310 --> 00:01:30,720
we took a look at the evas that are

44
00:01:34,310 --> 00:01:32,320
planned for the mission and if you take

45
00:01:36,630 --> 00:01:34,320
a look at the video you'll see that the

46
00:01:38,310 --> 00:01:36,640
evas are pretty complicated the crews

47
00:01:39,910 --> 00:01:38,320
are really pretty much all over the

48
00:01:42,149 --> 00:01:39,920
outside of space station in various

49
00:01:44,149 --> 00:01:42,159
locations

50
00:01:46,230 --> 00:01:44,159
there the teams are well prepared to

51
00:01:48,710 --> 00:01:46,240
pick up the eva tasks it includes

52
00:01:50,550 --> 00:01:48,720
venting the uh the ammonia pump and then

53
00:01:53,270 --> 00:01:50,560
preparing that ammonia pump for eventual

54
00:01:54,630 --> 00:01:53,280
return on another flight

55
00:01:56,149 --> 00:01:54,640
i think another thing that we got from

56
00:01:58,069 --> 00:01:56,159
the review is that the program's still

57
00:01:59,270 --> 00:01:58,079
improving um you'll see that there's a

58
00:02:01,590 --> 00:01:59,280
new uh

59
00:02:04,550 --> 00:02:01,600
hydraulic power unit fuel pump that's

60
00:02:06,469 --> 00:02:04,560
the pump that provides the uh hydraulic

61
00:02:09,589 --> 00:02:06,479
fluid to the

62
00:02:11,910 --> 00:02:09,599
to the tilt and uh and rock actuators

63
00:02:13,670 --> 00:02:11,920

and the srbs there's a new design of

64
00:02:16,630 --> 00:02:13,680
that pump that prevents metal to metal

65
00:02:18,070 --> 00:02:16,640
contact and and removes a critical one

66
00:02:19,510 --> 00:02:18,080
failure from that pump there's still

67
00:02:21,190 --> 00:02:19,520
some of the older style pumps on but

68
00:02:22,550 --> 00:02:21,200
then the next flight will have all new

69
00:02:24,070 --> 00:02:22,560
style pumps so it's good that we're

70
00:02:25,510 --> 00:02:24,080
removing some critical failures out of

71
00:02:26,869 --> 00:02:25,520
the system i think that's a very good

72
00:02:28,790 --> 00:02:26,879
thing to do

73
00:02:31,589 --> 00:02:28,800
we continue to put on tougher tile

74
00:02:33,350 --> 00:02:31,599
there's about 33 new tile that are the

75
00:02:35,350 --> 00:02:33,360
tougher bree tile on the bottom of the

76
00:02:37,830 --> 00:02:35,360
orbiter and the teams have done that

77
00:02:39,270 --> 00:02:37,840
we lose periodically some putty repairs

78
00:02:40,869 --> 00:02:39,280
that come off of the old tile we've

79
00:02:43,350 --> 00:02:40,879
again repaired

80
00:02:44,630 --> 00:02:43,360
many locations of that on the orbiter

81
00:02:46,470 --> 00:02:44,640
we're continuing to do some things for

82
00:02:48,550 --> 00:02:46,480
the future we're increasing the bump

83
00:02:51,350 --> 00:02:48,560
height of the boundary layer dto to half

84
00:02:53,430 --> 00:02:51,360
an inch from 0.35 inches

85
00:02:55,990 --> 00:02:53,440
that'll cause that boundary layer to

86
00:02:58,149 --> 00:02:56,000
trip now at mach i think 19 and a half

87
00:02:59,990 --> 00:02:58,159
which will give us some very critical

88
00:03:01,910 --> 00:03:00,000

data that'll help us understand what

89
00:03:04,390 --> 00:03:01,920
happens in the high mach number regions

90
00:03:06,070 --> 00:03:04,400
for reentry spacecraft and what a

91
00:03:07,509 --> 00:03:06,080
turbulent boundary layer means to heat

92
00:03:08,949 --> 00:03:07,519
transfer in those regions which have

93
00:03:10,229 --> 00:03:08,959
lots of applications to future

94
00:03:11,990 --> 00:03:10,239
spacecraft

95
00:03:14,229 --> 00:03:12,000
we're also flying to dragoneye for the

96
00:03:15,750 --> 00:03:14,239
spacex commercial guys on this flight

97
00:03:17,830 --> 00:03:15,760
that'll help them with the rendezvous

98
00:03:19,190 --> 00:03:17,840
proxop sensor we've flown it before this

99
00:03:20,550 --> 00:03:19,200
will be the second flight of that which

100
00:03:22,790 --> 00:03:20,560
will help them eventually when they come

101
00:03:24,789 --> 00:03:22,800
to station so i think the message here

102
00:03:26,550 --> 00:03:24,799
is we're still improving we're still

103
00:03:27,990 --> 00:03:26,560
looking for ways to do inventive and

104
00:03:29,910 --> 00:03:28,000
creative things to keep the shuttle

105
00:03:31,509 --> 00:03:29,920
flying safe

106
00:03:33,190 --> 00:03:31,519
i'd also like to congratulate the team

107
00:03:35,030 --> 00:03:33,200
for doing great work on the cross feed

108
00:03:37,270 --> 00:03:35,040
flange work michael talk to you about

109
00:03:39,750 --> 00:03:37,280
that a little bit more and then finally

110
00:03:41,750 --> 00:03:39,760
we set the launch date for november 1st

111
00:03:44,070 --> 00:03:41,760
and we see pretty much normal flow

112
00:03:45,910 --> 00:03:44,080
between now and november 1st so again a

113
00:03:48,070 --> 00:03:45,920

very thorough review the teams are very

114
00:03:49,509 --> 00:03:48,080
focused on what they need to do we've

115
00:03:51,670 --> 00:03:49,519
looked at ways to continue to keep

116
00:03:53,350 --> 00:03:51,680
improving to keep looking for things

117
00:03:55,110 --> 00:03:53,360
that might be that might be early

118
00:03:56,550 --> 00:03:55,120
indications of problems and we're

119
00:03:58,710 --> 00:03:56,560
looking at ways to continue to improve

120
00:04:00,149 --> 00:03:58,720
the system so it was a very good review

121
00:04:02,390 --> 00:04:00,159
and it was a good chance to get together

122
00:04:04,149 --> 00:04:02,400
with the team and review their work

123
00:04:06,229 --> 00:04:04,159
thanks

124
00:04:07,750 --> 00:04:06,239
yeah i can't say much more than what

125
00:04:08,630 --> 00:04:07,760
bill kind of said it's a huge testament

126
00:04:12,470 --> 00:04:08,640
to the

127
00:04:14,149 --> 00:04:12,480
very tough time both with all the

128
00:04:15,350 --> 00:04:14,159
uncertainties in the uh in the future

129
00:04:16,629 --> 00:04:15,360
and then the current layoffs that are

130
00:04:18,949 --> 00:04:16,639
happening within the shuttle program as

131
00:04:20,469 --> 00:04:18,959
we wind down but uh the bottom line is

132
00:04:22,950 --> 00:04:20,479
is not only is the hardware in really

133
00:04:24,150 --> 00:04:22,960
good shape as we heard today um but my

134
00:04:25,590 --> 00:04:24,160
personal impression of watching

135
00:04:27,510 --> 00:04:25,600
everybody work through these problems is

136
00:04:30,550 --> 00:04:27,520
that the team is in very good shape as

137
00:04:32,310 --> 00:04:30,560
well um from a uh execution level you

138
00:04:33,350 --> 00:04:32,320

know you never hope for problems and i

139
00:04:34,950 --> 00:04:33,360
probably wouldn't have picked this as

140
00:04:36,390 --> 00:04:34,960
the problem to hope for but the the fuel

141
00:04:38,469 --> 00:04:36,400
flange leak that we had really kind of

142
00:04:41,030 --> 00:04:38,479
demonstrated that interaction between

143
00:04:42,790 --> 00:04:41,040
the jsc team the ksc team uh the

144
00:04:44,469 --> 00:04:42,800
technicians the engineering analysis the

145
00:04:46,710 --> 00:04:44,479
schedule folks

146
00:04:48,629 --> 00:04:46,720
everybody did an amazingly good job of

147
00:04:50,150 --> 00:04:48,639
working through that issue uh

148
00:04:52,070 --> 00:04:50,160
identifying the problem deciding what

149
00:04:54,230 --> 00:04:52,080
options we had to go forward picking a

150
00:04:55,189 --> 00:04:54,240
path and then executing in a fantastic

151
00:04:57,030 --> 00:04:55,199
fashion

152
00:04:58,070 --> 00:04:57,040
and again i'll let mike leinbach talk to

153
00:04:59,830 --> 00:04:58,080
you about some of the details of that

154
00:05:01,270 --> 00:04:59,840
repair work but but it concluded and

155
00:05:03,350 --> 00:05:01,280
everything's in great shape with that

156
00:05:05,430 --> 00:05:03,360
fuel leak but again it reflects on the

157
00:05:07,189 --> 00:05:05,440
team's readiness to execute we kind of

158
00:05:09,350 --> 00:05:07,199
had a summer off a little bit without a

159
00:05:10,710 --> 00:05:09,360
flight and and they're all still in just

160
00:05:12,870 --> 00:05:10,720
tip-top shape ready to go just like they

161
00:05:15,029 --> 00:05:12,880
were last spring so no worries about the

162
00:05:16,629 --> 00:05:15,039
the team um as bill said the the review

163
00:05:18,629 --> 00:05:16,639

went really well we got a unanimous go

164
00:05:19,749 --> 00:05:18,639
for launch uh on the first

165
00:05:21,189 --> 00:05:19,759
the uh

166
00:05:22,469 --> 00:05:21,199
the things that i took away we're kind

167
00:05:24,070 --> 00:05:22,479
of we're still paying attention to the

168
00:05:25,909 --> 00:05:24,080
details

169
00:05:27,830 --> 00:05:25,919
for example on the external tank we've

170
00:05:30,469 --> 00:05:27,840
been doing a new welding technique for a

171
00:05:32,790 --> 00:05:30,479
while now called friction store welding

172
00:05:34,390 --> 00:05:32,800
we finally had an area that had a little

173
00:05:35,830 --> 00:05:34,400
bit of a defect that was picked up in

174
00:05:38,150 --> 00:05:35,840
post-welding

175
00:05:39,909 --> 00:05:38,160
nde which is non-destructive evaluation

176
00:05:42,150 --> 00:05:39,919
that got evaluated cleared through the

177
00:05:43,430 --> 00:05:42,160
normal boards but uh just to give it

178
00:05:45,990 --> 00:05:43,440
some extra thoroughness they took it to

179
00:05:47,350 --> 00:05:46,000
the marshall space flight center's uh

180
00:05:48,310 --> 00:05:47,360
material review board they went through

181
00:05:50,070 --> 00:05:48,320
there they went to their senior

182
00:05:51,189 --> 00:05:50,080
management review board at marshall they

183
00:05:52,310 --> 00:05:51,199
brought to the shuttle program and we

184
00:05:54,390 --> 00:05:52,320
brought it again here today at the

185
00:05:55,430 --> 00:05:54,400
agency fr just for folks to see the

186
00:05:57,270 --> 00:05:55,440
thoroughness that went into that

187
00:05:58,950 --> 00:05:57,280
analysis on that that new technique just

188
00:06:00,790 --> 00:05:58,960

to make sure no one had any questions

189
00:06:02,150 --> 00:06:00,800
about the uh the repair and actually

190
00:06:03,590 --> 00:06:02,160
turns out it wasn't so much a repair as

191
00:06:05,670 --> 00:06:03,600
a use as is with that little bit of

192
00:06:07,270 --> 00:06:05,680
defect that that was in one of the welds

193
00:06:09,430 --> 00:06:07,280
on the external tank

194
00:06:11,909 --> 00:06:09,440
another good example is uh learning from

195
00:06:13,909 --> 00:06:11,919
other programs the ares program test

196
00:06:15,670 --> 00:06:13,919
fired a dm2 motor which is a

197
00:06:17,270 --> 00:06:15,680
demonstration motor number two it was a

198
00:06:18,790 --> 00:06:17,280
five segment srb that was a couple

199
00:06:20,390 --> 00:06:18,800
months ago out in utah

200
00:06:22,710 --> 00:06:20,400
in the post light analysis of that they

201
00:06:23,670 --> 00:06:22,720
discovered a little area of uh erosion

202
00:06:25,590 --> 00:06:23,680
on the nozzle that's a little bit

203
00:06:27,350 --> 00:06:25,600
unusual hadn't been seen before nothing

204
00:06:28,950 --> 00:06:27,360
nothing serious but just a little

205
00:06:30,150 --> 00:06:28,960
different than those engineers had seen

206
00:06:31,350 --> 00:06:30,160
so they called in the shuttle team to

207
00:06:33,189 --> 00:06:31,360
take a look to see if there was any

208
00:06:34,390 --> 00:06:33,199
analogies to the to the nozzle and the

209
00:06:36,230 --> 00:06:34,400
motors we fly

210
00:06:37,590 --> 00:06:36,240
and and our our team of engineers took a

211
00:06:39,510 --> 00:06:37,600
look at it as well and

212
00:06:40,390 --> 00:06:39,520
and the thing that i take away is um

213
00:06:41,590 --> 00:06:40,400

they're still trying to do their

214
00:06:43,909 --> 00:06:41,600
troubleshooting and determine what

215
00:06:45,430 --> 00:06:43,919
caused that um it looks like it might be

216
00:06:48,070 --> 00:06:45,440
something that's test induced but it's

217
00:06:50,230 --> 00:06:48,080
too early to tell but because the dm

218
00:06:52,309 --> 00:06:50,240
aries team does not yet have a good

219
00:06:53,990 --> 00:06:52,319
physics-based understanding of how that

220
00:06:55,350 --> 00:06:54,000
failure occurred that's one of the

221
00:06:57,589 --> 00:06:55,360
things we look for when we have flight

222
00:06:58,950 --> 00:06:57,599
rush now is do we understand the problem

223
00:07:01,029 --> 00:06:58,960
and does it make sense from a

224
00:07:02,469 --> 00:07:01,039
fundamental physics standpoint

225
00:07:04,390 --> 00:07:02,479
and that you're not just kind of

226
00:07:06,309 --> 00:07:04,400
creating a solution that makes it sound

227
00:07:08,230 --> 00:07:06,319
like it fixes your problem does it truly

228
00:07:09,749 --> 00:07:08,240
hold water when you step back and look

229
00:07:10,710 --> 00:07:09,759
at it and because they haven't gotten

230
00:07:12,150 --> 00:07:10,720
that far

231
00:07:13,749 --> 00:07:12,160
the shuttle team took a look to say well

232
00:07:14,950 --> 00:07:13,759
without that what can we do to beef up

233
00:07:16,070 --> 00:07:14,960
our rationale

234
00:07:17,350 --> 00:07:16,080
it's a different material it's a

235
00:07:18,790 --> 00:07:17,360
different weave it's actually different

236
00:07:20,550 --> 00:07:18,800
contour in the nozzle there are

237
00:07:21,909 --> 00:07:20,560
significant differences

238
00:07:23,430 --> 00:07:21,919

and ultimately we back that up with

239
00:07:25,589 --> 00:07:23,440
flight test one of the reasons we do

240
00:07:27,029 --> 00:07:25,599
these static motor firings in addition

241
00:07:29,110 --> 00:07:27,039
to the reason ares is doing them

242
00:07:30,309 --> 00:07:29,120
together pre-flight test data we do them

243
00:07:31,909 --> 00:07:30,319
in the shuttle program to kind of

244
00:07:33,350 --> 00:07:31,919
bracket um

245
00:07:36,469 --> 00:07:33,360
changes in the motors or casting

246
00:07:38,870 --> 00:07:36,479
segments so we actually have a flight uh

247
00:07:41,430 --> 00:07:38,880
a static test fire motor that we did fsm

248
00:07:42,550 --> 00:07:41,440
17 a couple months ago now almost a year

249
00:07:44,390 --> 00:07:42,560
ago i think

250
00:07:46,469 --> 00:07:44,400
which actually was a nozzle that was

251
00:07:47,749 --> 00:07:46,479
cast after this and so it kind of the

252
00:07:48,950 --> 00:07:47,759
nozzles were flying right now on the

253
00:07:50,629 --> 00:07:48,960
shuttle through the end of the program

254
00:07:52,629 --> 00:07:50,639
have kind of been bracketed by this test

255
00:07:53,990 --> 00:07:52,639
that we did a while back to say that we

256
00:07:55,430 --> 00:07:54,000
kind of can say

257
00:07:56,469 --> 00:07:55,440
previous flight performance we already

258
00:07:58,309 --> 00:07:56,479
kind of know what the next flight

259
00:07:59,270 --> 00:07:58,319
performance is thanks to this test motor

260
00:08:01,029 --> 00:07:59,280
we're in really good shape on the

261
00:08:02,390 --> 00:08:01,039
shuttle program and uh and we don't see

262
00:08:03,670 --> 00:08:02,400
any problems there

263
00:08:04,790 --> 00:08:03,680

ultimately if a problem like that did

264
00:08:06,469 --> 00:08:04,800
show up it's not a safety of flight

265
00:08:08,150 --> 00:08:06,479
concern at all it's just kind of a

266
00:08:09,909 --> 00:08:08,160
an unusual erosion that takes away a

267
00:08:11,029 --> 00:08:09,919
little bit of the margins but no real

268
00:08:12,629 --> 00:08:11,039
problem at all but again a good

269
00:08:14,869 --> 00:08:12,639
demonstration level detail that the team

270
00:08:16,390 --> 00:08:14,879
is still going into you know end of the

271
00:08:17,830 --> 00:08:16,400
program here we could have just kind of

272
00:08:18,790 --> 00:08:17,840
sloughed that off and said that's close

273
00:08:19,909 --> 00:08:18,800
enough we don't need to worry about it

274
00:08:21,670 --> 00:08:19,919
but we're certainly not going to sit

275
00:08:22,790 --> 00:08:21,680
back and relax

276
00:08:24,710 --> 00:08:22,800
bill talked about some of the safety

277
00:08:26,790 --> 00:08:24,720
mods we're doing with the the fuel pump

278
00:08:29,110 --> 00:08:26,800
that we put in the srbs

279
00:08:30,710 --> 00:08:29,120
we're advancing uh research still with

280
00:08:32,790 --> 00:08:30,720
flying the spacex

281
00:08:34,790 --> 00:08:32,800
nav sensor for rendezvous flying the new

282
00:08:36,389 --> 00:08:34,800
boundary layer dto height in the flame

283
00:08:38,469 --> 00:08:36,399
trench we did some mods added some

284
00:08:39,750 --> 00:08:38,479
sensors to help characterize the true

285
00:08:41,430 --> 00:08:39,760
environment in the flame trench and

286
00:08:42,550 --> 00:08:41,440
we're testing some new materials uh

287
00:08:44,790 --> 00:08:42,560
ablative materials down there in the

288
00:08:46,070 --> 00:08:44,800

flame trench to help follow on programs

289
00:08:47,750 --> 00:08:46,080
uh and then the challenges that we

290
00:08:49,269 --> 00:08:47,760
overcome like with that with the fuel

291
00:08:50,470 --> 00:08:49,279
flange leak that we had

292
00:08:51,350 --> 00:08:50,480
um

293
00:08:53,350 --> 00:08:51,360
the other thing i know you guys are

294
00:08:54,389 --> 00:08:53,360
gonna ask so i'll jump to it last flight

295
00:08:55,590 --> 00:08:54,399
of discovery

296
00:08:57,829 --> 00:08:55,600
just to give you some of the facts and

297
00:09:00,310 --> 00:08:57,839
figures um you know it started

298
00:09:03,910 --> 00:09:00,320
construction back in august of 1979 and

299
00:09:05,590 --> 00:09:03,920
and first flew in 1984 sts-41d

300
00:09:06,870 --> 00:09:05,600
quite a quite a remarkable history for

301
00:09:09,829 --> 00:09:06,880
discovery it's had a whole bunch of

302
00:09:12,070 --> 00:09:09,839
firsts um it carried hubble into orbit

303
00:09:14,949 --> 00:09:12,080
it it was our return to flight vehicle

304
00:09:16,949 --> 00:09:14,959
following both challenger and columbia

305
00:09:19,750 --> 00:09:16,959
and so it kind of it was the pathfinder

306
00:09:22,470 --> 00:09:19,760
as we we put new new systems in place

307
00:09:24,790 --> 00:09:22,480
new safety features um at the end of uh

308
00:09:26,710 --> 00:09:24,800
at the end of its its life here uh it'll

309
00:09:28,870 --> 00:09:26,720
have traveled over about 150 million

310
00:09:31,350 --> 00:09:28,880
miles and and the more impressive stat

311
00:09:32,790 --> 00:09:31,360
that i saw today was um a number of days

312
00:09:34,630 --> 00:09:32,800
it'll be in space it'll be in just about

313
00:09:36,550 --> 00:09:34,640

a year so it'll it'll have been in space

314
00:09:39,670 --> 00:09:36,560
for about a year total time in orbit

315
00:09:42,470 --> 00:09:40,870
that's talking about the past with

316
00:09:44,389 --> 00:09:42,480
discovery and again we try not to focus

317
00:09:45,670 --> 00:09:44,399
too much on that so talking about the

318
00:09:47,670 --> 00:09:45,680
here and now with discovery is the

319
00:09:49,910 --> 00:09:47,680
sts-133 mission in front of us and it's

320
00:09:51,990 --> 00:09:49,920
it's a very challenging one the pmm

321
00:09:53,910 --> 00:09:52,000
going up the the permanent multi-purpose

322
00:09:55,509 --> 00:09:53,920
logistics module carrying up a whole lot

323
00:09:57,110 --> 00:09:55,519
of cargo we're not going to spend a lot

324
00:09:59,190 --> 00:09:57,120
of time unloading it like we normally do

325
00:10:01,030 --> 00:09:59,200
if this was an mplm resupply flight

326
00:10:03,030 --> 00:10:01,040
you'd see us install that mplm and then

327
00:10:04,790 --> 00:10:03,040
spend a lot of dock days unpacking it

328
00:10:06,630 --> 00:10:04,800
and then packing all the return stuff to

329
00:10:08,069 --> 00:10:06,640
bring back into the cargo bay because

330
00:10:10,150 --> 00:10:08,079
this one's staying behind we don't have

331
00:10:12,470 --> 00:10:10,160
to be so aggressive on our schedules to

332
00:10:14,710 --> 00:10:12,480
unpack everything out of the out of the

333
00:10:16,389 --> 00:10:14,720
pmm because it is going to stay on orbit

334
00:10:17,509 --> 00:10:16,399
so that the time's a little a little

335
00:10:18,790 --> 00:10:17,519
different in the timeline the career has

336
00:10:21,509 --> 00:10:18,800
a little more time to spend on

337
00:10:23,430 --> 00:10:21,519
experiments and and eva work but inside

338
00:10:25,750 --> 00:10:23,440

the pmm uh you probably know some of the

339
00:10:27,430 --> 00:10:25,760
big things the robonaut's in there um

340
00:10:28,870 --> 00:10:27,440
we're carrying up another express rack i

341
00:10:30,949 --> 00:10:28,880
think it's the eighth express rack which

342
00:10:32,790 --> 00:10:30,959
is basically a pre-packed set of stuff

343
00:10:34,949 --> 00:10:32,800
that allows for easy experimentation on

344
00:10:36,630 --> 00:10:34,959
the station kind of plug and play uh

345
00:10:38,710 --> 00:10:36,640
experimentation one of the cool ones

346
00:10:40,949 --> 00:10:38,720
that i picked off the list was a uh a

347
00:10:43,030 --> 00:10:40,959
boiling experiment uh that basically is

348
00:10:45,030 --> 00:10:43,040
going to be a rack to look at at how

349
00:10:46,870 --> 00:10:45,040
fluids interact and boil in space we do

350
00:10:47,829 --> 00:10:46,880
a lot of things with combustion i think

351
00:10:50,069 --> 00:10:47,839
this is the first time we're going to

352
00:10:52,230 --> 00:10:50,079
focus in on on the act of boiling in a

353
00:10:53,750 --> 00:10:52,240
microgravity environment

354
00:10:55,110 --> 00:10:53,760
and then there's a lot of we call it

355
00:10:56,949 --> 00:10:55,120
sortie science which is science that

356
00:10:58,550 --> 00:10:56,959
goes up gets activated and we return it

357
00:11:00,790 --> 00:10:58,560
on the shuttle mid deck

358
00:11:02,949 --> 00:11:00,800
the japanese space agency the european

359
00:11:04,470 --> 00:11:02,959
space agency the canadian space agency

360
00:11:05,829 --> 00:11:04,480
uh all have payloads that were either

361
00:11:07,590 --> 00:11:05,839
taking up and executing or returning

362
00:11:09,030 --> 00:11:07,600
back from station and so it's a pretty

363
00:11:11,190 --> 00:11:09,040

good thing from from that standpoint for

364
00:11:13,430 --> 00:11:11,200
a science mission we're taking up spares

365
00:11:15,670 --> 00:11:13,440
with the elc the cargo carrier has a

366
00:11:17,829 --> 00:11:15,680
spare radiator panel on it that'll go up

367
00:11:20,470 --> 00:11:17,839
in case the station needs a spare that's

368
00:11:22,949 --> 00:11:20,480
a pretty massive oru which is an orbital

369
00:11:24,230 --> 00:11:22,959
replacement unit basically a big part

370
00:11:25,910 --> 00:11:24,240
and the shuttle's one of the only things

371
00:11:27,750 --> 00:11:25,920
that can carry that up so it'll be good

372
00:11:28,630 --> 00:11:27,760
to have that spare on orbit

373
00:11:31,750 --> 00:11:28,640
and

374
00:11:34,150 --> 00:11:31,760
highlighting the shuttle return payload

375
00:11:36,870 --> 00:11:34,160
capabilities is a pretty important thing

376
00:11:38,870 --> 00:11:36,880
the oxygen generation unit on station

377
00:11:40,150 --> 00:11:38,880
has had a couple hiccups

378
00:11:41,430 --> 00:11:40,160
and they ended up replacing what they

379
00:11:43,910 --> 00:11:41,440
call the hydrogen dome which is

380
00:11:46,470 --> 00:11:43,920
basically the reactor that where they

381
00:11:48,870 --> 00:11:46,480
where they basically combine to to

382
00:11:50,790 --> 00:11:48,880
to to take the water break it down into

383
00:11:51,990 --> 00:11:50,800
hydrogen and oxygen

384
00:11:53,430 --> 00:11:52,000
we're going to fly that back it's a

385
00:11:54,790 --> 00:11:53,440
pretty big massive piece of metal if you

386
00:11:56,069 --> 00:11:54,800
think about it it's called a containment

387
00:11:57,829 --> 00:11:56,079
dome for a reason it's there in case

388
00:11:59,350 --> 00:11:57,839

there's a problem with the hydrogen and

389
00:12:01,030 --> 00:11:59,360
the oxygen and you had a little

390
00:12:03,430 --> 00:12:01,040
detonation this thing is made to contain

391
00:12:04,470 --> 00:12:03,440
that that low-level detonation so we're

392
00:12:05,829 --> 00:12:04,480
going to return it on the mid-deck of

393
00:12:08,069 --> 00:12:05,839
the shuttle we had to do some analysis

394
00:12:09,990 --> 00:12:08,079
to make sure it was safe to return in an

395
00:12:11,430 --> 00:12:10,000
off-nominal stowage configuration and

396
00:12:12,790 --> 00:12:11,440
it's good to go so that's that's a good

397
00:12:14,389 --> 00:12:12,800
use for discovery to be bringing that

398
00:12:16,710 --> 00:12:14,399
piece back and allow the failure

399
00:12:18,629 --> 00:12:16,720
investigation to continue um we heard

400
00:12:20,710 --> 00:12:18,639
today and i'm sure bill will agree to

401
00:12:21,910 --> 00:12:20,720
the uh the eclipse the which we call the

402
00:12:23,509 --> 00:12:21,920
eclipse systems which are the

403
00:12:25,350 --> 00:12:23,519
environmental life support systems on

404
00:12:27,670 --> 00:12:25,360
the station are really

405
00:12:28,710 --> 00:12:27,680
one of the true unsung pathfinders for

406
00:12:30,389 --> 00:12:28,720
what we're going to do in the future if

407
00:12:31,670 --> 00:12:30,399
we're going to go out to mars

408
00:12:32,710 --> 00:12:31,680
having a life support system that's

409
00:12:35,990 --> 00:12:32,720
contained

410
00:12:37,269 --> 00:12:36,000
is vital and and we have one on station

411
00:12:39,110 --> 00:12:37,279
and it's working but we're still

412
00:12:40,870 --> 00:12:39,120
learning and we're still in its infancy

413
00:12:42,550 --> 00:12:40,880

um and and we're really taking advantage

414
00:12:44,150 --> 00:12:42,560
of the fact that we can service it we

415
00:12:45,910 --> 00:12:44,160
can tweak it we can upgrade it we can

416
00:12:47,110 --> 00:12:45,920
bring samples home and analyze them but

417
00:12:48,870 --> 00:12:47,120
as we go forward from here we're gonna

418
00:12:50,470 --> 00:12:48,880
need to do that without those crutches

419
00:12:53,110 --> 00:12:50,480
and so the more we can take advantage of

420
00:12:55,030 --> 00:12:53,120
the station systems the better we talk a

421
00:12:57,030 --> 00:12:55,040
lot about the science and the payloads

422
00:12:58,550 --> 00:12:57,040
the station does just the systems and

423
00:13:00,870 --> 00:12:58,560
the active building and operating

424
00:13:03,110 --> 00:13:00,880
station is a great learning tool as well

425
00:13:05,350 --> 00:13:03,120
as we go forward for exploration

426
00:13:07,269 --> 00:13:05,360
so i think i've talked enough

427
00:13:08,870 --> 00:13:07,279
basically the last thing i had was uh on

428
00:13:10,550 --> 00:13:08,880
the range in case you guys ask uh right

429
00:13:12,389 --> 00:13:10,560
now the range is clear we have launch

430
00:13:14,310 --> 00:13:12,399
opportunities from the first all the way

431
00:13:15,990 --> 00:13:14,320
through the seventh if we need them um

432
00:13:18,069 --> 00:13:16,000
we're gonna have to stop and top off

433
00:13:19,350 --> 00:13:18,079
some some cryos if we needed to but uh

434
00:13:21,269 --> 00:13:19,360
but it'll play out that we basically

435
00:13:22,550 --> 00:13:21,279
have a couple of days here to launch uh

436
00:13:25,269 --> 00:13:22,560
we'd like to get off in this november

437
00:13:27,269 --> 00:13:25,279
window because uh uh due to other things

438
00:13:29,030 --> 00:13:27,279

like beta cutouts and solar angles and

439
00:13:31,430 --> 00:13:29,040
and other visiting vehicles uh it's a

440
00:13:33,590 --> 00:13:31,440
pretty busy traffic model in fact uh the

441
00:13:36,389 --> 00:13:33,600
uh the 40p progress just i'm sorry the

442
00:13:37,750 --> 00:13:36,399
37p progress just undocked today 40p

443
00:13:39,430 --> 00:13:37,760
launches on wednesday it docks on

444
00:13:41,590 --> 00:13:39,440
saturday coming up at the end of the

445
00:13:43,670 --> 00:13:41,600
year there's an atv from issa there's an

446
00:13:45,509 --> 00:13:43,680
htv from japan there's a couple more

447
00:13:46,870 --> 00:13:45,519
progresses and other soyuz it gets

448
00:13:48,389 --> 00:13:46,880
pretty crowded up there in space so we'd

449
00:13:49,990 --> 00:13:48,399
like to get off in this window if we can

450
00:13:52,629 --> 00:13:50,000
and we have a really good shot at i

451
00:13:55,110 --> 00:13:52,639
think mike will have plenty of chances

452
00:13:56,949 --> 00:13:55,120
so that's it okay good let me start out

453
00:13:58,550 --> 00:13:56,959
by giving an overview of the processing

454
00:14:01,350 --> 00:13:58,560
of the pad and then i'll go into the

455
00:14:03,030 --> 00:14:01,360
leak repair a little bit in more detail

456
00:14:04,949 --> 00:14:03,040
we're in great shape out the pad we've

457
00:14:06,790 --> 00:14:04,959
used up our four days of contingency for

458
00:14:07,990 --> 00:14:06,800
that leak repair but we're right on

459
00:14:09,590 --> 00:14:08,000
schedule now we'll get into our

460
00:14:11,030 --> 00:14:09,600
ordinance installation tonight which we

461
00:14:12,389 --> 00:14:11,040
had to delay because of the work in the

462
00:14:14,470 --> 00:14:12,399
after the orbiter

463
00:14:16,790 --> 00:14:14,480

we'll do the uh the main propulsion

464
00:14:18,949 --> 00:14:16,800
system and hyper golo hypergolic systems

465
00:14:20,230 --> 00:14:18,959
pressurizations on thursday night and

466
00:14:21,750 --> 00:14:20,240
throughout this week we'll be closing

467
00:14:23,590 --> 00:14:21,760
out the after the orbiter that's in work

468
00:14:25,590 --> 00:14:23,600
right now and i see no reason right now

469
00:14:27,590 --> 00:14:25,600
at all that we can't get into a launch

470
00:14:28,949 --> 00:14:27,600
countdown per plan on friday afternoon

471
00:14:30,629 --> 00:14:28,959
at 2 30.

472
00:14:33,350 --> 00:14:30,639
on leading up to the opening launch

473
00:14:35,590 --> 00:14:33,360
window at 16 35 next monday the first

474
00:14:37,189 --> 00:14:35,600
with a preferred time of about 16 40 or

475
00:14:39,350 --> 00:14:37,199
so and of course that will be adjusted

476
00:14:40,150 --> 00:14:39,360
real time on launch day

477
00:14:42,069 --> 00:14:40,160
um

478
00:14:43,350 --> 00:14:42,079
about a week or 10 days or so ago i

479
00:14:45,189 --> 00:14:43,360
wouldn't have been quite as positive

480
00:14:46,470 --> 00:14:45,199
about launch countdown we picked up the

481
00:14:47,509 --> 00:14:46,480
leak we weren't sure where it was at

482
00:14:49,590 --> 00:14:47,519
first

483
00:14:51,910 --> 00:14:49,600
guys walking by the orbiter smelled a

484
00:14:53,829 --> 00:14:51,920
little a little fuel and that started

485
00:14:56,310 --> 00:14:53,839
the investigation and so we got into the

486
00:14:57,430 --> 00:14:56,320
aft and we ultimately found the leak at

487
00:15:00,790 --> 00:14:57,440
the flange

488
00:15:03,750 --> 00:15:00,800

at a flange joint in the aft between the

489
00:15:05,269 --> 00:15:03,760
two pods and um and and we made the

490
00:15:06,550 --> 00:15:05,279
decision mike made the decision to go

491
00:15:08,629 --> 00:15:06,560
ahead and change out the seals and that

492
00:15:10,069 --> 00:15:08,639
guy was very very small leak but

493
00:15:11,750 --> 00:15:10,079
nevertheless we weren't quite sure what

494
00:15:13,030 --> 00:15:11,760
was causing the leak and so the better

495
00:15:14,790 --> 00:15:13,040
course of valor was to go ahead and

496
00:15:16,710 --> 00:15:14,800
change out those seals

497
00:15:18,389 --> 00:15:16,720
it was a very very tough job and if we

498
00:15:20,069 --> 00:15:18,399
have that video i'd like to roll that

499
00:15:22,790 --> 00:15:20,079
right now and and we can talk your way

500
00:15:25,189 --> 00:15:22,800
through it a little bit

501
00:15:27,350 --> 00:15:25,199
this is a view from inside the aft

502
00:15:28,870 --> 00:15:27,360
you'll see here shortly a technician and

503
00:15:30,069 --> 00:15:28,880
escape suit right in the middle of the

504
00:15:32,870 --> 00:15:30,079
picture there

505
00:15:34,870 --> 00:15:32,880
the work was was above her head

506
00:15:37,110 --> 00:15:34,880
the visibility was limited the access

507
00:15:39,110 --> 00:15:37,120
was limited reaching overhead to do the

508
00:15:40,710 --> 00:15:39,120
work was very very tough

509
00:15:42,629 --> 00:15:40,720
but but our technicians really came

510
00:15:45,030 --> 00:15:42,639
through in flying colors it was an

511
00:15:48,310 --> 00:15:45,040
outstanding job you can see how tight

512
00:15:49,670 --> 00:15:48,320
the access is a lot of it was by feel

513
00:15:52,389 --> 00:15:49,680

you can see other folks helping out with

514
00:15:53,910 --> 00:15:52,399
flashlights etc but we were able to uh

515
00:15:55,910 --> 00:15:53,920
to get the flange apart replace the

516
00:15:57,430 --> 00:15:55,920
seals and we've passed all of our leak

517
00:15:59,269 --> 00:15:57,440
checks since then

518
00:16:00,790 --> 00:15:59,279
we will send those seals off to the to

519
00:16:03,030 --> 00:16:00,800
the malfunction lab to take a good

520
00:16:05,749 --> 00:16:03,040
microscopic look at the seals to see if

521
00:16:07,350 --> 00:16:05,759
there any little surface defects on them

522
00:16:09,509 --> 00:16:07,360
first blush

523
00:16:11,350 --> 00:16:09,519
when the seals came out they looked okay

524
00:16:13,350 --> 00:16:11,360
the ceiling surfaces looked okay so

525
00:16:15,749 --> 00:16:13,360
right now i can't report a smoking gun

526
00:16:18,150 --> 00:16:15,759
per se but we'll take a good good hard

527
00:16:19,990 --> 00:16:18,160
look at those seals probably a case of

528
00:16:20,949 --> 00:16:20,000
transient contamination not quite sure

529
00:16:22,389 --> 00:16:20,959
yet don't want to jump to that

530
00:16:23,670 --> 00:16:22,399
conclusion but that

531
00:16:25,350 --> 00:16:23,680
has been a

532
00:16:27,189 --> 00:16:25,360
an issue in the past so likely that's

533
00:16:29,110 --> 00:16:27,199
that's what it was

534
00:16:30,870 --> 00:16:29,120
again we've got that system all buttoned

535
00:16:32,389 --> 00:16:30,880
back up we got reloaded we had to drain

536
00:16:34,790 --> 00:16:32,399
all that fuel in order to open up that

537
00:16:36,310 --> 00:16:34,800
cross feed line of course and i got that

538
00:16:39,030 --> 00:16:36,320

all loaded back up over the weekend

539
00:16:40,629 --> 00:16:39,040
we're in outstanding shape out the pad

540
00:16:41,990 --> 00:16:40,639
we've done all of our training we did

541
00:16:43,590 --> 00:16:42,000
extra training over the summer to make

542
00:16:45,829 --> 00:16:43,600
sure that the launch team and and flight

543
00:16:47,749 --> 00:16:45,839
control teams were up to speed and and

544
00:16:49,030 --> 00:16:47,759
ready for this mission that actually did

545
00:16:50,790 --> 00:16:49,040
quite a bit of extra training in the

546
00:16:53,189 --> 00:16:50,800
downtime this summer so i feel good

547
00:16:54,710 --> 00:16:53,199
about the team i feel good about getting

548
00:16:56,310 --> 00:16:54,720
two launch countdown on friday and have

549
00:16:58,470 --> 00:16:56,320
a lift off on the first attempt next

550
00:17:00,870 --> 00:16:58,480
monday thanks

551
00:17:02,629 --> 00:17:00,880
all right thank you we'll take questions

552
00:17:03,990 --> 00:17:02,639
please wait for the microphone

553
00:17:05,909 --> 00:17:04,000
and please state your name and

554
00:17:08,230 --> 00:17:05,919
affiliation we'll start off with marcia

555
00:17:10,150 --> 00:17:08,240
dunn um marcia done associated press i'm

556
00:17:11,829 --> 00:17:10,160
wondering did discovery this being

557
00:17:13,829 --> 00:17:11,839
discovery's last flight did that even

558
00:17:15,029 --> 00:17:13,839
make mention during today's meeting was

559
00:17:16,630 --> 00:17:15,039
there a

560
00:17:19,990 --> 00:17:16,640
you know a moment of reflection among

561
00:17:22,230 --> 00:17:20,000
the teams and is there any special

562
00:17:24,789 --> 00:17:22,240
commemoration type things that will be

563
00:17:26,150 --> 00:17:24,799

packed aboard to make the special trip

564
00:17:27,669 --> 00:17:26,160
let's see

565
00:17:29,830 --> 00:17:27,679
at the fr today we didn't even mention

566
00:17:32,230 --> 00:17:29,840
that this was the last flight um and so

567
00:17:33,750 --> 00:17:32,240
we didn't talk about it um they are

568
00:17:35,830 --> 00:17:33,760
we're flying some

569
00:17:37,350 --> 00:17:35,840
uh a flight kit for some end to mission

570
00:17:39,830 --> 00:17:37,360
patches we've been kind of doing that

571
00:17:41,510 --> 00:17:39,840
now uh some some mementos that we stash

572
00:17:43,590 --> 00:17:41,520
away in some of the little tiny

573
00:17:44,789 --> 00:17:43,600
compartments behind the lockers

574
00:17:46,950 --> 00:17:44,799
i know the crew is probably going to

575
00:17:48,789 --> 00:17:46,960
plan a little commemorative event down

576
00:17:51,029 --> 00:17:48,799
lincoln when they're up in space i don't

577
00:17:52,390 --> 00:17:51,039
know the details of it so again kind of

578
00:17:53,990 --> 00:17:52,400
you're going to hear the theme from the

579
00:17:55,350 --> 00:17:54,000
from the the program from the astronauts

580
00:17:57,350 --> 00:17:55,360
and and from probably the administration

581
00:17:58,870 --> 00:17:57,360
the same way that uh we're still looking

582
00:17:59,750 --> 00:17:58,880
forward i think you heard john shannon

583
00:18:00,870 --> 00:17:59,760
say it the other day that he doesn't

584
00:18:02,630 --> 00:18:00,880
like to look in the rearview mirror

585
00:18:04,230 --> 00:18:02,640
right so even though this orbiter's

586
00:18:05,270 --> 00:18:04,240
going to be done we still have a couple

587
00:18:07,750 --> 00:18:05,280
more missions to go in front of us we

588
00:18:09,029 --> 00:18:07,760

don't want to lose the focus so um we'll

589
00:18:11,430 --> 00:18:09,039
probably do something but it'll stay

590
00:18:12,870 --> 00:18:11,440
low-key until we're all done

591
00:18:13,990 --> 00:18:12,880
and i'll just tell you marcia that in

592
00:18:15,990 --> 00:18:14,000
the control room we have a little

593
00:18:17,430 --> 00:18:16,000
surprise plan but it's a surprise for

594
00:18:18,549 --> 00:18:17,440
the launch team so if i were to tell you

595
00:18:25,029 --> 00:18:18,559
then they'd know and i'm so i'm not

596
00:18:28,630 --> 00:18:26,789
jim siegel a celebration independent

597
00:18:30,549 --> 00:18:28,640
newspaper i wanted to ask you about the

598
00:18:32,230 --> 00:18:30,559
seals that were replaced

599
00:18:34,470 --> 00:18:32,240
uh is that the kind of thing that's

600
00:18:36,950 --> 00:18:34,480
replaced periodically or has it been in

601
00:18:39,830 --> 00:18:36,960
there since the since the very beginning

602
00:18:41,510 --> 00:18:39,840
when when uh discovery was launched

603
00:18:42,870 --> 00:18:41,520
and so on

604
00:18:45,270 --> 00:18:42,880
well let's see they're replaced whenever

605
00:18:47,110 --> 00:18:45,280
we take the pot off i believe and and

606
00:18:48,390 --> 00:18:47,120
it's the system that connects both pods

607
00:18:50,630 --> 00:18:48,400
together on the fuel side and so

608
00:18:52,549 --> 00:18:50,640
whenever we take one pot off or both we

609
00:18:55,430 --> 00:18:52,559
have to break that joint in order to uh

610
00:18:57,830 --> 00:18:55,440
in order to to uh

611
00:18:59,990 --> 00:18:57,840
we took this pot off for this flow i

612
00:19:02,470 --> 00:19:00,000
believe to to do some work in the pod

613
00:19:04,310 --> 00:19:02,480

some helium isolation valves so this

614
00:19:06,630 --> 00:19:04,320
interface was broken this flow and it

615
00:19:07,990 --> 00:19:06,640
was leak checked and verified prior to

616
00:19:09,750 --> 00:19:08,000
rolling out to the pad and then the leak

617
00:19:11,669 --> 00:19:09,760
showed up out at the pad so this this

618
00:19:16,230 --> 00:19:11,679
particular interface was broken this

619
00:19:19,590 --> 00:19:17,990
okay um we have a question from bill

620
00:19:21,350 --> 00:19:19,600
harwood

621
00:19:22,789 --> 00:19:21,360
bill horowitz cbs and i live in florida

622
00:19:24,390 --> 00:19:22,799
and i know this is a dumb question but

623
00:19:26,390 --> 00:19:24,400
i'll ask it anyway which is if you heard

624
00:19:28,390 --> 00:19:26,400
a long-range forecast for the weekend or

625
00:19:29,990 --> 00:19:28,400
monday

626
00:19:31,029 --> 00:19:30,000
gosh i did i missed the morning forecast

627
00:19:32,710 --> 00:19:31,039
this morning

628
00:19:34,150 --> 00:19:32,720
it's been so dry lately i just hope it

629
00:19:38,070 --> 00:19:34,160
stays that way

630
00:19:39,750 --> 00:19:38,080
i really don't have that for you

631
00:19:46,230 --> 00:19:39,760
todd

632
00:19:49,190 --> 00:19:46,240
think for uh gerst um with the shuttle

633
00:19:52,230 --> 00:19:49,200
program winding down and um

634
00:19:54,710 --> 00:19:52,240
the direction the agency is headed

635
00:19:56,789 --> 00:19:54,720
toward a commercial crew and cargo i'm

636
00:19:59,430 --> 00:19:56,799
wondering if you could tell us

637
00:20:01,669 --> 00:19:59,440
how you feel about where the commercial

638
00:20:04,390 --> 00:20:01,679

cargo guys are in terms of their ability

639
00:20:06,630 --> 00:20:04,400
to come on in a timely manner and start

640
00:20:10,070 --> 00:20:06,640
delivering cargo to the international

641
00:20:11,830 --> 00:20:10,080
space station and how you feel about the

642
00:20:14,310 --> 00:20:11,840
the progress that's being made on the

643
00:20:16,630 --> 00:20:14,320
commercial crew side

644
00:20:19,350 --> 00:20:16,640
i think on the cargo side you know

645
00:20:22,310 --> 00:20:19,360
spacex has just announced no earlier

646
00:20:24,630 --> 00:20:22,320
than launch date of the 18th of november

647
00:20:26,549 --> 00:20:24,640
so this is their c1 or their first

648
00:20:28,149 --> 00:20:26,559
demonstration flight that they will fly

649
00:20:29,909 --> 00:20:28,159
and they'll do i think two orbits and

650
00:20:31,029 --> 00:20:29,919
then do a re-entry of their capsule

651
00:20:32,230 --> 00:20:31,039
after that

652
00:20:34,470 --> 00:20:32,240
that mission

653
00:20:36,710 --> 00:20:34,480
i think that'll be a good test to see

654
00:20:38,870 --> 00:20:36,720
how things are going in their systems

655
00:20:40,870 --> 00:20:38,880
and then we can talk more specifically

656
00:20:42,870 --> 00:20:40,880
after we see how their flight goes uh

657
00:20:45,190 --> 00:20:42,880
you know they're asking a lot to get

658
00:20:47,029 --> 00:20:45,200
done in that flight you know it seems

659
00:20:48,390 --> 00:20:47,039
simple to just describe two orbits and

660
00:20:50,390 --> 00:20:48,400
then their reentry

661
00:20:52,070 --> 00:20:50,400
that's still a pretty sophisticated test

662
00:20:53,669 --> 00:20:52,080
for them they have their whole attitude

663
00:20:55,350 --> 00:20:53,679

control system on orbit which hasn't

664
00:20:56,789 --> 00:20:55,360
been checked out yet they'll do some

665
00:20:59,110 --> 00:20:56,799
maneuvers with that they have their

666
00:21:01,029 --> 00:20:59,120
entry systems with the parachute system

667
00:21:02,950 --> 00:21:01,039
the heat shield all that performance to

668
00:21:04,710 --> 00:21:02,960
come back as well as a water recovery

669
00:21:07,510 --> 00:21:04,720
off the coast of california so they have

670
00:21:09,430 --> 00:21:07,520
a a pretty aggressive first flight and

671
00:21:10,789 --> 00:21:09,440
we'll see how all that goes they're

672
00:21:12,390 --> 00:21:10,799
they're taking their time working

673
00:21:13,909 --> 00:21:12,400
through the the issues that they've got

674
00:21:16,230 --> 00:21:13,919
with their vehicle they're discovering

675
00:21:17,510 --> 00:21:16,240
the things that we find all the time

676
00:21:18,870 --> 00:21:17,520
they had some software things they

677
00:21:20,710 --> 00:21:18,880
wanted to spend a little more time

678
00:21:22,149 --> 00:21:20,720
working with they have some hardware

679
00:21:24,230 --> 00:21:22,159
integration tests where they check out

680
00:21:25,830 --> 00:21:24,240
their hardware with their software they

681
00:21:27,510 --> 00:21:25,840
wanted some additional time to do that

682
00:21:29,350 --> 00:21:27,520
so that's why they moved from the 8th to

683
00:21:31,909 --> 00:21:29,360
the 18th so they're doing all the right

684
00:21:34,390 --> 00:21:31,919
things they've got the right um

685
00:21:36,149 --> 00:21:34,400
the right attitude of how to get ready

686
00:21:37,990 --> 00:21:36,159
for flight i think it'll be interesting

687
00:21:39,669 --> 00:21:38,000
to see how this flight goes and see what

688
00:21:41,750 --> 00:21:39,679

they do here with the with the november

689
00:21:43,669 --> 00:21:41,760
flight and then they have potentially

690
00:21:45,190 --> 00:21:43,679
two more demonstration flights before

691
00:21:47,110 --> 00:21:45,200
they actually the third one will

692
00:21:48,710 --> 00:21:47,120
actually come to space station

693
00:21:50,630 --> 00:21:48,720
again we're flying their dragon eye

694
00:21:52,149 --> 00:21:50,640
which is a rendezvous proxop sensor to

695
00:21:53,990 --> 00:21:52,159
station which will give them some key

696
00:21:55,750 --> 00:21:54,000
data to see how that device performs on

697
00:21:56,950 --> 00:21:55,760
the shuttle that'll be very important

698
00:21:58,549 --> 00:21:56,960
for them to do some closed-loop

699
00:22:00,149 --> 00:21:58,559
simulations with their

700
00:22:01,430 --> 00:22:00,159
attitude control system to make sure

701
00:22:03,029 --> 00:22:01,440
things work well so they're doing

702
00:22:04,870 --> 00:22:03,039
everything right

703
00:22:06,710 --> 00:22:04,880
we'll see as far as schedule goes we'll

704
00:22:08,390 --> 00:22:06,720
protect a little bit as much as we can

705
00:22:10,470 --> 00:22:08,400
that's why we would like the additional

706
00:22:12,149 --> 00:22:10,480
shuttle flight if we can get it in

707
00:22:13,350 --> 00:22:12,159
the spring of next year we'd like to

708
00:22:15,029 --> 00:22:13,360
have some more margin to get some

709
00:22:16,950 --> 00:22:15,039
critical cargo up so if they're not

710
00:22:19,029 --> 00:22:16,960
quite on time and they're delayed by a

711
00:22:20,470 --> 00:22:19,039
couple months it's not an impact to

712
00:22:21,750 --> 00:22:20,480
station we don't have to do anything

713
00:22:23,350 --> 00:22:21,760

dramatic so

714
00:22:25,029 --> 00:22:23,360
again i think we're doing prudent

715
00:22:26,789 --> 00:22:25,039
planning to try to get as much cargo

716
00:22:28,070 --> 00:22:26,799
pre-positioned and be ready to support

717
00:22:29,750 --> 00:22:28,080
them in case their schedule slips a

718
00:22:31,270 --> 00:22:29,760
little bit i wouldn't be surprised if

719
00:22:32,789 --> 00:22:31,280
their schedule doesn't slip a little bit

720
00:22:34,230 --> 00:22:32,799
they're asking they have a lot of

721
00:22:35,510 --> 00:22:34,240
challenges to go through but so far

722
00:22:37,270 --> 00:22:35,520
they're doing all the right things

723
00:22:42,710 --> 00:22:37,280
they're moving forward they're treating

724
00:22:46,149 --> 00:22:44,390
on the crew side i'm not as familiar

725
00:22:48,630 --> 00:22:46,159
with the crew side i'm pretty focused on

726
00:22:49,909 --> 00:22:48,640
the cargo piece right now and and and

727
00:22:53,430 --> 00:22:49,919
we're just kind of still in the

728
00:22:55,590 --> 00:22:53,440
formulation phase more on the crew side

729
00:22:58,470 --> 00:22:55,600
could do you have a time frame in which

730
00:23:00,549 --> 00:22:58,480
you might envision if these guys

731
00:23:01,590 --> 00:23:00,559
don't come along in a timely enough

732
00:23:03,590 --> 00:23:01,600
manner

733
00:23:05,430 --> 00:23:03,600
could there be a situation developed

734
00:23:08,470 --> 00:23:05,440
that you would actually have to go back

735
00:23:10,470 --> 00:23:08,480
to three crew from six and if so at what

736
00:23:12,630 --> 00:23:10,480
point would would you envision that

737
00:23:14,549 --> 00:23:12,640
happening it again it's kind of a

738
00:23:16,549 --> 00:23:14,559

function of what happens on orbit you

739
00:23:18,549 --> 00:23:16,559
know if we don't have a lot of failures

740
00:23:20,230 --> 00:23:18,559
and and things work pretty well

741
00:23:22,710 --> 00:23:20,240
and we get the additional flight we can

742
00:23:24,230 --> 00:23:22,720
probably run all the way until 2012 or

743
00:23:25,430 --> 00:23:24,240
so before we would have to take some

744
00:23:27,029 --> 00:23:25,440
kind of action

745
00:23:30,149 --> 00:23:27,039
if we don't get the additional flight

746
00:23:32,950 --> 00:23:30,159
than that sometime in 2011 so excuse me

747
00:23:35,830 --> 00:23:32,960
yeah sometimes in earlier 2012 so we can

748
00:23:38,310 --> 00:23:35,840
probably go almost all the way to 2013.

749
00:23:40,470 --> 00:23:38,320
with the normal schedules if

750
00:23:42,390 --> 00:23:40,480
if we get the additional shuttle flight

751
00:23:44,070 --> 00:23:42,400
and and with the additional shuttle

752
00:23:46,230 --> 00:23:44,080
flight could you talk about what

753
00:23:47,590 --> 00:23:46,240
benefits you might get out of actually

754
00:23:50,630 --> 00:23:47,600
flying that

755
00:23:52,630 --> 00:23:50,640
later in the year rather than earlier in

756
00:23:54,789 --> 00:23:52,640
the year rather than june a little bit

757
00:23:56,390 --> 00:23:54,799
later in the year i think the advantage

758
00:23:58,789 --> 00:23:56,400
is there some components that the

759
00:24:02,870 --> 00:23:58,799
station guys are are working on there's

760
00:24:07,990 --> 00:24:05,669
i don't know it's a advanced brine tank

761
00:24:11,190 --> 00:24:08,000
essentially that that stores the

762
00:24:12,870 --> 00:24:11,200
the the brine from the urine processor

763
00:24:14,950 --> 00:24:12,880

uh they would like to fly that that's

764
00:24:17,190 --> 00:24:14,960
available probably

765
00:24:19,510 --> 00:24:17,200
about a month or two after the june

766
00:24:21,430 --> 00:24:19,520
flight that would be nice to fly that up

767
00:24:23,430 --> 00:24:21,440
again we can fly it on commercial cargo

768
00:24:25,590 --> 00:24:23,440
we can fly on atv or we can fly it on

769
00:24:27,430 --> 00:24:25,600
htv but it would be nice to to get it on

770
00:24:29,269 --> 00:24:27,440
a shuttle in that time frame so i think

771
00:24:31,029 --> 00:24:29,279
the advantage of a little bit later is

772
00:24:32,710 --> 00:24:31,039
it allows us to pick up some components

773
00:24:34,950 --> 00:24:32,720
that are being manufactured for station

774
00:24:37,269 --> 00:24:34,960
that would then fall into a subsequent

775
00:24:38,870 --> 00:24:37,279
flight later but we've got a pretty good

776
00:24:40,710 --> 00:24:38,880
overall manifest with the progress

777
00:24:42,390 --> 00:24:40,720
flights with the automated transfer

778
00:24:45,110 --> 00:24:42,400
vehicle flights and with the japanese

779
00:24:46,630 --> 00:24:45,120
htv flights that you know it fits well

780
00:24:48,630 --> 00:24:46,640
we've got plenty of opportunities to go

781
00:24:50,710 --> 00:24:48,640
fly in fact i think there's 17 flights

782
00:24:52,149 --> 00:24:50,720
to space station next year and that

783
00:24:53,990 --> 00:24:52,159
includes a shuttle flight so it's a

784
00:24:55,990 --> 00:24:54,000
pretty dynamic

785
00:24:58,070 --> 00:24:56,000
time time frame coming to station in the

786
00:24:59,510 --> 00:24:58,080
years in the future so you know we lose

787
00:25:01,190 --> 00:24:59,520
the shuttle with all its up mass

788
00:25:02,789 --> 00:25:01,200

carrying capability but we replace that

789
00:25:04,230 --> 00:25:02,799
with a lot of smaller vehicles which

790
00:25:06,310 --> 00:25:04,240
means more flights so then that gives us

791
00:25:08,549 --> 00:25:06,320
more opportunities to fly things and we

792
00:25:10,390 --> 00:25:08,559
can we can juggle that out so again i

793
00:25:11,830 --> 00:25:10,400
think the big advantage of the of the

794
00:25:13,430 --> 00:25:11,840
flight is it allows us to get some

795
00:25:15,269 --> 00:25:13,440
things up to station it also allows us

796
00:25:17,830 --> 00:25:15,279
to return some things from station so we

797
00:25:19,430 --> 00:25:17,840
can get a chance to see what's uh what's

798
00:25:21,430 --> 00:25:19,440
failed and what doesn't work we'd like

799
00:25:23,990 --> 00:25:21,440
to get the ammonia pump back that

800
00:25:25,350 --> 00:25:24,000
recently failed that would be on sts-135

801
00:25:26,870 --> 00:25:25,360
we would like to return that ammonia

802
00:25:27,830 --> 00:25:26,880
pump to better understand the failure

803
00:25:29,590 --> 00:25:27,840
mode

804
00:25:31,110 --> 00:25:29,600
we're getting hydrogen dome back on this

805
00:25:32,390 --> 00:25:31,120
flight as mike said that's really

806
00:25:34,390 --> 00:25:32,400
important to us to understand what's

807
00:25:36,310 --> 00:25:34,400
going on in our oxygen generation system

808
00:25:37,909 --> 00:25:36,320
and so the shuttle gives us tremendous

809
00:25:39,750 --> 00:25:37,919
capability to get a lot of down mass

810
00:25:41,110 --> 00:25:39,760
back and dragon will too but it won't

811
00:25:43,909 --> 00:25:41,120
give us quite as much as the shuttle

812
00:25:45,830 --> 00:25:43,919
does let's take one more here before we

813
00:25:48,310 --> 00:25:45,840

go to the phone bridge

814
00:25:53,190 --> 00:25:48,320
irene klotz with reuters um for mr

815
00:25:55,430 --> 00:25:53,200
gerstenmaier um have has nasa um started

816
00:25:58,070 --> 00:25:55,440
or do you expect to get started at all

817
00:26:00,630 --> 00:25:58,080
in your department on any information or

818
00:26:02,870 --> 00:26:00,640
studies or anything related to space

819
00:26:04,710 --> 00:26:02,880
technology or space flight with china

820
00:26:07,269 --> 00:26:04,720
stemming from

821
00:26:09,830 --> 00:26:07,279
general bolden's recent visit there

822
00:26:12,390 --> 00:26:09,840
beyond the earth sciences that are

823
00:26:14,310 --> 00:26:12,400
already kind of well underway

824
00:26:15,909 --> 00:26:14,320
yeah i don't envision anything really

825
00:26:17,669 --> 00:26:15,919
other than probably the earth science

826
00:26:20,310 --> 00:26:17,679
kind of things that are sitting out

827
00:26:21,990 --> 00:26:20,320
there we we have recently

828
00:26:24,470 --> 00:26:22,000
released an international docking

829
00:26:26,149 --> 00:26:24,480
standard out on the web

830
00:26:28,310 --> 00:26:26,159
and that's available for anybody to take

831
00:26:30,149 --> 00:26:28,320
a look at any country and provide us

832
00:26:31,350 --> 00:26:30,159
comments back there's actually a comment

833
00:26:34,230 --> 00:26:31,360
section

834
00:26:36,870 --> 00:26:34,240
again we didn't specify a docking design

835
00:26:38,630 --> 00:26:36,880
but we specified an interface that if

836
00:26:41,350 --> 00:26:38,640
you can meet this interface you could

837
00:26:44,470 --> 00:26:41,360
potentially dock to space station in the

838
00:26:45,510 --> 00:26:44,480

future this document was signed by the

839
00:26:47,990 --> 00:26:45,520
the four

840
00:26:49,430 --> 00:26:48,000
partner countries of space station so we

841
00:26:51,029 --> 00:26:49,440
think that this is the standard that we

842
00:26:52,870 --> 00:26:51,039
want to put out there in the future so

843
00:26:54,789 --> 00:26:52,880
we put that out for folks to take a look

844
00:26:56,230 --> 00:26:54,799
at and and we're hoping that some some

845
00:26:57,990 --> 00:26:56,240
countries that are thinking about space

846
00:26:59,350 --> 00:26:58,000
flight in the future or are doing space

847
00:27:01,510 --> 00:26:59,360
flight now would give us some comments

848
00:27:03,029 --> 00:27:01,520
to that standard we'll do another update

849
00:27:04,470 --> 00:27:03,039
in the april time frame so it would be

850
00:27:05,990 --> 00:27:04,480
important to get some comments to that

851
00:27:07,590 --> 00:27:06,000
just to see where it is but again it

852
00:27:09,990 --> 00:27:07,600
doesn't specify a design it just

853
00:27:11,269 --> 00:27:10,000
specifies a basic interface you know

854
00:27:12,630 --> 00:27:11,279
kind of like if you think of it like a

855
00:27:13,669 --> 00:27:12,640
usb port

856
00:27:15,110 --> 00:27:13,679
you the

857
00:27:16,630 --> 00:27:15,120
you know any device can they can

858
00:27:18,230 --> 00:27:16,640
interface with that then can be used in

859
00:27:19,590 --> 00:27:18,240
that location so it's the same thing we

860
00:27:21,269 --> 00:27:19,600
could then have interchangeability

861
00:27:22,230 --> 00:27:21,279
between docking and systems in the

862
00:27:23,750 --> 00:27:22,240
future

863
00:27:25,510 --> 00:27:23,760

and so that's out there but i don't

864
00:27:26,950 --> 00:27:25,520
envision anything really from the from

865
00:27:28,230 --> 00:27:26,960
the china trip probably other than the

866
00:27:30,549 --> 00:27:28,240
science kind of things that are kind of

867
00:27:31,990 --> 00:27:30,559
already underway

868
00:27:35,269 --> 00:27:32,000
and the other question i want to ask you

869
00:27:37,190 --> 00:27:35,279
about is the um the bill that the senate

870
00:27:39,269 --> 00:27:37,200
passed that the house approved at their

871
00:27:39,990 --> 00:27:39,279
last day of uh work before breaking for

872
00:27:43,269 --> 00:27:40,000
the

873
00:27:45,430 --> 00:27:43,279
recess um has nasa started uh kind of

874
00:27:49,029 --> 00:27:45,440
parsing through that to

875
00:27:51,029 --> 00:27:49,039
see your i think you're required to um

876
00:27:54,230 --> 00:27:51,039
come up with quite a lot of reports in

877
00:27:56,710 --> 00:27:54,240
the next uh 60 to 90 days can you maybe

878
00:27:58,710 --> 00:27:56,720
give us some kind of summary of what

879
00:28:01,350 --> 00:27:58,720
work is on the table and where that

880
00:28:05,190 --> 00:28:01,360
stands thanks yeah we actually i think

881
00:28:10,070 --> 00:28:06,710
on the order of

882
00:28:12,149 --> 00:28:10,080
maybe 20 or 30 reports that are due

883
00:28:13,990 --> 00:28:12,159
during a varying time frame and they

884
00:28:15,669 --> 00:28:14,000
have certain days after bill signing so

885
00:28:17,990 --> 00:28:15,679
the clock started ticking once the bill

886
00:28:19,750 --> 00:28:18,000
was signed we have detailed plans for

887
00:28:21,830 --> 00:28:19,760
each one of those reports

888
00:28:23,990 --> 00:28:21,840

we have kind of a

889
00:28:25,830 --> 00:28:24,000
since we're in space ops we have this

890
00:28:27,909 --> 00:28:25,840
problem where we timeline everything so

891
00:28:29,990 --> 00:28:27,919
everything is timelined out

892
00:28:31,750 --> 00:28:30,000
we need to provide these reports to omb

893
00:28:33,269 --> 00:28:31,760
to be reviewed by a certain time frame

894
00:28:34,789 --> 00:28:33,279
they need to go to certain offices the

895
00:28:36,230 --> 00:28:34,799
headquarters be reviewed by a certain

896
00:28:37,830 --> 00:28:36,240
time frame so we have all those many

897
00:28:39,590 --> 00:28:37,840
milestones of when our reports have to

898
00:28:41,190 --> 00:28:39,600
be done at this stage handed off to who

899
00:28:42,789 --> 00:28:41,200
they get x number of weeks to review we

900
00:28:44,310 --> 00:28:42,799
get it back we make the mods pass it off

901
00:28:46,630 --> 00:28:44,320
to the next office to meet the

902
00:28:47,909 --> 00:28:46,640
congressional due date at the end so we

903
00:28:49,269 --> 00:28:47,919
have gone through all those reports

904
00:28:51,110 --> 00:28:49,279
they're all timeline and excel

905
00:28:52,230 --> 00:28:51,120
spreadsheet we had the critical path

906
00:28:53,909 --> 00:28:52,240
through all those reports and we're

907
00:28:55,590 --> 00:28:53,919
ready to deliver those to congress when

908
00:28:57,110 --> 00:28:55,600
when they needed them so we've we've

909
00:28:58,950 --> 00:28:57,120
done all that work and we're ready to go

910
00:29:00,470 --> 00:28:58,960
execute and it's not very much different

911
00:29:02,310 --> 00:29:00,480
than last year we had the same thing in

912
00:29:04,149 --> 00:29:02,320
the previous year's authorization bill

913
00:29:06,789 --> 00:29:04,159

in the year before so this is pretty

914
00:29:09,510 --> 00:29:06,799
much normal business for us each year

915
00:29:11,269 --> 00:29:09,520
some of the reports will be pretty uh

916
00:29:12,549 --> 00:29:11,279
pretty long and pretty arduous for us

917
00:29:15,110 --> 00:29:12,559
and we've actually started working on

918
00:29:16,789 --> 00:29:15,120
some of them now

919
00:29:24,549 --> 00:29:16,799
okay on the phone bridge i believe we

920
00:29:29,430 --> 00:29:27,590
made to uh discovery seal lines um

921
00:29:30,789 --> 00:29:29,440
first the replacement of the seals on

922
00:29:32,310 --> 00:29:30,799
the fuel lines just wondering if that

923
00:29:34,310 --> 00:29:32,320
specific problem has been encountered

924
00:29:36,149 --> 00:29:34,320
before prior to launch on any previous

925
00:29:39,350 --> 00:29:36,159
missions and then also was just

926
00:29:41,029 --> 00:29:39,360
wondering how long the repairs took

927
00:29:43,110 --> 00:29:41,039
well see this particular problem has not

928
00:29:45,909 --> 00:29:43,120
been encountered before it was new to us

929
00:29:48,070 --> 00:29:45,919
um the repair itself took uh about four

930
00:29:50,149 --> 00:29:48,080
days total we had to drain the system of

931
00:29:52,149 --> 00:29:50,159
its fuel before we could break into it

932
00:29:53,990 --> 00:29:52,159
and and open the joint and get the seals

933
00:29:55,029 --> 00:29:54,000
out that was about a day's worth of work

934
00:29:56,389 --> 00:29:55,039
and there's a lot of preparations

935
00:29:58,549 --> 00:29:56,399
leading up to this but the actual work

936
00:30:00,870 --> 00:29:58,559
itself took about about three and a half

937
00:30:02,630 --> 00:30:00,880
days we drained the fuel we had to uh

938
00:30:04,470 --> 00:30:02,640

what's called a duct we had to duct the

939
00:30:06,310 --> 00:30:04,480
system to get the residual fuel out of

940
00:30:07,430 --> 00:30:06,320
it out of it so that we could

941
00:30:09,750 --> 00:30:07,440
go in there

942
00:30:11,990 --> 00:30:09,760
relative safety with our skate suits do

943
00:30:13,830 --> 00:30:12,000
the work on the seals and then button it

944
00:30:15,750 --> 00:30:13,840
back up and reload and that that was all

945
00:30:17,669 --> 00:30:15,760
about a three and a half day job

946
00:30:19,590 --> 00:30:17,679
it's not unusual to see seals in a

947
00:30:21,909 --> 00:30:19,600
liquid system that has a transient

948
00:30:23,909 --> 00:30:21,919
contamination or very very very small

949
00:30:25,669 --> 00:30:23,919
next to them don't know what the case is

950
00:30:26,549 --> 00:30:25,679
yet we'll get that information for you

951
00:30:28,230 --> 00:30:26,559
but

952
00:30:29,990 --> 00:30:28,240
we were sure we could do the work it was

953
00:30:31,590 --> 00:30:30,000
the access to it was going to be the

954
00:30:33,110 --> 00:30:31,600
issue and we got around that we built

955
00:30:34,870 --> 00:30:33,120
some special platforms and they have to

956
00:30:36,549 --> 00:30:34,880
get to give the technicians better

957
00:30:38,149 --> 00:30:36,559
access to that very very cramped area

958
00:30:40,470 --> 00:30:38,159
that you saw on tv

959
00:30:43,029 --> 00:30:40,480
so the work itself was was understood a

960
00:30:44,389 --> 00:30:43,039
little bit different location for us but

961
00:30:47,830 --> 00:30:44,399
the guys really came through in flying

962
00:30:55,029 --> 00:30:50,870
any other questions denise um no thank

963
00:30:57,190 --> 00:30:55,039

you okay thank you back here marcia dunn

964
00:31:00,070 --> 00:30:57,200
associated press for bill um two

965
00:31:02,789 --> 00:31:00,080
timeline questions what's the latest you

966
00:31:04,870 --> 00:31:02,799
could envision flying the extra flight

967
00:31:07,190 --> 00:31:04,880
all things being equal there have been

968
00:31:09,350 --> 00:31:07,200
some rumors going around even november

969
00:31:10,470 --> 00:31:09,360
and that seems pretty late but you know

970
00:31:13,909 --> 00:31:10,480
best and

971
00:31:16,310 --> 00:31:13,919
and when do you expect to start deciding

972
00:31:17,990 --> 00:31:16,320
which museums are getting all three

973
00:31:19,190 --> 00:31:18,000
shuttles

974
00:31:21,990 --> 00:31:19,200
on the uh

975
00:31:24,470 --> 00:31:22,000
when's the latest we could fly i think

976
00:31:27,110 --> 00:31:24,480
again we're probably limited budget wise

977
00:31:29,029 --> 00:31:27,120
is is probably the constraint of of

978
00:31:31,269 --> 00:31:29,039
what's going to limit us

979
00:31:32,870 --> 00:31:31,279
i think right now we still want to stay

980
00:31:34,549 --> 00:31:32,880
planning for the june flight that's what

981
00:31:36,549 --> 00:31:34,559
our budget submit is based on that's

982
00:31:38,230 --> 00:31:36,559
what our contingency are that's that's a

983
00:31:39,669 --> 00:31:38,240
good time for us to fly it's a good

984
00:31:41,110 --> 00:31:39,679
compromise time

985
00:31:42,389 --> 00:31:41,120
if something allows us to move it a

986
00:31:44,070 --> 00:31:42,399
little bit later and there's a piece of

987
00:31:45,750 --> 00:31:44,080
hardware that adds tremendous advantage

988
00:31:47,509 --> 00:31:45,760

to us like i was describing earlier then

989
00:31:48,870 --> 00:31:47,519
we might push it a couple months or a

990
00:31:51,110 --> 00:31:48,880
couple weeks but i don't think you'll

991
00:31:53,029 --> 00:31:51,120
see a big wholesale move of it there's

992
00:31:55,590 --> 00:31:53,039
not anything that would that would

993
00:31:57,269 --> 00:31:55,600
really be advantageous to move that far

994
00:31:59,590 --> 00:31:57,279
so i think we'll be around the june time

995
00:32:00,950 --> 00:31:59,600
frame and then maybe we'd like a little

996
00:32:02,870 --> 00:32:00,960
margin to move that a little bit to the

997
00:32:04,310 --> 00:32:02,880
right if we find a component that if we

998
00:32:05,909 --> 00:32:04,320
could wait a week or two we could get

999
00:32:07,430 --> 00:32:05,919
another component to station that might

1000
00:32:10,070 --> 00:32:07,440
be advantageous to us so i don't think

1001
00:32:12,950 --> 00:32:10,080
you'll see a big big wholesale move in

1002
00:32:15,590 --> 00:32:12,960
in that area and the museum date i don't

1003
00:32:18,149 --> 00:32:15,600
know the the timeline for that yet we're

1004
00:32:20,630 --> 00:32:18,159
still kind of focused as mike and john

1005
00:32:22,789 --> 00:32:20,640
say on flying and we haven't really i

1006
00:32:24,549 --> 00:32:22,799
haven't worked with the folks yet to

1007
00:32:28,230 --> 00:32:24,559
figure out when that release is going to

1008
00:32:32,230 --> 00:32:29,830
yeah i don't i don't know when we'll

1009
00:32:33,750 --> 00:32:32,240
we'll make make that announcement

1010
00:32:35,509 --> 00:32:33,760
and then there's one other thing that i

1011
00:32:36,950 --> 00:32:35,519
i forgot came up late in our review is

1012
00:32:38,870 --> 00:32:36,960
there's a potential conjunction

1013
00:32:40,230 --> 00:32:38,880

conjunction with space station that you

1014
00:32:41,990 --> 00:32:40,240
may hear about

1015
00:32:43,750 --> 00:32:42,000
it may require us to do a maneuver

1016
00:32:46,470 --> 00:32:43,760
tomorrow morning so you may hear the

1017
00:32:48,630 --> 00:32:46,480
teams talking about that over over the

1018
00:32:50,149 --> 00:32:48,640
evening it's

1019
00:32:52,149 --> 00:32:50,159
it's a tough thing to plan because we've

1020
00:32:54,389 --> 00:32:52,159
got the progress coming up to dock on

1021
00:32:55,990 --> 00:32:54,399
saturday and then we've got the shuttle

1022
00:32:58,149 --> 00:32:56,000
docking

1023
00:33:00,310 --> 00:32:58,159
next week so we've got to really find a

1024
00:33:01,830 --> 00:33:00,320
maneuver that clears the conjunction but

1025
00:33:03,430 --> 00:33:01,840
doesn't impact either the progress

1026
00:33:04,549 --> 00:33:03,440
docking or the shuttle docking so it's

1027
00:33:06,070 --> 00:33:04,559
kind of a

1028
00:33:07,909 --> 00:33:06,080
fine line to walk for the teams they'll

1029
00:33:09,830 --> 00:33:07,919
continue to track

1030
00:33:11,909 --> 00:33:09,840
we did do the progress on doc today

1031
00:33:14,310 --> 00:33:11,919
which you heard so we did a maneuver to

1032
00:33:15,909 --> 00:33:14,320
and from the undock attitude sometimes

1033
00:33:17,830 --> 00:33:15,919
just that maneuver to and from the

1034
00:33:19,509 --> 00:33:17,840
attitude is enough to perturb the orbit

1035
00:33:21,830 --> 00:33:19,519
of the station that it may have cleared

1036
00:33:23,190 --> 00:33:21,840
the conjunction and it may go away but

1037
00:33:25,110 --> 00:33:23,200
but i think tomorrow morning there

1038
00:33:26,549 --> 00:33:25,120

there's potentially a chance that

1039
00:33:28,470 --> 00:33:26,559
there'll be a small maneuver on board

1040
00:33:30,310 --> 00:33:28,480
space station to avoid

1041
00:33:31,830 --> 00:33:30,320
i think it's a spent rocket body and

1042
00:33:33,269 --> 00:33:31,840
you'll hear those those details probably

1043
00:33:37,590 --> 00:33:33,279
talked about on the loops if you're if

1044
00:33:40,870 --> 00:33:39,509
uh jim siegel celebration independent

1045
00:33:42,470 --> 00:33:40,880
newspaper

1046
00:33:45,110 --> 00:33:42,480
uh regarding the

1047
00:33:47,430 --> 00:33:45,120
shuttle or the orbiter when it returns

1048
00:33:49,509 --> 00:33:47,440
uh it's going to be readied for the

1049
00:33:51,190 --> 00:33:49,519
smithsonian i suppose

1050
00:33:53,029 --> 00:33:51,200
can you describe some of the things that

1051
00:33:55,190 --> 00:33:53,039
are going to be done to the orbiter to

1052
00:33:57,669 --> 00:33:55,200
get it ready for that for that journey

1053
00:33:59,029 --> 00:33:57,679
and is it going to go on how is it going

1054
00:34:02,070 --> 00:33:59,039
to travel on the

1055
00:34:04,870 --> 00:34:02,080
on the back of the 7747

1056
00:34:06,389 --> 00:34:04,880
or how is that going to work

1057
00:34:07,909 --> 00:34:06,399
you know i think we could go over some

1058
00:34:09,430 --> 00:34:07,919
of the some of those details with you

1059
00:34:11,750 --> 00:34:09,440
but i think it would be worthwhile for

1060
00:34:13,669 --> 00:34:11,760
y'all to to see the the transition and

1061
00:34:15,510 --> 00:34:13,679
retirement schedule and all the plans

1062
00:34:16,950 --> 00:34:15,520
and and the work that has to go into to

1063
00:34:18,550 --> 00:34:16,960

save the orbiter and get it ready for

1064
00:34:20,470 --> 00:34:18,560
transportation and actually get it to

1065
00:34:21,669 --> 00:34:20,480
its ultimate destination i wouldn't i

1066
00:34:23,270 --> 00:34:21,679
don't think i don't think we'd do it

1067
00:34:25,589 --> 00:34:23,280
justice by going over just a couple

1068
00:34:28,710 --> 00:34:25,599
three things today that would that need

1069
00:34:30,149 --> 00:34:28,720
to be done it it's a huge effort and and

1070
00:34:32,389 --> 00:34:30,159
all three orbits are all they're all

1071
00:34:34,470 --> 00:34:32,399
played together to retire and and use

1072
00:34:36,389 --> 00:34:34,480
the crews wisely

1073
00:34:37,990 --> 00:34:36,399
to schedule all the work between the

1074
00:34:40,069 --> 00:34:38,000
three orbiters it's it's a heck of a lot

1075
00:34:42,069 --> 00:34:40,079
of work we want to keep this orbiter

1076
00:34:44,149 --> 00:34:42,079
essentially as a backup if it's needed

1077
00:34:46,550 --> 00:34:44,159
for any testing or any parts for the

1078
00:34:48,389 --> 00:34:46,560
other orbiters so the down processing

1079
00:34:50,629 --> 00:34:48,399
you know once we land on the runway the

1080
00:34:52,310 --> 00:34:50,639
basic safing the basic down processing

1081
00:34:54,629 --> 00:34:52,320
is very similar to any orbiter that

1082
00:34:57,349 --> 00:34:54,639
returns those first steps that we do the

1083
00:34:59,430 --> 00:34:57,359
the purges the safing those things will

1084
00:35:00,550 --> 00:34:59,440
all be done just as it's flight vehicle

1085
00:35:02,470 --> 00:35:00,560
we want to keep it in a flight

1086
00:35:05,190 --> 00:35:02,480
configuration initially so it can be

1087
00:35:06,950 --> 00:35:05,200
used for spare parts or used as a test

1088
00:35:08,390 --> 00:35:06,960

facility to go take a look at if we have

1089
00:35:10,390 --> 00:35:08,400
a problem on one of the other orbiters

1090
00:35:12,550 --> 00:35:10,400
we'd like to go look say at a

1091
00:35:14,950 --> 00:35:12,560
you know line installation or look at a

1092
00:35:16,950 --> 00:35:14,960
flange we can go to discovery and and

1093
00:35:18,150 --> 00:35:16,960
not worry about it having to go fly but

1094
00:35:19,750 --> 00:35:18,160
we can actually go in and do some

1095
00:35:21,109 --> 00:35:19,760
investigation to help us with the other

1096
00:35:23,190 --> 00:35:21,119
orbiter so we're going to keep it pretty

1097
00:35:25,030 --> 00:35:23,200
much in a flight configuration and then

1098
00:35:27,349 --> 00:35:25,040
we start the more detailed processing

1099
00:35:28,790 --> 00:35:27,359
that mike is describing and he needs to

1100
00:35:30,230 --> 00:35:28,800
it would be good for him to go through

1101
00:35:32,150 --> 00:35:30,240
all the details of what it takes to

1102
00:35:35,270 --> 00:35:32,160
actually start preparing it but it's a

1103
00:35:37,990 --> 00:35:35,280
it's a multiple month activity

1104
00:35:41,109 --> 00:35:38,000
and uh quickly

1105
00:35:44,230 --> 00:35:41,119
what about what percentage of the

1106
00:35:47,190 --> 00:35:44,240
cargo is consumables on this flight like

1107
00:35:49,670 --> 00:35:47,200
food for example and where where is that

1108
00:35:51,589 --> 00:35:49,680
on where is that contained in in the

1109
00:35:53,990 --> 00:35:51,599
modules

1110
00:35:56,470 --> 00:35:54,000
i think a lot of this stuff is in the

1111
00:35:59,190 --> 00:35:56,480
permanent mplm

1112
00:36:01,030 --> 00:35:59,200
and i don't know the percentage of food

1113
00:36:03,109 --> 00:36:01,040

and hardware there's an express right

1114
00:36:05,430 --> 00:36:03,119
there's quite a bit of other hardware

1115
00:36:07,109 --> 00:36:05,440
and and

1116
00:36:11,030 --> 00:36:07,119
let's see if we can find a yeah i don't

1117
00:36:14,710 --> 00:36:12,870
it's fairly small because we're going to

1118
00:36:16,069 --> 00:36:14,720
use the progress vehicle with quite a

1119
00:36:18,470 --> 00:36:16,079
bit of food that's coming up the one

1120
00:36:20,470 --> 00:36:18,480
that's going to dock it it carries a

1121
00:36:23,030 --> 00:36:20,480
substantial amount of food for us then

1122
00:36:26,310 --> 00:36:23,040
we have an eight an htv scheduled in

1123
00:36:27,829 --> 00:36:26,320
january and an atv scheduled in february

1124
00:36:29,990 --> 00:36:27,839
and both of those will also carry a

1125
00:36:31,670 --> 00:36:30,000
significant amount of food so so we

1126
00:36:33,349 --> 00:36:31,680
tried to put on the shuttle unique

1127
00:36:35,030 --> 00:36:33,359
things that were associated with the

1128
00:36:36,630 --> 00:36:35,040
shuttle that were couldn't be carried

1129
00:36:38,069 --> 00:36:36,640
easily by any other vehicle so there'll

1130
00:36:40,630 --> 00:36:38,079
be things like the scientific

1131
00:36:42,230 --> 00:36:40,640
experiments the robonaut the express

1132
00:36:44,630 --> 00:36:42,240
rack

1133
00:36:46,310 --> 00:36:44,640
some systems some other components the

1134
00:36:47,829 --> 00:36:46,320
radiator that goes on the outside those

1135
00:36:49,349 --> 00:36:47,839
things so they're kind of unique things

1136
00:36:50,790 --> 00:36:49,359
that that are best carried by the

1137
00:36:53,430 --> 00:36:50,800
shuttle

1138
00:36:54,790 --> 00:36:53,440

okay we have questions from bill irene

1139
00:36:56,710 --> 00:36:54,800
and todd

1140
00:36:58,550 --> 00:36:56,720
bill harwood again um for curse as long

1141
00:37:01,030 --> 00:36:58,560
as we got you how is there an update on

1142
00:37:02,470 --> 00:37:01,040
134 how's ams doing are they are they

1143
00:37:04,310 --> 00:37:02,480
holding good to the end of february yeah

1144
00:37:07,109 --> 00:37:04,320
i think ams is holding pretty good

1145
00:37:09,510 --> 00:37:07,119
you'll hear them talk about they have a

1146
00:37:10,390 --> 00:37:09,520
power distribution system some circuit

1147
00:37:13,270 --> 00:37:10,400
boards

1148
00:37:16,150 --> 00:37:13,280
that they have seen some testing of some

1149
00:37:18,950 --> 00:37:16,160
components that were not

1150
00:37:20,710 --> 00:37:18,960
soldered very as good as we would like

1151
00:37:23,190 --> 00:37:20,720
to some of the boards some mosfet

1152
00:37:24,310 --> 00:37:23,200
transistors and some diodes so i think

1153
00:37:26,470 --> 00:37:24,320
they're going to change some of those

1154
00:37:28,390 --> 00:37:26,480
boards out over the next couple weeks so

1155
00:37:30,630 --> 00:37:28,400
they will do that that still all

1156
00:37:32,630 --> 00:37:30,640
supports the the flow at the end of

1157
00:37:34,470 --> 00:37:32,640
february but but you'll hear them and

1158
00:37:35,910 --> 00:37:34,480
then we have to do some regression

1159
00:37:37,589 --> 00:37:35,920
testing after we get those boards

1160
00:37:39,109 --> 00:37:37,599
reinstalled so we're going to take them

1161
00:37:40,630 --> 00:37:39,119
i think there's 22 boards we're going to

1162
00:37:42,310 --> 00:37:40,640
take them out in two steps there'll be

1163
00:37:44,310 --> 00:37:42,320

11 that are that are coming out right

1164
00:37:46,310 --> 00:37:44,320
now after the testing's been completed

1165
00:37:48,870 --> 00:37:46,320
and all that testing went very well with

1166
00:37:51,270 --> 00:37:48,880
the ams it looks looks very good and

1167
00:37:53,430 --> 00:37:51,280
then on november 18th we'll do a go no

1168
00:37:54,950 --> 00:37:53,440
go to remove the second set of 11 boards

1169
00:37:56,950 --> 00:37:54,960
and and pull those out and that work

1170
00:37:58,950 --> 00:37:56,960
will be completed by january and then

1171
00:38:00,710 --> 00:37:58,960
that should pour it up should support

1172
00:38:01,829 --> 00:38:00,720
upload to the canister and be ready to

1173
00:38:04,470 --> 00:38:01,839
go for the

1174
00:38:06,390 --> 00:38:04,480
27th february launch so ams looks looks

1175
00:38:07,910 --> 00:38:06,400
really really good and i have a detailed

1176
00:38:09,109 --> 00:38:07,920
briefing tomorrow with the ams team

1177
00:38:10,550 --> 00:38:09,119
where they're going to sit down and go

1178
00:38:12,950 --> 00:38:10,560
over with me all the

1179
00:38:14,310 --> 00:38:12,960
the the results they've had and so far

1180
00:38:16,870 --> 00:38:14,320
with the testing here at the cape but

1181
00:38:19,109 --> 00:38:16,880
it's been extremely good minor little

1182
00:38:20,550 --> 00:38:19,119
software things that we found some

1183
00:38:22,390 --> 00:38:20,560
incompatibility things but that's

1184
00:38:24,069 --> 00:38:22,400
exactly why we test to get those fixed

1185
00:38:26,470 --> 00:38:24,079
so they're not surprises once we get on

1186
00:38:27,670 --> 00:38:26,480
orbit so it's going very well

1187
00:38:33,349 --> 00:38:27,680
irene

1188
00:38:34,710 --> 00:38:33,359

turns out that um that the government is

1189
00:38:36,470 --> 00:38:34,720
funded under

1190
00:38:39,190 --> 00:38:36,480
another continuing resolution after

1191
00:38:40,630 --> 00:38:39,200
december 2nd instead of like an omnibus

1192
00:38:49,670 --> 00:38:40,640
spending bill

1193
00:38:49,680 --> 00:38:54,150
i don't know i i

1194
00:38:57,910 --> 00:38:56,069
i don't we need to go i would have to go

1195
00:38:59,190 --> 00:38:57,920
look at the spend rate the fund rates

1196
00:39:00,550 --> 00:38:59,200
and then we'd have to go look and see

1197
00:39:03,670 --> 00:39:00,560
where we are with the authorization

1198
00:39:05,750 --> 00:39:03,680
language and and other things so

1199
00:39:07,670 --> 00:39:05,760
yeah i i don't know

1200
00:39:09,990 --> 00:39:07,680
okay and i guess just following that for

1201
00:39:12,310 --> 00:39:10,000
a minute if um if that did happen

1202
00:39:14,470 --> 00:39:12,320
obviously the shuttle budget in fiscal

1203
00:39:17,030 --> 00:39:14,480
year 10 is more than what

1204
00:39:19,349 --> 00:39:17,040
nasa had requested or the white house

1205
00:39:21,430 --> 00:39:19,359
requested in fiscal year 11. so what

1206
00:39:23,270 --> 00:39:21,440
would you use how like how does that

1207
00:39:25,030 --> 00:39:23,280
work if you can't start new programs but

1208
00:39:27,190 --> 00:39:25,040
your old programs are funded at higher

1209
00:39:29,030 --> 00:39:27,200
levels what do you do yeah the the

1210
00:39:31,510 --> 00:39:29,040
problem the reason i couldn't answer the

1211
00:39:33,030 --> 00:39:31,520
previous question is the the problem is

1212
00:39:34,790 --> 00:39:33,040
it depends how long the continuing

1213
00:39:37,589 --> 00:39:34,800

resolution lasts

1214
00:39:40,630 --> 00:39:37,599
so we're funded at the fy 10 enacted

1215
00:39:42,870 --> 00:39:40,640
levels but then as soon as the actual

1216
00:39:46,310 --> 00:39:42,880
budget is approved we are now running at

1217
00:39:48,069 --> 00:39:46,320
the new fy11 budget so if i spent all

1218
00:39:50,069 --> 00:39:48,079
the money in the first part of the year

1219
00:39:51,990 --> 00:39:50,079
right at the higher levels and then i

1220
00:39:54,230 --> 00:39:52,000
get this new 11 budget then i've got to

1221
00:39:56,630 --> 00:39:54,240
actually save more money than

1222
00:39:58,790 --> 00:39:56,640
actually run lower in that remaining

1223
00:40:00,870 --> 00:39:58,800
couple months of 11. and that could be a

1224
00:40:02,150 --> 00:40:00,880
dramatic cut to us so then you know i've

1225
00:40:03,829 --> 00:40:02,160
got a lot of money and then also they

1226
00:40:06,309 --> 00:40:03,839
got like no money and actually less than

1227
00:40:08,150 --> 00:40:06,319
i would have had at normal 11 levels so

1228
00:40:09,750 --> 00:40:08,160
so it becomes problematic and i don't

1229
00:40:12,230 --> 00:40:09,760
know how long that second continuing

1230
00:40:13,910 --> 00:40:12,240
resolution period is going to run

1231
00:40:15,430 --> 00:40:13,920
what what my options are so we probably

1232
00:40:17,829 --> 00:40:15,440
have to consult with some congressional

1233
00:40:20,630 --> 00:40:17,839
folks and some budget folks and decide

1234
00:40:21,990 --> 00:40:20,640
what what the right mix is

1235
00:40:28,069 --> 00:40:22,000
todd

1236
00:40:29,910 --> 00:40:28,079
for uh mike moses um could

1237
00:40:33,109 --> 00:40:29,920
you guys talked about how much traffic

1238
00:40:36,069 --> 00:40:33,119

is coming up uh in in recent weeks uh

1239
00:40:38,870 --> 00:40:36,079
our coming weeks uh at the space station

1240
00:40:40,230 --> 00:40:38,880
um just for informational purposes

1241
00:40:42,470 --> 00:40:40,240
because i know you're not going to get

1242
00:40:45,829 --> 00:40:42,480
here but what would be your next

1243
00:40:48,550 --> 00:40:45,839
opportunity after the upcoming coming

1244
00:40:50,069 --> 00:40:48,560
beta angle cut out in november to

1245
00:40:52,309 --> 00:40:50,079
actually fly

1246
00:40:54,470 --> 00:40:52,319
uh this mission i think there's a soyuz

1247
00:40:56,470 --> 00:40:54,480
coming back at the end of november

1248
00:40:59,109 --> 00:40:56,480
another one going up i think there's a

1249
00:41:01,030 --> 00:40:59,119
progress you know a lot of traffic could

1250
00:41:03,829 --> 00:41:01,040
you give us an idea of what available

1251
00:41:05,030 --> 00:41:03,839
windows there are beyond the one you're

1252
00:41:06,710 --> 00:41:05,040
coming up to

1253
00:41:08,390 --> 00:41:06,720
yeah sure no problem um and like you

1254
00:41:10,069 --> 00:41:08,400
said a lot of it's dependent on on

1255
00:41:12,069 --> 00:41:10,079
visiting vehicles some of it there are

1256
00:41:14,470 --> 00:41:12,079
two big cutouts for beta angle which is

1257
00:41:16,630 --> 00:41:14,480
the the angle the sun makes on the the

1258
00:41:18,069 --> 00:41:16,640
station when the shuttle's docked um we

1259
00:41:19,990 --> 00:41:18,079
violate some shuttle thermal constraints

1260
00:41:21,430 --> 00:41:20,000
if we stay docked to the station uh

1261
00:41:23,109 --> 00:41:21,440
normally the shuttle would if it was by

1262
00:41:25,109 --> 00:41:23,119
itself just maneuver and

1263
00:41:26,630 --> 00:41:25,119

and shade some of those components so

1264
00:41:28,309 --> 00:41:26,640
they wouldn't get overheated so there's

1265
00:41:30,230 --> 00:41:28,319
a big beta angle coming out that starts

1266
00:41:32,069 --> 00:41:30,240
november 8th and that takes us through

1267
00:41:33,190 --> 00:41:32,079
just about the end of november

1268
00:41:35,030 --> 00:41:33,200
and then there's a little window that

1269
00:41:36,470 --> 00:41:35,040
opens up right for about three or five

1270
00:41:37,510 --> 00:41:36,480
three or five days at the beginning of

1271
00:41:38,390 --> 00:41:37,520
december

1272
00:41:39,750 --> 00:41:38,400
um

1273
00:41:41,510 --> 00:41:39,760
the problem is

1274
00:41:42,870 --> 00:41:41,520
threading that window right now

1275
00:41:45,589 --> 00:41:42,880
there's a soyuz launch in there that

1276
00:41:47,270 --> 00:41:45,599
that may move a a couple of days if that

1277
00:41:49,670 --> 00:41:47,280
moves that would probably help if it

1278
00:41:51,990 --> 00:41:49,680
doesn't that window would be a period

1279
00:41:53,430 --> 00:41:52,000
where the station has a three-man crew

1280
00:41:55,030 --> 00:41:53,440
and a lot of the science we're taking up

1281
00:41:56,870 --> 00:41:55,040
we call sortie science which is science

1282
00:41:58,069 --> 00:41:56,880
taken up uh the station crew either

1283
00:41:59,510 --> 00:41:58,079
comes over does it on the shuttle we

1284
00:42:01,589 --> 00:41:59,520
take it over to it on the station and

1285
00:42:03,349 --> 00:42:01,599
then it returns on this mission as well

1286
00:42:04,630 --> 00:42:03,359
and so if we flew that with only a

1287
00:42:06,390 --> 00:42:04,640
three-person crew we wouldn't get to a

1288
00:42:07,670 --> 00:42:06,400

lot of that i don't know the details of

1289
00:42:09,270 --> 00:42:07,680
how much we'd lose or how we'd

1290
00:42:11,030 --> 00:42:09,280
resequence but

1291
00:42:12,790 --> 00:42:11,040
as a generic preference all things being

1292
00:42:14,630 --> 00:42:12,800
equal we'd prefer not to use that as a

1293
00:42:16,150 --> 00:42:14,640
launch window if that became the only

1294
00:42:18,230 --> 00:42:16,160
chance we had to launch then we might

1295
00:42:19,349 --> 00:42:18,240
have a different answer so until it's

1296
00:42:20,710 --> 00:42:19,359
actually here in front of us our

1297
00:42:22,630 --> 00:42:20,720
preference is to skip that little bit of

1298
00:42:24,150 --> 00:42:22,640
window at the beginning of december and

1299
00:42:26,470 --> 00:42:24,160
then we take another big beta cutout

1300
00:42:29,030 --> 00:42:26,480
that goes uh to the end of the year

1301
00:42:30,309 --> 00:42:29,040
and then there's an atv and an htv that

1302
00:42:31,510 --> 00:42:30,319
we don't want to be dual docked

1303
00:42:33,589 --> 00:42:31,520
operations while they're there and

1304
00:42:34,950 --> 00:42:33,599
docking and undocking and so that takes

1305
00:42:36,150 --> 00:42:34,960
us all the way to the february 27th

1306
00:42:37,589 --> 00:42:36,160
window so

1307
00:42:38,870 --> 00:42:37,599
rough order of magnitude we have a

1308
00:42:40,069 --> 00:42:38,880
little slice in the beginning of

1309
00:42:42,829 --> 00:42:40,079
december and then we'd be looking at the

1310
00:42:45,349 --> 00:42:42,839
end of february in the 134 slot right

1311
00:42:47,270 --> 00:42:45,359
now now that's all

1312
00:42:48,550 --> 00:42:47,280
not renegotiating anything else the

1313
00:42:49,990 --> 00:42:48,560

russian launches could move the atv

1314
00:42:52,150 --> 00:42:50,000
launch can move the

1315
00:42:53,990 --> 00:42:52,160
the atv launches can be moved so it all

1316
00:42:55,910 --> 00:42:54,000
depends on why we slipped and and what

1317
00:42:57,510 --> 00:42:55,920
the resulting priorities for the agency

1318
00:42:59,030 --> 00:42:57,520
are and i think that's that's the danger

1319
00:43:00,870 --> 00:42:59,040
in speculating because right because

1320
00:43:02,950 --> 00:43:00,880
once we move and we know why we moved

1321
00:43:04,870 --> 00:43:02,960
we'll start negotiating with whoever we

1322
00:43:06,309 --> 00:43:04,880
can negotiate to fly when the right time

1323
00:43:07,829 --> 00:43:06,319
is to go fly so this is one of those

1324
00:43:09,670 --> 00:43:07,839
things we'll tell you today what all the

1325
00:43:11,030 --> 00:43:09,680
constraints are and then tomorrow you'll

1326
00:43:12,230 --> 00:43:11,040
look at us with cross-eyed and you go

1327
00:43:13,990 --> 00:43:12,240
wait a minute you said you had all these

1328
00:43:15,750 --> 00:43:14,000
constraints but we'll we'll move all

1329
00:43:17,349 --> 00:43:15,760
those constraints when it when the time

1330
00:43:20,710 --> 00:43:17,359
comes that we have to

1331
00:43:23,589 --> 00:43:20,720
okay and just so i can understand in

1332
00:43:26,309 --> 00:43:23,599
january there's the big bait angle cut

1333
00:43:27,910 --> 00:43:26,319
out and then it's the atv after that

1334
00:43:30,390 --> 00:43:27,920
beta angle htv

1335
00:43:32,870 --> 00:43:30,400
htv first htv then

1336
00:43:36,390 --> 00:43:32,880
15th of february is atv

1337
00:43:37,190 --> 00:43:36,400
okay thanks and for mike limebach um

1338
00:43:38,550 --> 00:43:37,200

uh

1339
00:43:40,069 --> 00:43:38,560
the other mike talked about this a

1340
00:43:41,750 --> 00:43:40,079
little bit but you've been around

1341
00:43:44,710 --> 00:43:41,760
discovery for

1342
00:43:47,430 --> 00:43:44,720
darn near a quarter century and i'm i'm

1343
00:43:49,750 --> 00:43:47,440
wondering what it feels like to you

1344
00:43:53,990 --> 00:43:49,760
to have this

1345
00:43:55,750 --> 00:43:54,000
fleet leader making its final flight

1346
00:43:57,829 --> 00:43:55,760
i think the words you hear in the halls

1347
00:43:59,349 --> 00:43:57,839
at ksc and probably every other center

1348
00:44:01,990 --> 00:43:59,359
is it it's it's still kind of hard to

1349
00:44:04,390 --> 00:44:02,000
believe um it has been around forever

1350
00:44:06,230 --> 00:44:04,400
people there that are under 30 years old

1351
00:44:08,309 --> 00:44:06,240
have always seen america fly the space

1352
00:44:09,190 --> 00:44:08,319
shuttle so it it's been part of our part

1353
00:44:11,030 --> 00:44:09,200
of our

1354
00:44:12,630 --> 00:44:11,040
history part of the american culture and

1355
00:44:14,150 --> 00:44:12,640
it's going to be uh to be different

1356
00:44:15,670 --> 00:44:14,160
without flying the shuttle this this

1357
00:44:17,589 --> 00:44:15,680
particular orbiter

1358
00:44:18,710 --> 00:44:17,599
has has served us extremely well it is

1359
00:44:20,309 --> 00:44:18,720
the fleet leader it's going to be hard

1360
00:44:21,750 --> 00:44:20,319
to see or retire

1361
00:44:23,670 --> 00:44:21,760
but we need to do what we need to do for

1362
00:44:25,270 --> 00:44:23,680
the agency and and so we'll get on with

1363
00:44:29,030 --> 00:44:25,280

uh our final flight we'll make it the

1364
00:44:33,510 --> 00:44:31,349
one last question from irene thanks from

1365
00:44:35,030 --> 00:44:33,520
the old to the new um why this press

1366
00:44:37,349 --> 00:44:35,040
conference is going on i guess nasa

1367
00:44:38,790 --> 00:44:37,359
release the solicitation for the cc dev

1368
00:44:41,430 --> 00:44:38,800
part two

1369
00:44:43,430 --> 00:44:41,440
can you maybe just generally talk about

1370
00:44:45,829 --> 00:44:43,440
what you'd like to get out of the second

1371
00:44:47,829 --> 00:44:45,839
part of the program if it's sort of more

1372
00:44:50,230 --> 00:44:47,839
advanced technologies of what's already

1373
00:44:52,870 --> 00:44:50,240
been funded or are you looking for new

1374
00:44:54,309 --> 00:44:52,880
partners and just to sorry for another

1375
00:44:56,710 --> 00:44:54,319
budget question but it looked like it

1376
00:44:59,670 --> 00:44:56,720
was 200 million dollars in fiscal year

1377
00:45:01,349 --> 00:44:59,680
11 although that's not a new start so

1378
00:45:03,430 --> 00:45:01,359
would you plan on going ahead and

1379
00:45:06,150 --> 00:45:03,440
actually proceeding with that program no

1380
00:45:07,990 --> 00:45:06,160
matter what your funding style is for

1381
00:45:09,270 --> 00:45:08,000
the year thanks

1382
00:45:10,950 --> 00:45:09,280
i think the

1383
00:45:13,589 --> 00:45:10,960
the best answer for you is to actually

1384
00:45:15,430 --> 00:45:13,599
read the proposal itself it's not that

1385
00:45:17,109 --> 00:45:15,440
tough to read and you can you can see

1386
00:45:18,950 --> 00:45:17,119
what we're looking for in the proposal

1387
00:45:20,470 --> 00:45:18,960
itself it's pretty self-evident of what

1388
00:45:21,349 --> 00:45:20,480

we're doing and you can you can read

1389
00:45:23,109 --> 00:45:21,359
that

1390
00:45:24,870 --> 00:45:23,119
and and then the other thing is in terms

1391
00:45:26,630 --> 00:45:24,880
of the funding we think we can get the

1392
00:45:28,230 --> 00:45:26,640
funding authority to go do this even if

1393
00:45:29,750 --> 00:45:28,240
we ended up in some kind of continuing

1394
00:45:31,190 --> 00:45:29,760
resolution but we'll sort through all

1395
00:45:33,349 --> 00:45:31,200
that along with all the other budget

1396
00:45:35,910 --> 00:45:33,359
discussions we just had if we end up

1397
00:45:39,270 --> 00:45:37,349
do you have any idea when these awards

1398
00:45:41,670 --> 00:45:39,280
might be made i guess your things are

1399
00:45:44,069 --> 00:45:41,680
due december 13th

1400
00:45:46,870 --> 00:45:44,079
yeah i don't know if you'd have to again

1401
00:45:48,630 --> 00:45:46,880
i i don't have the final copy

1402
00:45:49,910 --> 00:45:48,640
i'm not avoiding your question i haven't

1403
00:45:51,510 --> 00:45:49,920
read the final version i read a

1404
00:45:53,030 --> 00:45:51,520
preliminary version and i don't want to

1405
00:45:54,710 --> 00:45:53,040
say what i read in the preliminary

1406
00:45:55,750 --> 00:45:54,720
version and then have the final version

1407
00:45:57,430 --> 00:45:55,760
say something else because it's really

1408
00:45:59,349 --> 00:45:57,440
done by the exploration systems mission

1409
00:46:01,109 --> 00:45:59,359
directorate so it's better you read it

1410
00:46:04,069 --> 00:46:01,119
but i think it'll call out in there when

1411
00:46:06,950 --> 00:46:04,079
we anticipate uh tentative awards in in

1412
00:46:07,910 --> 00:46:06,960
the proposal itself

1413
00:46:09,750 --> 00:46:07,920

okay

1414
00:46:12,630 --> 00:46:09,760
with that we will end today's briefing

1415
00:46:14,550 --> 00:46:12,640
our next sts-133 televised event will be

1416
00:46:15,990 --> 00:46:14,560
the arrival of commander steve lindsey

1417
00:46:17,510 --> 00:46:16,000
and his crew here at kennedy space

1418
00:46:19,190 --> 00:46:17,520
center on thursday

1419
00:46:21,190 --> 00:46:19,200
the countdown will pick up with call of

1420
00:46:23,190 --> 00:46:21,200
stations at 2 30 in the afternoon on

1421
00:46:24,630 --> 00:46:23,200
friday and the countdown begins at 3

1422
00:46:26,550 --> 00:46:24,640
o'clock

1423
00:46:29,430 --> 00:46:26,560
and then we're headed towards launch a

1424
00:46:32,230 --> 00:46:29,440
week from today at just about this time