1
00:00:06,019 --> 00:00:04,370
good morning thank you for joining us

2
00:00:08,259 --> 00:00:06,029
here at nasa's kennedy space center in

3
00:00:10,910 --> 00:00:08,269
florida for space shuttle endeavour's

4
00:00:12,980 --> 00:00:10,920
sts-134 l minus 1 countdown status

5
00:00:16,330 --> 00:00:12,990
briefing joining me today is Jeff

6
00:00:20,720 --> 00:00:16,340
Spalding NASA test director good morning

7
00:00:24,050 --> 00:00:20,730
Jodl I sts-134 payload manager good

8
00:00:30,919 --> 00:00:24,060
morning in Kathy winners shuttle weather

9
00:00:32,600 --> 00:00:30,929
officer good morning we'll listen to our

10
00:00:34,970 --> 00:00:32,610
panelists and then take questions Jeff

11
00:00:37,310 --> 00:00:34,980
Thank You kendriya and good morning to

12
00:00:39,020 --> 00:00:37,320
everyone and welcome I'm very happy to

13
00:00:41,000 --> 00:00:39,030

be here today to provide status on

14
00:00:43,520 --> 00:00:41,010
tomorrow's launch of the space shuttle

15
00:00:45,279 --> 00:00:43,530
Endeavour on the sts-134 mission to

16
00:00:48,830 --> 00:00:45,289
deliver the Alpha Magnetic Spectrometer

17
00:00:49,970 --> 00:00:48,840
up to the station I'm also pleased to

18
00:00:51,860 --> 00:00:49,980
report that everything is going well out

19
00:00:53,540 --> 00:00:51,870
of pate we don't have any issues right

20
00:00:55,220 --> 00:00:53,550
now that we're tracking we're right back

21
00:00:57,380 --> 00:00:55,230
on our time lines yesterday we were down

22
00:00:58,910 --> 00:00:57,390
a little bit if you recall but we have

23
00:01:00,950 --> 00:00:58,920
worked really hard overnight to get

24
00:01:02,689 --> 00:01:00,960
things caught back up and and we're in

25
00:01:05,299 --> 00:01:02,699
really good shape going through the rest

26
00:01:06,530 --> 00:01:05,309
of the count today also yesterday we

27
00:01:08,899 --> 00:01:06,540
were getting ready to get into our fuel

28
00:01:11,719 --> 00:01:08,909
cell reactant loading and that operation

29
00:01:14,270 --> 00:01:11,729
is complete and we did get all of the

30
00:01:16,460 --> 00:01:14,280
tanks loaded up to our full capacity as

31
00:01:18,590 --> 00:01:16,470
expected and consequently we do have our

32
00:01:21,020 --> 00:01:18,600
seven days of pad whole time for liquid

33
00:01:22,850 --> 00:01:21,030
hydrogen and 12 for liquid oxygen so

34
00:01:24,880 --> 00:01:22,860
that gives us our maximum capability we

35
00:01:27,440 --> 00:01:24,890
were looking for out of our fuel cells

36
00:01:30,740 --> 00:01:27,450
our countdown just entered our t minus

37
00:01:33,140 --> 00:01:30,750
11 hour hold that's a 13 hour 22 minute

38
00:01:36,380 --> 00:01:33,150

built-in hold and will get us through

39
00:01:38,660 --> 00:01:36,390
the remainder of today we are just

40
00:01:40,940 --> 00:01:38,670
finishing also our main engine final

41
00:01:43,039 --> 00:01:40,950
preparations and check out and now those

42
00:01:45,080 --> 00:01:43,049
are going as expected and we're doing a

43
00:01:46,730 --> 00:01:45,090
lot of our planned inspections of the

44
00:01:48,410 --> 00:01:46,740
external tank and the boosters in the

45
00:01:51,710 --> 00:01:48,420
orbiter and all of those are in working

46
00:01:53,149 --> 00:01:51,720
going well also later this afternoon we

47
00:01:56,389 --> 00:01:53,159
do intend to power up our orbital ground

48
00:01:58,249 --> 00:01:56,399
and the orbit and groundside

49
00:01:59,719 --> 00:01:58,259
communications networks and we'll be

50
00:02:01,969 --> 00:01:59,729
doing a full check out end-to-end on all

51
00:02:04,340 --> 00:02:01,979
of those systems at about 1 30 or so

52
00:02:05,539 --> 00:02:04,350
once we're done with that we'll go into

53
00:02:07,490 --> 00:02:05,549
the crew module and start beginning our

54
00:02:09,680 --> 00:02:07,500
flight crew equipment light still

55
00:02:11,270 --> 00:02:09,690
operations putting all of our final mid

56
00:02:12,440 --> 00:02:11,280
decks and some of the last provisions

57
00:02:13,700 --> 00:02:12,450
into the vehicle as well and some

58
00:02:17,120 --> 00:02:13,710
configurations

59
00:02:18,130 --> 00:02:17,130
or the crew once that it's done we do

60
00:02:19,970 --> 00:02:18,140
have quite a bit of launchpad

61
00:02:22,610 --> 00:02:19,980
configuring to do throughout the night

62
00:02:23,990 --> 00:02:22,620
to get us to our retraction of the

63
00:02:25,340 --> 00:02:24,000

rotating service structure which is

64
00:02:28,460 --> 00:02:25,350
scheduled for seven o'clock this evening

65
00:02:30,290 --> 00:02:28,470
as we work throughout the night after

66
00:02:31,820 --> 00:02:30,300
that we do have some final pad

67
00:02:34,910 --> 00:02:31,830
configurations as well as our final

68
00:02:36,530 --> 00:02:34,920
launch loading preps for our propellants

69
00:02:38,000 --> 00:02:36,540
and those will continue throughout the

70
00:02:39,680 --> 00:02:38,010
night until we start clearing the pad of

71
00:02:41,410 --> 00:02:39,690
non-essentials about 130 in the morning

72
00:02:43,820 --> 00:02:41,420
and then we'll work our final

73
00:02:47,320 --> 00:02:43,830
preparations anticipation of loading the

74
00:02:49,430 --> 00:02:47,330
external tank at 622 tomorrow morning

75
00:02:50,900 --> 00:02:49,440
once we get done with that operation

76
00:02:51,830 --> 00:02:50,910
it's about three hours long or so the

77
00:02:54,110 --> 00:02:51,840
flight crew will be headed out to the

78
00:02:56,300 --> 00:02:54,120
pad shortly after noon tomorrow and then

79
00:02:58,670 --> 00:02:56,310
we'll work our final operations that we

80
00:03:00,590 --> 00:02:58,680
need to get us to our launch on time our

81
00:03:02,630 --> 00:03:00,600
launch time as we've been briefing is

82
00:03:05,300 --> 00:03:02,640
our window opens at 342 tomorrow

83
00:03:06,590 --> 00:03:05,310
afternoon we do target the middle of the

84
00:03:09,080 --> 00:03:06,600
window which correlates to about that

85
00:03:10,490 --> 00:03:09,090
347 timeframe or so we'll sync

86
00:03:12,500 --> 00:03:10,500
everything up to the second once we get

87
00:03:14,060 --> 00:03:12,510
done or t-minus nine minute hold so

88
00:03:15,620 --> 00:03:14,070

we'll have all that in place as we get

89
00:03:18,530 --> 00:03:15,630
ready to go down through the rest of the

90
00:03:22,370 --> 00:03:18,540
count as far as our launch availability

91
00:03:24,110 --> 00:03:22,380
goes we do have tomorrow April the 29th

92
00:03:25,700 --> 00:03:24,120
all the way up through and including may

93
00:03:27,650 --> 00:03:25,710
the 4th so we have six days of

94
00:03:30,380 --> 00:03:27,660
opportunities we will only get about

95
00:03:31,820 --> 00:03:30,390
four attempts in those six days just due

96
00:03:33,830 --> 00:03:31,830
to the limitations of our ability on our

97
00:03:35,390 --> 00:03:33,840
turnarounds so we'll use the best four

98
00:03:37,550 --> 00:03:35,400
of those six days to get us through the

99
00:03:40,400 --> 00:03:37,560
count and before we went into our first

100
00:03:42,830 --> 00:03:40,410
constraint and that constraint excuse me

101
00:03:46,190 --> 00:03:42,840
is the Atlas launch which is currently

102
00:03:47,840 --> 00:03:46,200
on May the six we do need them for the

103
00:03:49,700 --> 00:03:47,850
Atlas folks to be ready they need the

104
00:03:51,800 --> 00:03:49,710
fifth and the seventh also to configure

105
00:03:53,540 --> 00:03:51,810
the range so we have about three days of

106
00:03:54,740 --> 00:03:53,550
blocked out that we cannot use the range

107
00:03:56,210 --> 00:03:54,750
so after the fourth our first

108
00:03:58,340 --> 00:03:56,220
opportunity to come back on the range

109
00:04:00,230 --> 00:03:58,350
would be made the eighth that would give

110
00:04:02,030 --> 00:04:00,240
us another opportunity before we went

111
00:04:04,250 --> 00:04:02,040
into one of our constraints on the 9th

112
00:04:07,280 --> 00:04:04,260
which is one of our dual doc tops

113
00:04:09,680 --> 00:04:07,290

constraints that has to do with the 25's

114
00:04:11,350 --> 00:04:09,690
the Soyuz mission undocking that's a

115
00:04:13,820 --> 00:04:11,360
single day constrained at this point and

116
00:04:15,380 --> 00:04:13,830
then we would get back and be able to

117
00:04:17,060 --> 00:04:15,390
launch from the 10th pretty much clear

118
00:04:19,070 --> 00:04:17,070
and free through the 28th of the month

119
00:04:21,020 --> 00:04:19,080
of May after that point we run into a

120
00:04:23,540 --> 00:04:21,030
lot of constraints with the ATV and the

121
00:04:24,890 --> 00:04:23,550
27 s Soyuz mission as well as some beta

122
00:04:26,870 --> 00:04:24,900
angle cut out so we're going to be done

123
00:04:27,620 --> 00:04:26,880
for a couple of weeks after that but it

124
00:04:29,060 --> 00:04:27,630
does give us a lot of

125
00:04:31,070 --> 00:04:29,070
opportunity up front before we run into

126
00:04:33,350 --> 00:04:31,080
the Atlas and then a lot of opportunity

127
00:04:38,000 --> 00:04:33,360
certainly afterwards to get off the

128
00:04:39,320 --> 00:04:38,010
ground it is a 14-day mission we do have

129
00:04:41,600 --> 00:04:39,330
two contingency days as we've been

130
00:04:43,370 --> 00:04:41,610
briefing we will be looking at those

131
00:04:44,660 --> 00:04:43,380
once we get on orbit probably a five or

132
00:04:47,090 --> 00:04:44,670
six to see if we're going to use those

133
00:04:48,890 --> 00:04:47,100
additional contingency days on orbit to

134
00:04:50,120 --> 00:04:48,900
do additional work that we have honest

135
00:04:53,000 --> 00:04:50,130
that we could do while we're up on the

136
00:04:55,160 --> 00:04:53,010
station then the mission is planned

137
00:04:56,720 --> 00:04:55,170
right now for KSC on Friday to the 13th

138
00:04:59,000 --> 00:04:56,730

right around nine thirty in the morning

139
00:05:00,200 --> 00:04:59,010
on that day if we do go to a plus one

140
00:05:02,390 --> 00:05:00,210
day the time doesn't change too much

141
00:05:06,380 --> 00:05:02,400
it's around nine fifty two or so on

142
00:05:08,300 --> 00:05:06,390
saturday the 14th so we are very proud

143
00:05:10,040 --> 00:05:08,310
of our teams here at KSC and also all

144
00:05:12,860 --> 00:05:10,050
around the world that have been working

145
00:05:15,140 --> 00:05:12,870
on this shuttle and as well as onto this

146
00:05:17,360 --> 00:05:15,150
payload to get us ready for this sts-134

147
00:05:18,920 --> 00:05:17,370
mission and ever like all of our

148
00:05:21,320 --> 00:05:18,930
shuttles has had a really distinguished

149
00:05:23,390 --> 00:05:21,330
history throughout its throughout its

150
00:05:25,850 --> 00:05:23,400
life tomorrow we're going to add to that

151
00:05:27,830 --> 00:05:25,860
distinction as she departs for the

152
00:05:30,730 --> 00:05:27,840
mission to deliver the Alpha Magnetic

153
00:05:35,480 --> 00:05:30,740
Spectrometer to the station so thank you

154
00:05:39,320 --> 00:05:35,490
thank you Joe ok thank you ok good

155
00:05:41,630 --> 00:05:39,330
morning I'm Joseph July the NASA KSC

156
00:05:43,610 --> 00:05:41,640
mission manager and I'd like to spend

157
00:05:45,860 --> 00:05:43,620
just a few minutes talking to you guys

158
00:05:49,790 --> 00:05:45,870
about the payloads that we're going to

159
00:05:52,370 --> 00:05:49,800
be flying on on your left six I can

160
00:05:53,900 --> 00:05:52,380
honestly say that in the many years i

161
00:05:56,090 --> 00:05:53,910
have been here which is quite a few

162
00:05:59,860 --> 00:05:56,100
years this is probably one of the most

163
00:06:01,910 --> 00:05:59,870

challenging but you had a most exciting

164
00:06:05,570 --> 00:06:01,920
payload that i've ever had a chance to

165
00:06:07,520 --> 00:06:05,580
work on i'm not going to go too much in

166
00:06:09,320 --> 00:06:07,530
AMS because i know professor ting is

167
00:06:11,900 --> 00:06:09,330
going to be given a brief in the two

168
00:06:14,750 --> 00:06:11,910
o'clock and i want to steal his thunder

169
00:06:16,100 --> 00:06:14,760
so I'll concentrate on the deck go a

170
00:06:21,890 --> 00:06:16,110
little bit in AMS and then we'll talk

171
00:06:25,580 --> 00:06:21,900
some index next slide please okay just a

172
00:06:28,490 --> 00:06:25,590
couple of general highlights as Jeff

173
00:06:32,900 --> 00:06:28,500
mentioned it's a 14 day plus 2 plus 2

174
00:06:36,710 --> 00:06:32,910
mission crew 6 the AMS weighed in a

175
00:06:39,460 --> 00:06:36,720
little over 15,000 pounds and ELC waited

176
00:06:42,370 --> 00:06:39,470
almost at 14,000 pounds excuse me

177
00:06:45,640 --> 00:06:42,380
a mess will eventually be attached to

178
00:06:49,660 --> 00:06:45,650
the s3 trusts and the lc3 will be

179
00:06:51,970 --> 00:06:49,670
attached to the p3 trust so flight day

180
00:06:53,380 --> 00:06:51,980
one they'll go ahead and check out AMS

181
00:06:55,960 --> 00:06:53,390
kind to a health check in the orbiter

182
00:06:58,210 --> 00:06:55,970
and then flight dates three which is

183
00:07:01,990 --> 00:06:58,220
also the docking day they'll take the

184
00:07:04,030 --> 00:07:02,000
deck and check it out install it on to

185
00:07:13,480 --> 00:07:04,040
p3 and then flight day for they'll go

186
00:07:16,900 --> 00:07:13,490
ahead and install AMS onto on s3 okay

187
00:07:18,460 --> 00:07:16,910
this is the great picture of the it's a

188
00:07:20,610 --> 00:07:18,470

great layout of the various payloads

189
00:07:23,410 --> 00:07:20,620
that I'm going to be in the orbiter

190
00:07:24,820 --> 00:07:23,420
there's two other payloads with flying

191
00:07:27,910 --> 00:07:24,830
i'd be remiss if i didn't talk about

192
00:07:32,250 --> 00:07:27,920
them the first one is missy and that's a

193
00:07:34,200 --> 00:07:32,260
DoD payload and it will characterize

194
00:07:37,570 --> 00:07:34,210
performance of new perspective

195
00:07:39,310 --> 00:07:37,580
spacecraft material and electrons when

196
00:07:41,950 --> 00:07:39,320
subject to the space environment we

197
00:07:44,200 --> 00:07:41,960
flying those for a few years and in

198
00:07:47,680 --> 00:07:44,210
storm that we're going to be taken up is

199
00:07:50,170 --> 00:07:47,690
a prototype system consisting of visual

200
00:07:52,060 --> 00:07:50,180
navigation and a dotting camera and it

201
00:07:56,560 --> 00:07:52,070
will advance the capability necessary

202
00:08:01,180 --> 00:07:56,570
for automated rendezvous and in docking

203
00:08:04,300 --> 00:08:01,190
now this is a great picture of the deck

204
00:08:06,490 --> 00:08:04,310
3 that's being that was installed into

205
00:08:11,680 --> 00:08:06,500
the canister and eventually take it out

206
00:08:13,960 --> 00:08:11,690
to the pad ok so let's just talk a

207
00:08:17,050 --> 00:08:13,970
little bit about the oil used orbital

208
00:08:19,570 --> 00:08:17,060
replacement units there's a bunch of

209
00:08:25,270 --> 00:08:19,580
going up on this mission so let's let's

210
00:08:28,060 --> 00:08:25,280
talk about them next slide please ok so

211
00:08:30,370 --> 00:08:28,070
we have dec three and on top of the deck

212
00:08:31,990 --> 00:08:30,380
there's going to be some more use of

213
00:08:33,969 --> 00:08:32,000

course on the bottom of the deck is

214
00:08:35,770 --> 00:08:33,979
going to be all use as mentioned earlier

215
00:08:38,140 --> 00:08:35,780
this will be attached to station and

216
00:08:41,290 --> 00:08:38,150
then what I call future spares orbital

217
00:08:43,360 --> 00:08:41,300
replacement units if we need it we got

218
00:08:45,610 --> 00:08:43,370
them will have the capability to use

219
00:08:47,680 --> 00:08:45,620
them ok let's go through those a little

220
00:08:49,690 --> 00:08:47,690
bit next page ok so the first oh you

221
00:08:53,140 --> 00:08:49,700
were bringing up as the ammonia tank the

222
00:08:56,230 --> 00:08:53,150
ETA and I was actually two tanks

223
00:08:58,870 --> 00:08:56,240
and each tank contains about 300 pounds

224
00:09:03,840 --> 00:08:58,880
of ammonia and that's used as part of

225
00:09:08,470 --> 00:09:05,890
another all you were bringing up is

226
00:09:11,980 --> 00:09:08,480
called the HP GT of the high-pressure

227
00:09:14,230 --> 00:09:11,990
gas tank that contains about 15 cubic

228
00:09:19,300 --> 00:09:14,240
feet of oxygen that will be used to

229
00:09:21,370 --> 00:09:19,310
supply these National Space Station okay

230
00:09:23,680 --> 00:09:21,380
excuse me another payload or argue that

231
00:09:27,490 --> 00:09:23,690
will bring it up on the deck is is s2 ph

232
00:09:31,030 --> 00:09:27,500
3 and that basically stands for space

233
00:09:33,730 --> 00:09:31,040
test program Houston and that's a DoD

234
00:09:36,700 --> 00:09:33,740
experiment and it's a competetive for

235
00:09:40,720 --> 00:09:36,710
individual experiments that will advance

236
00:09:42,880 --> 00:09:40,730
thermal protection various pumps digital

237
00:09:44,860 --> 00:09:42,890
camera and disposed in approaching

238
00:09:49,810 --> 00:09:44,870

spacecraft in low-earth orbit for

239
00:09:52,510 --> 00:09:49,820
long-duration UK and this is a great

240
00:09:54,520 --> 00:09:52,520
picture of whipping up to sasses which

241
00:09:56,980 --> 00:09:54,530
is the s-band antenna sub-assembly and

242
00:09:59,020 --> 00:09:56,990
that's used primarily for local

243
00:10:01,630 --> 00:09:59,030
communications between the orbiter and

244
00:10:08,380 --> 00:10:01,640
of course potential future vehicles and

245
00:10:11,490 --> 00:10:08,390
and ISS okay this is a picture of the

246
00:10:14,950 --> 00:10:11,500
special purpose dexterous manipulator

247
00:10:17,470 --> 00:10:14,960
which is highly intricate component on

248
00:10:20,290 --> 00:10:17,480
the International Space Station mobile

249
00:10:22,060 --> 00:10:20,300
service and station and what we're doing

250
00:10:24,460 --> 00:10:22,070
on this mission will actually send it up

251
00:10:29,050 --> 00:10:24,470
a spare rom that's going to be part of

252
00:10:32,650 --> 00:10:29,060
the spdm okay this picture the CTC the

253
00:10:34,210 --> 00:10:32,660
ACOG o tren transportation carrier we're

254
00:10:37,470 --> 00:10:34,220
going to be flying up ten what we call a

255
00:10:41,170 --> 00:10:37,480
PCMs or remote power control modules and

256
00:10:44,140 --> 00:10:41,180
100 you attachment kit the the AH PCMs

257
00:10:49,090 --> 00:10:44,150
or like like big circuit breakers for

258
00:10:51,130 --> 00:10:49,100
electronics and space okay now let's

259
00:10:54,070 --> 00:10:51,140
talk a little bit about AMS as I

260
00:10:57,340 --> 00:10:54,080
mentioned earlier late today I think on

261
00:10:59,980 --> 00:10:57,350
two o'clock professor ting will be given

262
00:11:01,540 --> 00:10:59,990
a briefing on AMS but I do want to say

263
00:11:05,340 --> 00:11:01,550

that it's been an honor and a privilege

264
00:11:07,180 --> 00:11:05,350
to work with Professor ting and his team

265
00:11:09,610 --> 00:11:07,190
here we have 16

266
00:11:12,400 --> 00:11:09,620
entries some of the smartest physicists

267
00:11:14,650 --> 00:11:12,410
in the world all coming together to

268
00:11:17,650 --> 00:11:14,660
design and build a particle particle

269
00:11:21,430 --> 00:11:17,660
detector to search for antimatter and

270
00:11:24,850 --> 00:11:21,440
matter in dock matter in space I think

271
00:11:28,510 --> 00:11:24,860
the most exciting objective of AMS is

272
00:11:29,800 --> 00:11:28,520
too is the probe the unknown if we'd

273
00:11:31,540 --> 00:11:29,810
have probably known that's not exciting

274
00:11:33,430 --> 00:11:31,550
we're going to go probe the unknown

275
00:11:35,740 --> 00:11:33,440
that's exciting and we're going to

276
00:11:39,940 --> 00:11:35,750
search for phenomena which exists in

277
00:11:42,520 --> 00:11:39,950
nature that has not yet imagined nor do

278
00:11:44,290 --> 00:11:42,530
we have the tools to discover so

279
00:11:46,120 --> 00:11:44,300
somebody was tell me what is a mess do I

280
00:11:48,850 --> 00:11:46,130
can tell you what I think gameís is

281
00:11:50,080 --> 00:11:48,860
going to do but we don't know what it's

282
00:11:54,790 --> 00:11:50,090
going to do and that's a good thing

283
00:11:58,180 --> 00:11:54,800
that's how you advance science so I jobs

284
00:12:00,610 --> 00:11:58,190
at KSC was to work with professor Chang

285
00:12:03,610 --> 00:12:00,620
and his team and complete the

286
00:12:07,810 --> 00:12:03,620
integration testing of AMS and as I

287
00:12:08,950 --> 00:12:07,820
mentioned at style this presentation you

288
00:12:10,990 --> 00:12:08,960

know I can honestly say it's probably

289
00:12:12,700 --> 00:12:11,000
the most challenging be a memorable

290
00:12:15,910 --> 00:12:12,710
payloads so experiments that we've

291
00:12:19,540 --> 00:12:15,920
worked on in many years okay here's a

292
00:12:23,490 --> 00:12:19,550
picture of AMS being delivered from CERN

293
00:12:27,790 --> 00:12:23,500
Switzerland to KSC back in August 2010

294
00:12:30,460 --> 00:12:27,800
and picture of AMS the beautiful picture

295
00:12:32,500 --> 00:12:30,470
of a ms in our processing facility as

296
00:12:36,660 --> 00:12:32,510
we're testing it and doing some final

297
00:12:40,060 --> 00:12:36,670
integration work and of course AMS is

298
00:12:44,260 --> 00:12:40,070
being lifted into the canister and of

299
00:12:45,820 --> 00:12:44,270
course eventually by out to the pad and

300
00:12:53,050 --> 00:12:45,830
then here is what a mess will look like

301
00:12:54,160 --> 00:12:53,060
once it's on station okay so now we

302
00:12:56,290 --> 00:12:54,170
talked about the payloads and

303
00:12:58,420 --> 00:12:56,300
experiments let's just spend a few

304
00:13:01,329 --> 00:12:58,430
minutes talking about on mid decks

305
00:13:03,100 --> 00:13:01,339
there's a total of ten modex that are

306
00:13:07,450 --> 00:13:03,110
going up on this mission I think a door

307
00:13:11,079 --> 00:13:07,460
non passive and to a pastor of the two a

308
00:13:12,760 --> 00:13:11,089
two hour power apply to them the non

309
00:13:15,010 --> 00:13:12,770
passives I think we'll start installing

310
00:13:17,740 --> 00:13:15,020
those on 11 this morning and the powers

311
00:13:19,780 --> 00:13:17,750
units was to install in early afternoon

312
00:13:20,980 --> 00:13:19,790
after lunch but let me just spend a

313
00:13:22,240 --> 00:13:20,990

couple seconds a couple

314
00:13:24,490 --> 00:13:22,250
talking about some of the different mid

315
00:13:27,120 --> 00:13:24,500
decks so on the Left we have glacier

316
00:13:29,949 --> 00:13:27,130
which is the general laboratory active

317
00:13:32,440 --> 00:13:29,959
cryogenic ISS experiment refrigeration

318
00:13:34,840 --> 00:13:32,450
and this is designed to provide

319
00:13:37,530 --> 00:13:34,850
transportation and the preservation

320
00:13:39,670 --> 00:13:37,540
capability for sampling that requires

321
00:13:42,400 --> 00:13:39,680
thermal control dem types of samples

322
00:13:44,889 --> 00:13:42,410
that require thermal control on the

323
00:13:47,260 --> 00:13:44,899
right is what we call hace Biocon in

324
00:13:49,930 --> 00:13:47,270
space and is sponsored by our Italian

325
00:13:54,750 --> 00:13:49,940
friends and they can investigate areas

326
00:14:00,480 --> 00:13:59,079
okay this picture is called the cg b a

327
00:14:05,470 --> 00:14:00,490
the commercial generic bioprocessing

328
00:14:08,230 --> 00:14:05,480
apparatus and we found this before and

329
00:14:11,740 --> 00:14:08,240
this provides the K through 12 community

330
00:14:14,139 --> 00:14:11,750
with the opportunities to utilize the

331
00:14:17,019 --> 00:14:14,149
unique microgravity environment that's

332
00:14:20,139 --> 00:14:17,029
on ISS as part of their studies as part

333
00:14:21,760 --> 00:14:20,149
of classes the classroom studies the

334
00:14:24,449 --> 00:14:21,770
particular experiment the kids will be

335
00:14:29,410 --> 00:14:24,459
looking at spiders so that's pretty cool

336
00:14:32,560 --> 00:14:29,420
alright next we have the cube cube lab

337
00:14:35,500 --> 00:14:32,570
see ube and this provider provides a

338
00:14:38,440 --> 00:14:35,510

low-cost another low-cost fantastic

339
00:14:41,889 --> 00:14:38,450
educational platform for on ISS in this

340
00:14:49,300 --> 00:14:41,899
picture we have 6c dwells inside a plant

341
00:14:50,710 --> 00:14:49,310
growth chamber okay on the left is what

342
00:14:52,630 --> 00:14:50,720
we call the immune payload or the

343
00:14:54,940 --> 00:14:52,640
integrate immune payload and this

344
00:14:57,630 --> 00:14:54,950
monitors the crew members immune

345
00:15:01,350 --> 00:14:57,640
functions to assess any adverse effects

346
00:15:04,600 --> 00:15:01,360
on spaceflight on the human system and

347
00:15:07,889 --> 00:15:04,610
on the right is called in space which is

348
00:15:11,199 --> 00:15:07,899
the investigating the structure or

349
00:15:14,440 --> 00:15:11,209
paramagnetic aggregates from collodial

350
00:15:16,750 --> 00:15:14,450
emulsions so what that means is it's

351
00:15:19,389 --> 00:15:16,760
going to study the behavior of fluids

352
00:15:22,829 --> 00:15:19,399
under the influence of various magnetic

353
00:15:25,630 --> 00:15:22,839
fields and this should help lead to

354
00:15:27,400 --> 00:15:25,640
improvements or potential development of

355
00:15:30,720 --> 00:15:27,410
like new brake systems for various

356
00:15:36,970 --> 00:15:34,480
okay and last but not least we got a

357
00:15:39,660 --> 00:15:36,980
couple pictures of various biology and

358
00:15:44,530 --> 00:15:39,670
National Lab Pathfinder experiments on

359
00:15:47,500 --> 00:15:44,540
the top right is a picture of the npl

360
00:15:49,840 --> 00:15:47,510
vaccine which is a commercial payload

361
00:15:53,950 --> 00:15:49,850
which will help lead to the potential

362
00:15:55,780 --> 00:15:53,960
development of vaccines of infections we

363
00:16:00,100 --> 00:15:55,790

have here on earth and that is flown

364
00:16:01,480 --> 00:16:00,110
before so in summary you know we got two

365
00:16:04,210 --> 00:16:01,490
great payloads going out we got four

366
00:16:06,100 --> 00:16:04,220
great payloads going up and lots of good

367
00:16:09,370 --> 00:16:06,110
mid decks and this is a very exciting

368
00:16:12,370 --> 00:16:09,380
mission for us all and I'm just glad to

369
00:16:15,010 --> 00:16:12,380
be part of it thank you thank you Cathy

370
00:16:16,780 --> 00:16:15,020
well weather is expected to get a little

371
00:16:18,010 --> 00:16:16,790
bit bad this evening we do have good

372
00:16:20,050 --> 00:16:18,020
weather today through the day it's a

373
00:16:22,810 --> 00:16:20,060
little bit hot a little bit windy but

374
00:16:24,640 --> 00:16:22,820
overall no significant hazards as we get

375
00:16:26,410 --> 00:16:24,650
into the late afternoon and into the

376
00:16:28,120 --> 00:16:26,420
evening hours we are expecting the front

377
00:16:29,769 --> 00:16:28,130
that's been working its way through the

378
00:16:31,600 --> 00:16:29,779
southeast us last couple days causing

379
00:16:33,820 --> 00:16:31,610
all that severe weather respecting that

380
00:16:35,800 --> 00:16:33,830
to move down into Central Florida now I

381
00:16:38,440 --> 00:16:35,810
won't have its energy like gets had up

382
00:16:41,710 --> 00:16:38,450
and won't be producing a severe weather

383
00:16:43,780 --> 00:16:41,720
as widespread is it has been doing the

384
00:16:46,030 --> 00:16:43,790
last couple of days but we do expect

385
00:16:48,310 --> 00:16:46,040
that there could be an isolated severe

386
00:16:50,290 --> 00:16:48,320
thunderstorm along the front or as we

387
00:16:52,420 --> 00:16:50,300
get the convergence along the coast this

388
00:16:54,010 --> 00:16:52,430

evening so what we're expecting is as

389
00:16:55,600 --> 00:16:54,020
the front comes down we're expecting

390
00:16:57,550 --> 00:16:55,610
some inland thunderstorms may already be

391
00:17:00,070 --> 00:16:57,560
making their way over to us some

392
00:17:01,780 --> 00:17:00,080
isolated storms after about 4 p.m. but

393
00:17:03,070 --> 00:17:01,790
then as we get into the evening hours we

394
00:17:05,860 --> 00:17:03,080
could get some more widespread activity

395
00:17:07,360 --> 00:17:05,870
coming in from the northwest so the

396
00:17:09,730 --> 00:17:07,370
weather for this evening is a concern

397
00:17:11,439 --> 00:17:09,740
due to the RSS retract operations the

398
00:17:12,669 --> 00:17:11,449
front should move through in the

399
00:17:15,130 --> 00:17:12,679
overnight hours where the weather will

400
00:17:17,770 --> 00:17:15,140
probably be done somewhere on 10 or 11pm

401
00:17:20,050 --> 00:17:17,780
and so that's not probably going to

402
00:17:21,550 --> 00:17:20,060
cause too much of a delay and we'll

403
00:17:23,590 --> 00:17:21,560
still be able to get to tanking by

404
00:17:24,880 --> 00:17:23,600
tomorrow morning so as we get into

405
00:17:27,699 --> 00:17:24,890
tanking we expect the conditions to be

406
00:17:29,260 --> 00:17:27,709
cloudy and then as we go into launch

407
00:17:31,570 --> 00:17:29,270
time we expect the clouds of gradually

408
00:17:32,830 --> 00:17:31,580
scatter out by launch time but we are a

409
00:17:34,120 --> 00:17:32,840
little bit more concerned a ceiling

410
00:17:36,010 --> 00:17:34,130
could linger in the area so we did

411
00:17:37,570 --> 00:17:36,020
increase the probability of que se

412
00:17:38,890 --> 00:17:37,580
weather prohibiting launch from twenty

413
00:17:40,900 --> 00:17:38,900

percent yet that we had yesterday to

414
00:17:42,669 --> 00:17:40,910
thirty percent due to the fact that the

415
00:17:44,260 --> 00:17:42,679
front is a little bit slower on the

416
00:17:46,660 --> 00:17:44,270
meteorological models and we want to

417
00:17:49,330 --> 00:17:46,670
to make sure we're capturing the concern

418
00:17:51,040 --> 00:17:49,340
for a low cloud ceiling as well so I

419
00:17:53,020 --> 00:17:51,050
wouldn't be surprised if tomorrow we are

420
00:17:54,490 --> 00:17:53,030
read during the countdown for a ceiling

421
00:17:56,470 --> 00:17:54,500
and then we expect the conditions to

422
00:17:57,580 --> 00:17:56,480
improve by lunchtime so again a thirty

423
00:17:59,560 --> 00:17:57,590
percent chance can see whether

424
00:18:00,760 --> 00:17:59,570
prohibiting launch we going to show you

425
00:18:01,720 --> 00:18:00,770
the satellite picture when you look at

426
00:18:03,940 --> 00:18:01,730
the satellite picture you can see that

427
00:18:05,980 --> 00:18:03,950
front that's been causing the severe

428
00:18:08,110 --> 00:18:05,990
weather in the southeast and very bad

429
00:18:09,160 --> 00:18:08,120
obviously a lot of tornado reports and

430
00:18:12,130 --> 00:18:09,170
hail reports and severe weather

431
00:18:14,350 --> 00:18:12,140
yesterday and that is going to be moving

432
00:18:15,580 --> 00:18:14,360
into Florida but it's really the tail

433
00:18:18,160 --> 00:18:15,590
end of the front and it's not going to

434
00:18:19,840 --> 00:18:18,170
be as strong as what would its been in

435
00:18:21,460 --> 00:18:19,850
the southeast but as it does come down

436
00:18:23,410 --> 00:18:21,470
into Florida it is going to cause us

437
00:18:24,670 --> 00:18:23,420
some weather this evening some cloud and

438
00:18:26,260 --> 00:18:24,680

conditions in the morning maybe even

439
00:18:27,790 --> 00:18:26,270
some showers in the area tanking time

440
00:18:30,190 --> 00:18:27,800
that's not a constraint for tanking

441
00:18:33,400 --> 00:18:30,200
though and then clearing up by launch

442
00:18:35,950 --> 00:18:33,410
time so going into the tanking forecast

443
00:18:39,220 --> 00:18:35,960
the weather is expected to be cloudy

444
00:18:40,690 --> 00:18:39,230
during that time visibility should be

445
00:18:43,330 --> 00:18:40,700
unrestricted there I can't rule out a

446
00:18:44,770 --> 00:18:43,340
stray shower still being in the area but

447
00:18:46,900 --> 00:18:44,780
overall the weather should be starting

448
00:18:48,730 --> 00:18:46,910
to improve by this time I did increase

449
00:18:50,200 --> 00:18:48,740
the number for the probability of Casey

450
00:18:51,940 --> 00:18:50,210
weather permitting tanking just a bit

451
00:18:53,980 --> 00:18:51,950
from five percent to ten percent just

452
00:18:55,150 --> 00:18:53,990
because the front is a bit slower and so

453
00:18:56,890 --> 00:18:55,160
with that there's a slightly greater

454
00:18:58,750 --> 00:18:56,900
risk of lightning within five if it

455
00:19:00,970 --> 00:18:58,760
happens that trend happens to continue

456
00:19:02,920 --> 00:19:00,980
but right now we're expecting overall

457
00:19:04,600 --> 00:19:02,930
just to be cloudy with maybe some

458
00:19:07,300 --> 00:19:04,610
isolated showers in the area but overall

459
00:19:09,850 --> 00:19:07,310
no no significant chance for violation

460
00:19:11,380 --> 00:19:09,860
for tanking as we go into our launch

461
00:19:13,660 --> 00:19:11,390
forecast you see we're still expecting

462
00:19:16,210 --> 00:19:13,670
scattered skies in the low levels to

463
00:19:18,070 --> 00:19:16,220

some clouds around 3,000 feet visibility

464
00:19:20,800 --> 00:19:18,080
unrestricted winds are expected to be

465
00:19:22,990 --> 00:19:20,810
from the north northeast 12 gustan to 18

466
00:19:25,600 --> 00:19:23,000
knots so ever be concerned there is the

467
00:19:27,670 --> 00:19:25,610
cross one but again the cross one isn'ta

468
00:19:29,440 --> 00:19:27,680
is one of those things where if it

469
00:19:31,510 --> 00:19:29,450
exceeds 15 knots of Trey's now at the

470
00:19:33,760 --> 00:19:31,520
slf it's pork has to be 16 not cross

471
00:19:36,910 --> 00:19:33,770
then the aircraft can give us some help

472
00:19:38,650 --> 00:19:36,920
by doing the dives and and seeing if the

473
00:19:40,480 --> 00:19:38,660
performance is still okay a lot of times

474
00:19:43,510 --> 00:19:40,490
we can get up to 17 knots on the cross

475
00:19:45,640 --> 00:19:43,520
one and still be okay so over all right

476
00:19:47,350 --> 00:19:45,650
now the main concerns are cross winds

477
00:19:48,820 --> 00:19:47,360
and ceilings lingering in the area with

478
00:19:51,970 --> 00:19:48,830
that we have a thirty percent chance of

479
00:19:53,680 --> 00:19:51,980
KS see whether prohibiting launch for

480
00:19:55,540 --> 00:19:53,690
the SRB recovery forecast the weather

481
00:19:57,850 --> 00:19:55,550
should be clearing out there pretty

482
00:19:59,169 --> 00:19:57,860
quickly tomorrow morning and

483
00:20:02,500 --> 00:19:59,179
so winds are going to be mainly from the

484
00:20:04,450 --> 00:20:02,510
north from 12 to 18 knots use five to

485
00:20:05,680 --> 00:20:04,460
six feet it might be a little choppy in

486
00:20:07,210 --> 00:20:05,690
the morning things will start smoothing

487
00:20:10,680 --> 00:20:07,220
out over the next few days though so

488
00:20:12,430 --> 00:20:10,690

overall no concerns for SRB recovery

489
00:20:14,230 --> 00:20:12,440
spaceflight meteorology group is

490
00:20:17,049 --> 00:20:14,240
forecasting some pretty significant wind

491
00:20:18,700 --> 00:20:17,059
at the abort landing sites out west for

492
00:20:20,830 --> 00:20:18,710
Edwards Air Force Base we have peak

493
00:20:24,100 --> 00:20:20,840
winds gusting up to 35 knots and also

494
00:20:27,220 --> 00:20:24,110
for northrop filled up to 36 knots and

495
00:20:28,780 --> 00:20:27,230
so for edwards that's a head and tail

496
00:20:31,320 --> 00:20:28,790
wind constraint violation and for

497
00:20:34,690 --> 00:20:31,330
northrop that's across one of 32 not so

498
00:20:35,740 --> 00:20:34,700
violations at both those locations and

499
00:20:37,900 --> 00:20:35,750
space let meteorology group is

500
00:20:40,780 --> 00:20:37,910
forecasting good whether it is trous

501
00:20:43,390 --> 00:20:40,790
again still concerned for showers in the

502
00:20:46,770 --> 00:20:43,400
area both at maroon and zaragoza due to

503
00:20:49,960 --> 00:20:46,780
a trough that's located over the area

504
00:20:51,909 --> 00:20:49,970
now if we happen to delay 24 hours the

505
00:20:53,680 --> 00:20:51,919
weather improves when it comes to the

506
00:20:55,240 --> 00:20:53,690
clouds and those conditions everything

507
00:20:57,070 --> 00:20:55,250
really clears out pretty nicely we're

508
00:20:58,330 --> 00:20:57,080
just expecting few clouds at 3,000 feet

509
00:20:59,620 --> 00:20:58,340
but we have more of a cross when

510
00:21:01,570 --> 00:20:59,630
concerned due to the fact that the winds

511
00:21:03,789 --> 00:21:01,580
come around more easterly so with that

512
00:21:05,049 --> 00:21:03,799
the crossings are more of a concern the

513
00:21:07,299 --> 00:21:05,059

clouds are less concerned still at

514
00:21:10,659 --> 00:21:07,309
thirty percent chance of KSC weather

515
00:21:12,580 --> 00:21:10,669
prohibiting launch for the abort landing

516
00:21:15,070 --> 00:21:12,590
sites and yes still looking at some

517
00:21:16,570 --> 00:21:15,080
windy conditions although edwards does

518
00:21:19,510 --> 00:21:16,580
come back into a go condition with a

519
00:21:21,340 --> 00:21:19,520
head wind of 16 knots still though a

520
00:21:26,230 --> 00:21:21,350
significant crosswind in Northrop field

521
00:21:27,430 --> 00:21:26,240
of 26 knots and for the tail side

522
00:21:30,280 --> 00:21:27,440
spaceflight meteorology group is still

523
00:21:32,380 --> 00:21:30,290
concerned about the Zaragoza and Marrone

524
00:21:34,360 --> 00:21:32,390
both areas having youth of showers or

525
00:21:38,680 --> 00:21:34,370
thunderstorms forecast to be in the area

526
00:21:40,450 --> 00:21:38,690
but again mistress is looking good and

527
00:21:41,710 --> 00:21:40,460
if we happen to Billy 48 hours weather

528
00:21:44,020 --> 00:21:41,720
improves a bit more with the wind's

529
00:21:45,760 --> 00:21:44,030
coming more up the runway so without a

530
00:21:47,440 --> 00:21:45,770
twenty percent chance of can't see

531
00:21:48,909 --> 00:21:47,450
whether prohibiting launch due to mainly

532
00:21:50,680 --> 00:21:48,919
more concerns or just some cumulus

533
00:21:53,799 --> 00:21:50,690
clouds but overall pretty good weather

534
00:21:55,810 --> 00:21:53,809
on Sunday and again for the board

535
00:21:58,180 --> 00:21:55,820
landing site so this time this day the

536
00:22:01,870 --> 00:21:58,190
weather looks great on for both Edwards

537
00:22:03,270 --> 00:22:01,880
and for Northrop field and spaceflight

538
00:22:06,340 --> 00:22:03,280

meteorology groups still forecasting

539
00:22:08,440 --> 00:22:06,350
showers and around the area of Zaragoza

540
00:22:10,300 --> 00:22:08,450
and thunderstorms in maroon but again

541
00:22:13,390 --> 00:22:10,310
instr is still a good towel side all

542
00:22:15,610 --> 00:22:13,400
three days so overall our primary

543
00:22:17,860 --> 00:22:15,620
concerns for launch or ceiling in the

544
00:22:19,750 --> 00:22:17,870
area or across one concern with that we

545
00:22:21,340 --> 00:22:19,760
have a thirty percent chance of Casey

546
00:22:22,630 --> 00:22:21,350
weather we're having launched and we do

547
00:22:25,360 --> 00:22:22,640
have one good towel side forecast

548
00:22:27,880 --> 00:22:25,370
mistress that concludes my briefing

549
00:22:29,380 --> 00:22:27,890
thank you will now take questions when

550
00:22:31,420 --> 00:22:29,390
the microphone comes your way please

551
00:22:32,680 --> 00:22:31,430
state your name your affiliation and to

552
00:22:37,540 --> 00:22:32,690
whom you're addressing your question

553
00:22:39,520 --> 00:22:37,550
let's start over here with mark hi mark

554
00:22:42,040 --> 00:22:39,530
Kirkman interspace news is for a Jeff

555
00:22:44,140 --> 00:22:42,050
these queen countdowns have a habit of

556
00:22:46,060 --> 00:22:44,150
having some last-minute drama like we

557
00:22:47,080 --> 00:22:46,070
had on the last launch and I just was

558
00:22:49,120 --> 00:22:47,090
wondering if you can clarify a little

559
00:22:50,730 --> 00:22:49,130
bit Mike said you guys went back and

560
00:22:54,010 --> 00:22:50,740
talked to the range yesterday but

561
00:22:55,570 --> 00:22:54,020
between that and stuff I've seen in some

562
00:22:57,850 --> 00:22:55,580
of your internal messages has anything

563
00:23:00,070 --> 00:22:57,860

changed and how you'll manipulate that

564
00:23:01,900 --> 00:23:00,080
kill switch or it procedurally anything

565
00:23:03,030 --> 00:23:01,910
changed in the LCC and how you would

566
00:23:07,170 --> 00:23:03,040
deal with the situation like that

567
00:23:09,370 --> 00:23:07,180
probably the most significant change

568
00:23:10,600 --> 00:23:09,380
well let me just start with saying we

569
00:23:11,860 --> 00:23:10,610
did a lot to just enhance our

570
00:23:14,200 --> 00:23:11,870
communications between the two groups

571
00:23:16,090 --> 00:23:14,210
that we understand what each other is

572
00:23:18,580 --> 00:23:16,100
going to be doing during those periods

573
00:23:20,500 --> 00:23:18,590
Leighton accountant so that there was no

574
00:23:22,150 --> 00:23:20,510
confusion at all and then secondly what

575
00:23:24,190 --> 00:23:22,160
we did was we went through and talked

576
00:23:27,220 --> 00:23:24,200
about once we get into a hold for

577
00:23:29,170 --> 00:23:27,230
example we can go ahead and remove the

578
00:23:30,640 --> 00:23:29,180
whole that's there as a result of that

579
00:23:32,410 --> 00:23:30,650
switch because it's it's almost like we

580
00:23:34,690 --> 00:23:32,420
have two holds at that point because we

581
00:23:36,610 --> 00:23:34,700
also have an internal hold associated

582
00:23:38,590 --> 00:23:36,620
with our ground launch sequencer so we

583
00:23:40,030 --> 00:23:38,600
didn't need the secondary hold there we

584
00:23:41,920 --> 00:23:40,040
still won't manage to constraint once

585
00:23:43,870 --> 00:23:41,930
constraints removed and we don't have to

586
00:23:45,340 --> 00:23:43,880
go through two wickets essentially to

587
00:23:46,660 --> 00:23:45,350
have the range move their whole switch

588
00:23:49,090 --> 00:23:46,670

and have our ground launch sequencer

589
00:23:50,650 --> 00:23:49,100
remove their hold so that was one of the

590
00:23:52,150 --> 00:23:50,660
things we cleaned up so once we get you

591
00:23:54,430 --> 00:23:52,160
get into a hold where we're holding for

592
00:23:56,710 --> 00:23:54,440
a range constraint we would have them

593
00:23:58,810 --> 00:23:56,720
take that position of the switch into

594
00:24:00,790 --> 00:23:58,820
the proceed position if you will and

595
00:24:02,260 --> 00:24:00,800
then at that point then we manage the

596
00:24:03,430 --> 00:24:02,270
constraint as we would normally and once

597
00:24:04,690 --> 00:24:03,440
that constraints been lifted then we'd

598
00:24:06,250 --> 00:24:04,700
be able to pick up the clock a little

599
00:24:07,330 --> 00:24:06,260
bit more cleanly than we did last time

600
00:24:09,430 --> 00:24:07,340
that was probably the biggest thing that

601
00:24:11,560 --> 00:24:09,440
we we did out of all of those changes is

602
00:24:16,570 --> 00:24:11,570
aside from enhancing the communications

603
00:24:18,820 --> 00:24:16,580
between the groups um Kim I can't

604
00:24:20,110 --> 00:24:18,830
grammar for Space Flight magazine for

605
00:24:21,940 --> 00:24:20,120
Jeff and Cathy we had some real

606
00:24:24,040 --> 00:24:21,950
excitement yesterday with the fire I

607
00:24:26,320 --> 00:24:24,050
wonder if you could tell us if that fire

608
00:24:28,210 --> 00:24:26,330
happened during the launch day how that

609
00:24:31,600 --> 00:24:28,220
would have affected the launch would you

610
00:24:33,730 --> 00:24:31,610
have scrubbed it also that fire go over

611
00:24:35,680 --> 00:24:33,740
the smoke go over the pad and what would

612
00:24:38,260 --> 00:24:35,690
have been the effect on an RTLS aboard

613
00:24:39,820 --> 00:24:38,270

thank you I'll start with the first part

614
00:24:41,140 --> 00:24:39,830
and I'll let Kathy talk what are

615
00:24:44,670 --> 00:24:41,150
actually some of our constraints are

616
00:24:46,840 --> 00:24:44,680
that we have from the smoke perspective

617
00:24:49,510 --> 00:24:46,850
but yes of course we did have the fire

618
00:24:51,070 --> 00:24:49,520
kick up a little bit and I haven't seen

619
00:24:52,300 --> 00:24:51,080
anything new I think it was presumed

620
00:24:54,520 --> 00:24:52,310
that it was caused from lightning from

621
00:24:55,900 --> 00:24:54,530
the day previous and had been smoldering

622
00:24:58,060 --> 00:24:55,910
and of course with the winds that we've

623
00:25:00,160 --> 00:24:58,070
had kind of kicked up that into a brush

624
00:25:02,740 --> 00:25:00,170
fire and and and burned pretty good

625
00:25:04,270 --> 00:25:02,750
yesterday we did kind of get that under

626
00:25:06,220 --> 00:25:04,280
control with the Fish and Wildlife folks

627
00:25:07,990 --> 00:25:06,230
and and and have it pretty well under

628
00:25:09,460 --> 00:25:08,000
control as we speak but there are still

629
00:25:10,330 --> 00:25:09,470
some wins and is smoldering a little bit

630
00:25:12,190 --> 00:25:10,340
so we're going to watch that and

631
00:25:13,840 --> 00:25:12,200
continue to do so most of the smoke did

632
00:25:17,950 --> 00:25:13,850
not go over the pad I went in between

633
00:25:21,250 --> 00:25:17,960
the this area out here and the pad

634
00:25:22,720 --> 00:25:21,260
itself so most of it did not with the

635
00:25:24,400 --> 00:25:22,730
amount of smoke that we were seeing was

636
00:25:26,680 --> 00:25:24,410
really not a concern from the pad

637
00:25:28,480 --> 00:25:26,690
perspective because all of the air

638
00:25:31,540 --> 00:25:28,490

intakes that we have out there are well

639
00:25:34,120 --> 00:25:31,550
filtered and and able to handle you know

640
00:25:35,470 --> 00:25:34,130
a large amount of particulate so we

641
00:25:36,820 --> 00:25:35,480
didn't have any real concerns from that

642
00:25:39,130 --> 00:25:36,830
perspective we also monitor the amount

643
00:25:40,420 --> 00:25:39,140
of particular that's coming in so none

644
00:25:43,240 --> 00:25:40,430
of that was really a concern to us at

645
00:25:44,860 --> 00:25:43,250
that point most of the concern when we

646
00:25:47,440 --> 00:25:44,870
have smoke in the area and we've had

647
00:25:49,060 --> 00:25:47,450
that and other times is from a landing

648
00:25:50,050 --> 00:25:49,070
perspective and visibilities no steps of

649
00:25:52,180 --> 00:25:50,060
things I don't know if you want to talk

650
00:25:55,150 --> 00:25:52,190
that Kathy well yes there's a there's an

651
00:25:56,830 --> 00:25:55,160
RTLS constraint of four miles for

652
00:25:58,660 --> 00:25:56,840
visibility so if for some reason the

653
00:26:00,640 --> 00:25:58,670
smoke brought the visual down to four

654
00:26:01,900 --> 00:26:00,650
miles I'd be the rtls constraint and

655
00:26:03,700 --> 00:26:01,910
also for long to constrain the

656
00:26:06,580 --> 00:26:03,710
visibility restrictions five miles to

657
00:26:08,170 --> 00:26:06,590
range safety constraint we also have a

658
00:26:10,210 --> 00:26:08,180
smoke plume rule if there was an active

659
00:26:14,260 --> 00:26:10,220
fire and a cumulus cloud developed over

660
00:26:16,480 --> 00:26:14,270
that fire and and caught cause cause the

661
00:26:18,880 --> 00:26:16,490
commutes cloud the cloud the the fire

662
00:26:20,500 --> 00:26:18,890
itself then we cannot launch through

663
00:26:22,930 --> 00:26:20,510

that cloud so if that cloud migrated

664
00:26:24,700 --> 00:26:22,940
over the launch pad and had not been at

665
00:26:26,800 --> 00:26:24,710
least 60 minutes since it detached from

666
00:26:27,940 --> 00:26:26,810
the smoke plume then we would not live

667
00:26:29,800 --> 00:26:27,950
with them we would have to be read for

668
00:26:31,210 --> 00:26:29,810
the smoke plume lightning launch commit

669
00:26:34,900 --> 00:26:31,220
criteria and that's to prevent

670
00:26:41,570 --> 00:26:39,350
clara clara moskowitz with space calm

671
00:26:43,250 --> 00:26:41,580
and one for Jeff and one for Joe for

672
00:26:45,440 --> 00:26:43,260
Jeff I'm wondering if you have an

673
00:26:47,240 --> 00:26:45,450
updated estimate for the crowd levels

674
00:26:48,440 --> 00:26:47,250
expected on the Space Coast tomorrow we

675
00:26:50,210 --> 00:26:48,450
heard that it might be even more than

676
00:26:52,040 --> 00:26:50,220
what we were hearing yesterday and just

677
00:26:55,370 --> 00:26:52,050
what kind of challenges that's going to

678
00:26:57,290 --> 00:26:55,380
present for you and your team um I don't

679
00:26:59,420 --> 00:26:57,300
understand all those brief yesterday so

680
00:27:02,240 --> 00:26:59,430
I apologize to that but on center we're

681
00:27:04,070 --> 00:27:02,250
expecting somewhere probably 45 thousand

682
00:27:06,080 --> 00:27:04,080
or so I think it may be upwards of 700

683
00:27:07,700 --> 00:27:06,090
thousand in the county and I think those

684
00:27:09,650 --> 00:27:07,710
are still probably pretty good numbers

685
00:27:11,030 --> 00:27:09,660
you know we're going into a weekend we

686
00:27:13,880 --> 00:27:11,040
do expect a lot of folks to be come and

687
00:27:15,560 --> 00:27:13,890
visit us visiting us for this launch it

688
00:27:18,020 --> 00:27:15,570

is a historic launch as we all know and

689
00:27:19,610 --> 00:27:18,030
so we're we're really pleased with the

690
00:27:21,380 --> 00:27:19,620
attention that we're getting from the

691
00:27:23,030 --> 00:27:21,390
local communities and all the folks that

692
00:27:25,730 --> 00:27:23,040
have come down to visit and are coming

693
00:27:27,200 --> 00:27:25,740
over to watch the launch it presents a

694
00:27:28,640 --> 00:27:27,210
little bit of trouble not so much for

695
00:27:31,160 --> 00:27:28,650
the folks coming in to do the launch

696
00:27:32,330 --> 00:27:31,170
itself probably more so if we run into a

697
00:27:34,790 --> 00:27:32,340
scrub scenario and I thought we probably

698
00:27:36,350 --> 00:27:34,800
talked about that quite a bit we've

699
00:27:38,600 --> 00:27:36,360
worked on a lot of different means by

700
00:27:40,190 --> 00:27:38,610
which to try to help the traffic in the

701
00:27:42,850 --> 00:27:40,200
area the local law enforcement has been

702
00:27:45,080 --> 00:27:42,860
working extremely hard to try to help

703
00:27:47,240 --> 00:27:45,090
move traffic along more quickly in the

704
00:27:49,160 --> 00:27:47,250
local areas and to help everybody get

705
00:27:50,540 --> 00:27:49,170
you know out and about on to the

706
00:27:52,850 --> 00:27:50,550
roadways and get out as quickly as they

707
00:27:54,200 --> 00:27:52,860
can we do expect some delays we're

708
00:27:55,550 --> 00:27:54,210
trying to manage those internally

709
00:27:57,620 --> 00:27:55,560
through the way we're shifting some of

710
00:27:59,510 --> 00:27:57,630
our crews and way in which we're

711
00:28:02,030 --> 00:27:59,520
managing some of the things that we have

712
00:28:03,800 --> 00:28:02,040
on launch day but for the most part it

713
00:28:05,860 --> 00:28:03,810

really is of no impact to the prime

714
00:28:08,810 --> 00:28:05,870
launch team that's in the firing room

715
00:28:10,880 --> 00:28:08,820
and they'll be there to support and able

716
00:28:12,140 --> 00:28:10,890
to support without any real issue we

717
00:28:14,000 --> 00:28:12,150
kind of get sequestered in the firing

718
00:28:16,130 --> 00:28:14,010
line once we're here and a lot of that

719
00:28:17,960 --> 00:28:16,140
stuff that's going on externally we

720
00:28:23,480 --> 00:28:17,970
don't tend to notice as much as probably

721
00:28:25,430 --> 00:28:23,490
the rest of the folks do mark Ratterman

722
00:28:29,590 --> 00:28:25,440
with talking space a couple questions

723
00:28:32,450 --> 00:28:29,600
for Joe to lie on AMS on the payload I

724
00:28:35,390 --> 00:28:32,460
know that part of the structure as well

725
00:28:38,300 --> 00:28:35,400
as the instrument itself is designed to

726
00:28:40,010 --> 00:28:38,310
handle launch vibrations anything about

727
00:28:42,770 --> 00:28:40,020
the structure that you could tell me

728
00:28:45,530 --> 00:28:42,780
about as to how it's going to protect

729
00:28:47,889 --> 00:28:45,540
the instrument itself and a second

730
00:28:51,110 --> 00:28:47,899
question regarding

731
00:28:52,490 --> 00:28:51,120
temperatures inside the instrument kind

732
00:28:53,960 --> 00:28:52,500
of what's the environment in the

733
00:28:56,269 --> 00:28:53,970
instrument after the heaters are on

734
00:29:01,490 --> 00:28:56,279
what's the temperature range that that

735
00:29:05,230 --> 00:29:01,500
it's happy with okay so for the first

736
00:29:09,370 --> 00:29:05,240
question the I mean the structure itself

737
00:29:13,730 --> 00:29:09,380
with the mat with the magnet is is ams

738
00:29:15,440 --> 00:29:13,740

okay so besides of course you have mli

739
00:29:19,009 --> 00:29:15,450
or what you know the white blankets on

740
00:29:21,379 --> 00:29:19,019
the outside of that so besides the the

741
00:29:24,250 --> 00:29:21,389
main structure protecting a mess it is

742
00:29:26,570 --> 00:29:24,260
part of a mess because you've also got

743
00:29:29,509 --> 00:29:26,580
detectors an electronic boxes attached

744
00:29:31,940 --> 00:29:29,519
to it so beside it kind of be in a

745
00:29:35,000 --> 00:29:31,950
cradle or a structure for EMS it's also

746
00:29:38,810 --> 00:29:35,010
part of a mess and then for the second

747
00:29:40,279 --> 00:29:38,820
question the the AMS of course is going

748
00:29:44,120 --> 00:29:40,289
to be working in a space environment

749
00:29:47,450 --> 00:29:44,130
which goes from cold to hot every every

750
00:29:50,480 --> 00:29:47,460
x amount of minutes so again it's able

751
00:29:51,560 --> 00:29:50,490
to take that for numerous years so there

752
00:29:58,399 --> 00:29:51,570
shouldn't be any issues there either

753
00:30:01,100 --> 00:29:58,409
thank you okay Irene please Irene Klotz

754
00:30:04,460 --> 00:30:01,110
with Reuters for either Jeff or Cathy I

755
00:30:07,820 --> 00:30:04,470
don't recall if the if the abort landing

756
00:30:10,299 --> 00:30:07,830
sites in North weapon Edwards are not

757
00:30:12,980 --> 00:30:10,309
available is that a constraint to launch

758
00:30:15,560 --> 00:30:12,990
que se available as an abort once around

759
00:30:17,450 --> 00:30:15,570
as well as I route to rtls site so from

760
00:30:20,810 --> 00:30:17,460
that perspective we're still good and

761
00:30:23,690 --> 00:30:20,820
also the concern with low clouds for

762
00:30:26,330 --> 00:30:23,700
launch is that for rtls or is that forum

763
00:30:28,460 --> 00:30:26,340

range safety or is that for both it's

764
00:30:31,669 --> 00:30:28,470
it's for both for RTLS two constraints

765
00:30:33,230 --> 00:30:31,679
5,000 feet for a range safety we have a

766
00:30:35,120 --> 00:30:33,240
six thousand foot constraint for

767
00:30:37,850 --> 00:30:35,130
unlimited thickness we can go down to

768
00:30:39,560 --> 00:30:37,860
4,000 feet if it's 500 feet thick or

769
00:30:44,060 --> 00:30:39,570
less and the foreign observers have good

770
00:30:48,379 --> 00:30:44,070
visibility on the vehicle bill the hard

771
00:30:49,610 --> 00:30:48,389
way CBS 14 Cathy 14 Jeff is there a

772
00:30:51,230 --> 00:30:49,620
better chance tonight with the front

773
00:30:53,120 --> 00:30:51,240
slowing a little bit that RSS could be

774
00:30:55,370 --> 00:30:53,130
delayed and for Jeff how long can you go

775
00:30:57,740 --> 00:30:55,380
before you absolutely have to have that

776
00:30:59,850 --> 00:30:57,750
thing back to hit the opening of your

777
00:31:02,310 --> 00:30:59,860
fueling window

778
00:31:04,289 --> 00:31:02,320
I it could be a little bit better chance

779
00:31:06,390 --> 00:31:04,299
for delay that but not by a lot i don't

780
00:31:08,370 --> 00:31:06,400
think a lot of the weather is associated

781
00:31:09,690 --> 00:31:08,380
with both the front coming down and also

782
00:31:11,700 --> 00:31:09,700
the afternoon weather that will be all

783
00:31:13,620 --> 00:31:11,710
converging back towards the east coast

784
00:31:15,510 --> 00:31:13,630
so i don't think it'll be much more but

785
00:31:17,460 --> 00:31:15,520
it may be more till about midnight or so

786
00:31:18,960 --> 00:31:17,470
11 to midnight as the time period we're

787
00:31:21,810 --> 00:31:18,970
thinking raised yesterday we're thinking

788
00:31:23,010 --> 00:31:21,820

more nine to ten p.m. so so maybe just a

789
00:31:26,549 --> 00:31:23,020
little bit more with the delay of the

790
00:31:28,110 --> 00:31:26,559
front and with that too that's that is

791
00:31:29,250 --> 00:31:28,120
it looks like the weather is going to

792
00:31:32,220 --> 00:31:29,260
cooperate to the point where we're going

793
00:31:33,900 --> 00:31:32,230
to be able to do the rotation of the RSS

794
00:31:35,250 --> 00:31:33,910
and not have to hold it because of

795
00:31:36,600 --> 00:31:35,260
weather unless we get into a situation

796
00:31:38,250 --> 00:31:36,610
where we've got you know phase two

797
00:31:39,930 --> 00:31:38,260
lightning or some significant winds that

798
00:31:41,460 --> 00:31:39,940
we got to deal with I don't think

799
00:31:43,680 --> 00:31:41,470
there's any concern at this point for

800
00:31:44,880 --> 00:31:43,690
anything that would delay us unless some

801
00:31:46,020 --> 00:31:44,890
of those things stall right over us and

802
00:31:49,350 --> 00:31:46,030
we gotta hold off but we'll evaluate

803
00:31:52,320 --> 00:31:49,360
that as we always do if we were to delay

804
00:31:53,850 --> 00:31:52,330
you know obviously you know we could

805
00:31:56,490 --> 00:31:53,860
still a a few hours you know two three

806
00:31:57,990 --> 00:31:56,500
four hours potentially depending on how

807
00:32:00,000 --> 00:31:58,000
the other work is going and what other

808
00:32:01,530 --> 00:32:00,010
things are going on there are some

809
00:32:03,240 --> 00:32:01,540
challenges though as to being able to

810
00:32:04,650 --> 00:32:03,250
hit the opening of the window once you

811
00:32:07,620 --> 00:32:04,660
start delaying past about two or three

812
00:32:11,130 --> 00:32:07,630
hours or as far as excuse me the opening

813
00:32:12,480 --> 00:32:11,140

of the ability to tank on time so you do

814
00:32:13,350 --> 00:32:12,490
run into a significant amount of problem

815
00:32:14,490 --> 00:32:13,360
now you're working a lot of things in

816
00:32:15,960 --> 00:32:14,500
parallel that normally don't happen in

817
00:32:18,990 --> 00:32:15,970
parallel and that becomes a bit of a

818
00:32:20,400 --> 00:32:19,000
challenge but we've done things like

819
00:32:21,810 --> 00:32:20,410
that in the past and had issues and

820
00:32:23,010 --> 00:32:21,820
delays and been creative and how we

821
00:32:24,299 --> 00:32:23,020
manage as long as we know in advance

822
00:32:27,810 --> 00:32:24,309
what we're doing we can sometimes pull

823
00:32:31,260 --> 00:32:27,820
some things in Marsha Marsha den

824
00:32:33,600 --> 00:32:31,270
Associated Press for Jeff one day out do

825
00:32:35,820 --> 00:32:33,610
you feel the excitement building on your

826
00:32:37,919 --> 00:32:35,830
team and around you even in your

827
00:32:40,530 --> 00:32:37,929
wherever you live it seems like this is

828
00:32:43,080 --> 00:32:40,540
just really taking hold of this whole

829
00:32:45,600 --> 00:32:43,090
area because of the president and the

830
00:32:47,430 --> 00:32:45,610
Congress woman in has there been a

831
00:32:49,820 --> 00:32:47,440
decision yet on where the president and

832
00:32:52,289 --> 00:32:49,830
his family will view the launch from

833
00:32:54,030 --> 00:32:52,299
first of all the first question nod I

834
00:32:56,430 --> 00:32:54,040
think there is a lot of time I mean I've

835
00:32:57,990 --> 00:32:56,440
been getting a lot of people talking to

836
00:33:00,659 --> 00:32:58,000
me about it in a lot of different places

837
00:33:02,340 --> 00:33:00,669
when I see folks out or and about and

838
00:33:05,100 --> 00:33:02,350

not just over the last couple of days

839
00:33:06,299 --> 00:33:05,110
but even for the last few weeks I think

840
00:33:09,630 --> 00:33:06,309
that certainly the folks locally

841
00:33:12,090 --> 00:33:09,640
recognize the historic nature of this

842
00:33:13,240 --> 00:33:12,100
the last flight of endeavor as well as a

843
00:33:15,490 --> 00:33:13,250
second to the last show

844
00:33:17,350 --> 00:33:15,500
flight and for that reason it's very

845
00:33:20,050 --> 00:33:17,360
important to them and to all of us that

846
00:33:21,880 --> 00:33:20,060
live and work in this community and then

847
00:33:24,280 --> 00:33:21,890
likewise the attention that it's getting

848
00:33:26,320 --> 00:33:24,290
from all of the people you know really

849
00:33:27,340 --> 00:33:26,330
around the world and certainly a lot of

850
00:33:29,560 --> 00:33:27,350
folks here in united states which are

851
00:33:33,750 --> 00:33:29,570
come and visit us and be part of this

852
00:33:36,190 --> 00:33:33,760
incredible crowd it is very exciting I

853
00:33:38,170 --> 00:33:36,200
think a lot of people are talking about

854
00:33:39,250 --> 00:33:38,180
it quite a bit and are really excited

855
00:33:40,930 --> 00:33:39,260
about all the things that are going to

856
00:33:43,960 --> 00:33:40,940
be happening and the fact that there are

857
00:33:45,460 --> 00:33:43,970
going to be so many people we all teams

858
00:33:46,840 --> 00:33:45,470
like we hear a lot of folks talking

859
00:33:48,340 --> 00:33:46,850
about how bad the traffic is going to be

860
00:33:49,960 --> 00:33:48,350
but I don't really hear those kind of

861
00:33:51,970 --> 00:33:49,970
comments coming from the team themselves

862
00:33:54,790 --> 00:33:51,980
about the concerns with with dealing

863
00:33:57,220 --> 00:33:54,800

with the traffic because kind of the

864
00:33:59,410 --> 00:33:57,230
ends justify the means in and people are

865
00:34:01,090 --> 00:33:59,420
just happy to be part of this event and

866
00:34:04,720 --> 00:34:01,100
I think they're really excited about

867
00:34:07,270 --> 00:34:04,730
that they don't wear the president will

868
00:34:09,129 --> 00:34:07,280
be viewing there's still some discussion

869
00:34:11,200 --> 00:34:09,139
about some of those things the final

870
00:34:13,180 --> 00:34:11,210
determination I don't have exactly where

871
00:34:15,000 --> 00:34:13,190
he's going to be there certainly looking

872
00:34:19,060 --> 00:34:15,010
at a number of different locations still

873
00:34:21,909 --> 00:34:19,070
and as is always the case that plans may

874
00:34:23,800 --> 00:34:21,919
be changed very late and we will be

875
00:34:26,139 --> 00:34:23,810
ready to accommodate wherever that

876
00:34:30,790 --> 00:34:26,149
location is and and certainly will be

877
00:34:32,200 --> 00:34:30,800
I'm happy to have him here James James

878
00:34:34,960 --> 00:34:32,210
Dean from Florida today a couple

879
00:34:37,210 --> 00:34:34,970
questions for Jeff first is the second

880
00:34:39,550 --> 00:34:37,220
consecutive countdown we unfolding when

881
00:34:41,530 --> 00:34:39,560
another vehicle stocking up at the space

882
00:34:44,740 --> 00:34:41,540
station at the same time just wondering

883
00:34:48,159 --> 00:34:44,750
how much extra sort of drama perhaps

884
00:34:49,570 --> 00:34:48,169
uncertainty that that adds to the

885
00:34:52,180 --> 00:34:49,580
process that you're going through during

886
00:34:54,970 --> 00:34:52,190
the countdown there is certainly a lot

887
00:34:56,320 --> 00:34:54,980
of there's probably a lot more drama to

888
00:34:57,610 --> 00:34:56,330

the folks that are doing the docking

889
00:35:00,850 --> 00:34:57,620
procedure and doing all those other

890
00:35:02,350 --> 00:35:00,860
things our team is really focused in on

891
00:35:04,420 --> 00:35:02,360
what it is that we're doing here and

892
00:35:06,340 --> 00:35:04,430
those types of things they're well aware

893
00:35:07,870 --> 00:35:06,350
that the docking of the progress is

894
00:35:09,610 --> 00:35:07,880
going to take place probably around an

895
00:35:12,610 --> 00:35:09,620
hour so after we get done with our

896
00:35:13,990 --> 00:35:12,620
tanking operation but that certainly

897
00:35:16,300 --> 00:35:14,000
isn't the thing that's first and

898
00:35:17,650 --> 00:35:16,310
foremost on their mind doing the tanking

899
00:35:18,730 --> 00:35:17,660
of the vehicle and getting it ready for

900
00:35:19,810 --> 00:35:18,740
the flight crew to come out later in the

901
00:35:22,150 --> 00:35:19,820
day that's what our folks are going to

902
00:35:23,770 --> 00:35:22,160
be focusing on we'll be happy to get

903
00:35:25,720 --> 00:35:23,780
that clear so that we can continue the

904
00:35:26,620 --> 00:35:25,730
rest of the countdown but but I don't

905
00:35:27,460 --> 00:35:26,630
think that's

906
00:35:28,840 --> 00:35:27,470
anything that's going to be on folks

907
00:35:30,730 --> 00:35:28,850
mine too much that they're going to

908
00:35:35,500 --> 00:35:30,740
worry about as we're working through the

909
00:35:37,840 --> 00:35:35,510
day and just you know for the President

910
00:35:40,030 --> 00:35:37,850
and and many others who may be coming to

911
00:35:41,800 --> 00:35:40,040
see the launch for the first time if you

912
00:35:43,470 --> 00:35:41,810
have to give them a little sneak preview

913
00:35:46,210 --> 00:35:43,480

what do they have to look forward to

914
00:35:48,580 --> 00:35:46,220
well I think all of our launches are

915
00:35:51,610 --> 00:35:48,590
exciting and certainly this was getting

916
00:35:53,650 --> 00:35:51,620
a lot more visibility but for me you

917
00:35:55,150 --> 00:35:53,660
know I get to stay in the firing room

918
00:35:57,010 --> 00:35:55,160
and that's believe me that's extremely

919
00:35:58,450 --> 00:35:57,020
exciting being part of the team and when

920
00:36:00,160 --> 00:35:58,460
you feel the vibration coming in the

921
00:36:02,500 --> 00:36:00,170
windows shake and all those different

922
00:36:04,570 --> 00:36:02,510
things and when it goes off the pad that

923
00:36:05,800 --> 00:36:04,580
certainly makes all the hard work in all

924
00:36:08,800 --> 00:36:05,810
the years of preparation and a lot of

925
00:36:10,660 --> 00:36:08,810
folks have had to do all worth it and

926
00:36:12,850 --> 00:36:10,670
but I think you feel it even more when

927
00:36:15,070 --> 00:36:12,860
you're outside and that's really the

928
00:36:16,510 --> 00:36:15,080
place for a lot of folks I think for the

929
00:36:18,280 --> 00:36:16,520
first time they've come to see a shuttle

930
00:36:20,770 --> 00:36:18,290
launch when you're outside and you can

931
00:36:22,570 --> 00:36:20,780
feel those shock waves coming and see as

932
00:36:24,220 --> 00:36:22,580
it's climbing up to the sky I mean

933
00:36:25,900 --> 00:36:24,230
that's that's really what it's all about

934
00:36:27,880 --> 00:36:25,910
when you not only get to see it but you

935
00:36:29,650 --> 00:36:27,890
get to feel it and hear it and hear the

936
00:36:31,420 --> 00:36:29,660
rumble of shaking the ground I mean

937
00:36:33,790 --> 00:36:31,430
that's the most exciting thing you feel

938
00:36:35,860 --> 00:36:33,800

and it is really awe-inspiring I think

939
00:36:37,990 --> 00:36:35,870
it is for a lot of folks that come I

940
00:36:40,030 --> 00:36:38,000
know yesterday they use determine a

941
00:36:42,640 --> 00:36:40,040
life-changing moment and sometimes it

942
00:36:44,560 --> 00:36:42,650
can be for folks it's amazing a lot of

943
00:36:46,540 --> 00:36:44,570
people remember the first shuttle launch

944
00:36:50,590 --> 00:36:46,550
when they came to watch that and believe

945
00:36:52,120 --> 00:36:50,600
me I do Robert Robert Pearlman with

946
00:36:55,330 --> 00:36:52,130
collectspace.com with a question for

947
00:36:58,480 --> 00:36:55,340
Jeff and a question for Joe first Jeff I

948
00:36:59,920 --> 00:36:58,490
know you said that the logistics of how

949
00:37:01,830 --> 00:36:59,930
many people are coming into the area

950
00:37:05,590 --> 00:37:01,840
doesn't really play within the launch

951
00:37:08,530 --> 00:37:05,600
within within the LCC but in terms of

952
00:37:10,920 --> 00:37:08,540
tanking decisions and an even scrub

953
00:37:13,030 --> 00:37:10,930
decision as you got closer to launch

954
00:37:15,010 --> 00:37:13,040
given that there is a chance that you

955
00:37:19,500 --> 00:37:15,020
would have to go to a 48-hour turnaround

956
00:37:22,300 --> 00:37:19,510
because of traffic how do you balance

957
00:37:24,700 --> 00:37:22,310
weighing whether which right now try it

958
00:37:26,020 --> 00:37:24,710
seems to be trending well but if it were

959
00:37:30,160 --> 00:37:26,030
to get worse balancing a weather

960
00:37:33,190 --> 00:37:30,170
decision versus a 48-hour turnaround as

961
00:37:34,480 --> 00:37:33,200
a team well when we do our turnarounds

962
00:37:36,250 --> 00:37:34,490
we look at a lot of stuff as you know

963
00:37:38,950 --> 00:37:36,260

the first thing we're going to look at

964
00:37:40,480 --> 00:37:38,960
is our technical ability to launch at

965
00:37:42,010 --> 00:37:40,490
the next available opportunity

966
00:37:43,420 --> 00:37:42,020
because if we didn't launch there's a

967
00:37:44,770 --> 00:37:43,430
reason that we didn't watch if it's just

968
00:37:46,390 --> 00:37:44,780
whether then we'll evaluate with the

969
00:37:48,340 --> 00:37:46,400
weather is at that point but if there's

970
00:37:49,570 --> 00:37:48,350
a technical reason that the prevented us

971
00:37:51,070 --> 00:37:49,580
from launching ly certainly we need to

972
00:37:52,690 --> 00:37:51,080
manage that understand what the

973
00:37:54,280 --> 00:37:52,700
implications are and how to get through

974
00:37:56,290 --> 00:37:54,290
all that and then we also need to look

975
00:37:57,790 --> 00:37:56,300
at if there's some delay in a number of

976
00:38:00,310 --> 00:37:57,800
days or whatever how we get to that

977
00:38:01,630 --> 00:38:00,320
point and can we still support it the

978
00:38:03,880 --> 00:38:01,640
next thing we also look at is whether

979
00:38:05,380 --> 00:38:03,890
and in our ability to be able to tank

980
00:38:07,030 --> 00:38:05,390
and then launch again on a subsequent

981
00:38:08,350 --> 00:38:07,040
day that we would have available to us

982
00:38:09,370 --> 00:38:08,360
and those are the most important

983
00:38:10,630 --> 00:38:09,380
criteria we have there's some other

984
00:38:12,520 --> 00:38:10,640
criteria now that we're looking at as

985
00:38:14,140 --> 00:38:12,530
well which is the ability for to get our

986
00:38:16,900 --> 00:38:14,150
crew rest and get folks home in some

987
00:38:18,700 --> 00:38:16,910
reasonable amount of time we have put a

988
00:38:19,690 --> 00:38:18,710

lot of mitigations in place traffic's

989
00:38:21,790 --> 00:38:19,700
still going to be bad going to be

990
00:38:23,790 --> 00:38:21,800
difficult they will they will look at

991
00:38:26,290 --> 00:38:23,800
that as we get really close to launch

992
00:38:29,020 --> 00:38:26,300
there'll be a much greater propensity to

993
00:38:30,250 --> 00:38:29,030
probably want to go to a 48-hour scrub

994
00:38:31,870 --> 00:38:30,260
turnaround but we will not be making

995
00:38:34,270 --> 00:38:31,880
that decision until we get into launch

996
00:38:35,620 --> 00:38:34,280
day the further back you are from t0 the

997
00:38:37,870 --> 00:38:35,630
less impact of course the traffic will

998
00:38:39,250 --> 00:38:37,880
have on the team that's here because the

999
00:38:41,010 --> 00:38:39,260
traffic will have cleared before most of

1000
00:38:43,300 --> 00:38:41,020
those folks even get off console so

1001
00:38:45,010 --> 00:38:43,310
there's less concern if you described

1002
00:38:48,099 --> 00:38:45,020
before tanking ordering tanking or even

1003
00:38:49,599 --> 00:38:48,109
after tanking with those folks in their

1004
00:38:50,620 --> 00:38:49,609
ability to get home in a reasonable

1005
00:38:52,030 --> 00:38:50,630
amount of time and get the crew rest

1006
00:38:54,700 --> 00:38:52,040
that they need before they get back so

1007
00:38:55,930 --> 00:38:54,710
all of those factors come into play as

1008
00:39:00,010 --> 00:38:55,940
well as probably some other intangibles

1009
00:39:02,410 --> 00:39:00,020
that I haven't even mentioned so and for

1010
00:39:05,470 --> 00:39:02,420
Joe given this is the second to last

1011
00:39:08,280 --> 00:39:05,480
shuttle mission can you characterize how

1012
00:39:10,030 --> 00:39:08,290
packed endeavour is in terms of mass

1013
00:39:12,849 --> 00:39:10,040

specifically with regards to the

1014
00:39:14,590 --> 00:39:12,859
mid-deck realizing payload and the

1015
00:39:16,660 --> 00:39:14,600
payload bay is judge a little bit

1016
00:39:18,670 --> 00:39:16,670
different but how much of it how much of

1017
00:39:22,270 --> 00:39:18,680
an urge was there to use every available

1018
00:39:25,120 --> 00:39:22,280
space and pound available and good

1019
00:39:27,370 --> 00:39:25,130
question I mean just if you just take a

1020
00:39:29,710 --> 00:39:27,380
look at the mid-deck that the payload

1021
00:39:34,540 --> 00:39:29,720
group is doing which I call utilization

1022
00:39:36,810 --> 00:39:34,550
or research there's ten of them a non

1023
00:39:39,340 --> 00:39:36,820
power to power that's that's quite a bit

1024
00:39:42,640 --> 00:39:39,350
and just look you know looking and

1025
00:39:45,370 --> 00:39:42,650
reviewing the map of all the space that

1026
00:39:47,440 --> 00:39:45,380
was available they uh they used every

1027
00:39:50,590 --> 00:39:47,450
inch that was available I mean they

1028
00:39:52,300 --> 00:39:50,600
really maximize what they could to bring

1029
00:39:54,609 --> 00:39:52,310
supplies up there knowing that this is

1030
00:39:55,989 --> 00:39:54,619
the second to last launch

1031
00:39:57,370 --> 00:39:55,999
might take advantage and get as much as

1032
00:39:59,470 --> 00:39:57,380
we can up there between these two

1033
00:40:01,930 --> 00:39:59,480
launches so a lot of work and a lot of

1034
00:40:05,140 --> 00:40:01,940
effort went into maximizing the weight

1035
00:40:08,710 --> 00:40:05,150
and the trade-off scenarios to get items

1036
00:40:11,589 --> 00:40:08,720
up to a good question we have time for

1037
00:40:15,400 --> 00:40:11,599
one final question i'm alan boyle with

1038
00:40:16,809 --> 00:40:15,410

MSNBC I wanted to ask Jeff how long has

1039
00:40:19,539 --> 00:40:16,819
it been since there's been a launch that

1040
00:40:23,589 --> 00:40:19,549
has gone off on time and does the is

1041
00:40:25,960 --> 00:40:23,599
there any effect that the idea of having

1042
00:40:28,089 --> 00:40:25,970
the president and the Congress woman and

1043
00:40:30,359 --> 00:40:28,099
all these VIPs here does that have an

1044
00:40:34,210 --> 00:40:30,369
effect on the launch team do you have to

1045
00:40:36,099 --> 00:40:34,220
explain to folks and we and emphasize

1046
00:40:37,720 --> 00:40:36,109
that this is just another launch and

1047
00:40:39,249 --> 00:40:37,730
that it's no different or is it

1048
00:40:42,910 --> 00:40:39,259
different for the launch team because

1049
00:40:45,400 --> 00:40:42,920
event and and i think i would have to

1050
00:40:48,759 --> 00:40:45,410
defer us to win our last when we went on

1051
00:40:50,019 --> 00:40:48,769
the first attempt and on time I just

1052
00:40:51,880 --> 00:40:50,029
don't recall off the top of my head

1053
00:40:53,650 --> 00:40:51,890
which particular one that was because

1054
00:40:56,170 --> 00:40:53,660
our launch have been spaced out a little

1055
00:40:57,789 --> 00:40:56,180
bit over the last couple of years as far

1056
00:41:00,190 --> 00:40:57,799
as the launch team goes we don't make

1057
00:41:01,779 --> 00:41:00,200
any different determinations as to the

1058
00:41:03,400 --> 00:41:01,789
way we manage our any of our

1059
00:41:06,009 --> 00:41:03,410
requirements or the work in which we're

1060
00:41:09,279 --> 00:41:06,019
going to do or or try harder if you will

1061
00:41:11,160 --> 00:41:09,289
because we have folks here we do the

1062
00:41:13,269 --> 00:41:11,170
exact same level of effort we have

1063
00:41:15,489 --> 00:41:13,279

excellent procedures and requirements

1064
00:41:17,470 --> 00:41:15,499
that have been built over 30 years and

1065
00:41:19,210 --> 00:41:17,480
they have served as well through that

1066
00:41:23,859 --> 00:41:19,220
time and they will continue to do so for

1067
00:41:25,630 --> 00:41:23,869
these last two launches that will

1068
00:41:28,089 --> 00:41:25,640
conclude today's countdown status

1069
00:41:31,539 --> 00:41:28,099
briefing please join us live on NASA

1070
00:41:33,160 --> 00:41:31,549
television at 11am eastern time for the

1071
00:41:35,339 --> 00:41:33,170
Commercial Crew development round to