



1  
00:00:07,990 --> 00:00:05,749  
good afternoon everyone purpose of this

2  
00:00:10,310 --> 00:00:08,000  
briefing is twofold

3  
00:00:13,350 --> 00:00:10,320  
while the launch team was meeting this

4  
00:00:15,270 --> 00:00:13,360  
afternoon to develop a go forward plan

5  
00:00:17,430 --> 00:00:15,280  
for space shuttle endeavor

6  
00:00:20,790 --> 00:00:17,440  
president obama was here

7  
00:00:24,630 --> 00:00:20,800  
and he has just left as we've seen

8  
00:00:27,990 --> 00:00:24,640  
so we will get a status on the visit of

9  
00:00:29,669 --> 00:00:28,000  
president obama as well as a status on

10  
00:00:31,750 --> 00:00:29,679  
space shuttle endeavor

11  
00:00:33,030 --> 00:00:31,760  
and here to do that for us

12  
00:00:38,470 --> 00:00:33,040  
is our

13  
00:00:42,389 --> 00:00:40,470

the chairman of the mission management

14

00:00:44,630 --> 00:00:42,399

team and the manager of launch

15

00:00:49,110 --> 00:00:44,640

integration at kennedy space center for

16

00:00:53,590 --> 00:00:50,709

and our nasa space shuttle launch

17

00:00:55,270 --> 00:00:53,600

director mike leinbach good afternoon

18

00:00:57,189 --> 00:00:55,280

and we'll begin first with our center

19

00:00:59,910 --> 00:00:57,199

director bob cabana bob

20

00:01:01,590 --> 00:00:59,920

thanks george well obviously uh we would

21

00:01:02,549 --> 00:01:01,600

have very much loved to have seen

22

00:01:04,789 --> 00:01:02,559

endeavor

23

00:01:07,030 --> 00:01:04,799

lifting off this afternoon but that

24

00:01:08,149 --> 00:01:07,040

wasn't to be the case and

25

00:01:10,070 --> 00:01:08,159

you know i'd much rather be on the

26

00:01:12,390 --> 00:01:10,080

ground wishing i was flying than in the

27

00:01:13,350 --> 00:01:12,400

air wishing i was on the ground

28

00:01:16,310 --> 00:01:13,360

and

29

00:01:18,310 --> 00:01:16,320

safety always comes first

30

00:01:20,630 --> 00:01:18,320

these guys will talk about the issue

31

00:01:21,670 --> 00:01:20,640

that we had in our plan to troubleshoot

32

00:01:25,190 --> 00:01:21,680

it

33

00:01:27,190 --> 00:01:25,200

even though we scrubbed the president uh

34

00:01:29,350 --> 00:01:27,200

elected to continue with his visit to

35

00:01:31,749 --> 00:01:29,360

the kennedy space center with his family

36

00:01:33,590 --> 00:01:31,759

and i think he really enjoyed it and i

37

00:01:37,429 --> 00:01:33,600

know his family did

38

00:01:39,190 --> 00:01:37,439

he arrived on time got a great tour of

39

00:01:41,749 --> 00:01:39,200

atlantis over in the orbiter processing

40

00:01:44,550 --> 00:01:41,759

facility with uh janet cavandi

41

00:01:46,789 --> 00:01:44,560

uh i came over to the lcc and uh met

42

00:01:49,510 --> 00:01:46,799

with the crew the crew is in great

43

00:01:50,310 --> 00:01:49,520

spirits uh had a long conversation with

44

00:01:52,950 --> 00:01:50,320

them

45

00:01:54,950 --> 00:01:52,960

and uh then he met with the the crew

46

00:01:57,190 --> 00:01:54,960

families and uh talked to some folks

47

00:02:00,550 --> 00:01:57,200

along the way uh as he was uh touring

48

00:02:02,069 --> 00:02:00,560

the facilities so uh it was uh he was

49

00:02:03,990 --> 00:02:02,079

extremely supportive of what we were

50

00:02:05,510 --> 00:02:04,000

doing uh he obviously wished he'd seen a

51

00:02:08,389 --> 00:02:05,520

launch too but

52

00:02:11,670 --> 00:02:08,399

he uh promised his support and told us

53

00:02:12,470 --> 00:02:11,680

to look to a good future so

54

00:02:14,150 --> 00:02:12,480

you know

55

00:02:16,309 --> 00:02:14,160

a lot of times we talk about this

56

00:02:18,390 --> 00:02:16,319

transition from space shuttle to the

57

00:02:20,309 --> 00:02:18,400

future and it's really difficult and he

58

00:02:23,430 --> 00:02:20,319

understands it's hard with folks that

59

00:02:25,350 --> 00:02:23,440

are losing their jobs but

60

00:02:27,990 --> 00:02:25,360

we're going to focus on doing

61

00:02:29,430 --> 00:02:28,000

bigger and better things and in order to

62

00:02:32,070 --> 00:02:29,440

work on a program that's going to take

63

00:02:33,670 --> 00:02:32,080

us beyond our home planet again

64

00:02:35,270 --> 00:02:33,680

unfortunately the shuttle's going to

65

00:02:37,110 --> 00:02:35,280

come to an end

66

00:02:39,270 --> 00:02:37,120

i think that

67

00:02:41,670 --> 00:02:39,280

we are going to have a good future as we

68

00:02:44,309 --> 00:02:41,680

enable commercial space and we build a

69

00:02:46,790 --> 00:02:44,319

large vehicle and a rocket that's going

70

00:02:48,070 --> 00:02:46,800

to take us beyond our home planet

71

00:02:49,910 --> 00:02:48,080

but

72

00:02:51,990 --> 00:02:49,920

you know we're going to make that happen

73

00:02:53,509 --> 00:02:52,000

it is going to to work and the reason

74

00:02:55,350 --> 00:02:53,519

it's going to work is because of the

75

00:02:56,550 --> 00:02:55,360

tremendously talented workforce that we

76

00:02:59,110 --> 00:02:56,560

have here at

77

00:03:00,470 --> 00:02:59,120

the kennedy space center and within nasa

78

00:03:01,990 --> 00:03:00,480

so

79

00:03:04,390 --> 00:03:02,000

i think it was great that he came down

80

00:03:05,750 --> 00:03:04,400

today i think the family really enjoyed

81

00:03:07,670 --> 00:03:05,760

the visit hopefully we can lure them

82

00:03:10,229 --> 00:03:07,680

back for another launch in the future at

83

00:03:12,710 --> 00:03:10,239

least get the family back here and when

84

00:03:15,589 --> 00:03:12,720

it's right we'll get endeavour off and

85

00:03:16,949 --> 00:03:15,599

hopefully that's not in the into distant

86

00:03:19,030 --> 00:03:16,959

future in the meantime the crew is

87

00:03:20,630 --> 00:03:19,040

staying in quarantine and they'll be

88

00:03:22,470 --> 00:03:20,640

occupied here for the

89

00:03:24,149 --> 00:03:22,480

the weekend and their families are going

90

00:03:25,750 --> 00:03:24,159

to stay with them and they'll have some

91

00:03:27,670 --> 00:03:25,760

time together too but

92

00:03:30,710 --> 00:03:27,680

we'll we'll fly when the time is right

93

00:03:33,190 --> 00:03:30,720

and i'll let the two mikes cover that

94

00:03:34,550 --> 00:03:33,200

thanks paul well let's see

95

00:03:38,789 --> 00:03:34,560

uh

96

00:03:40,390 --> 00:03:38,799

amazing job by the team to first even

97

00:03:43,190 --> 00:03:40,400

get us to the position to be ready to

98

00:03:45,350 --> 00:03:43,200

tank uh last night when we left

99

00:03:47,030 --> 00:03:45,360

uh the the weather front coming in was

100

00:03:48,949 --> 00:03:47,040

supposed to hit around 7 p.m it didn't

101  
00:03:51,430 --> 00:03:48,959  
hit till much later which really threw

102  
00:03:53,270 --> 00:03:51,440  
us a loop for retracting the rss i'll

103  
00:03:54,949 --> 00:03:53,280  
let mike go into the details but

104  
00:03:57,030 --> 00:03:54,959  
but his team did an amazing job of

105  
00:03:59,509 --> 00:03:57,040  
getting that done we i think we rotated

106  
00:04:01,509 --> 00:03:59,519  
the rss about five hours late but we had

107  
00:04:03,509 --> 00:04:01,519  
an on-time tanking this morning so the

108  
00:04:05,670 --> 00:04:03,519  
team did an amazing job of working ahead

109  
00:04:07,190 --> 00:04:05,680  
on what they could and and having a plan

110  
00:04:08,869 --> 00:04:07,200  
ready to execute as soon as the weather

111  
00:04:10,630 --> 00:04:08,879  
cleared up and they did just that a

112  
00:04:12,710 --> 00:04:10,640  
really great example of of what the the

113  
00:04:14,390 --> 00:04:12,720

team here at kennedy can do

114

00:04:15,990 --> 00:04:14,400

once we got uh

115

00:04:17,349 --> 00:04:16,000

uh on console heard the weather briefing

116

00:04:19,749 --> 00:04:17,359

looked like a really good data tank so

117

00:04:21,110 --> 00:04:19,759

we we got started with that had a few uh

118

00:04:23,749 --> 00:04:21,120

little things just to keep us talking

119

00:04:25,430 --> 00:04:23,759

there was a leaky hydrogen fuel line on

120

00:04:27,350 --> 00:04:25,440

the mlp

121

00:04:28,629 --> 00:04:27,360

in the right ohms one of the regs was

122

00:04:30,950 --> 00:04:28,639

was running a little higher than it

123

00:04:32,950 --> 00:04:30,960

should so we hooked it up to a different

124

00:04:34,550 --> 00:04:32,960

tank to put some olig in there and bleed

125

00:04:38,310 --> 00:04:34,560

down that pressure

126  
00:04:40,469 --> 00:04:38,320  
and then we had the apu heater problem

127  
00:04:43,270 --> 00:04:40,479  
basically in in the apu system apu

128  
00:04:44,550 --> 00:04:43,280  
stands for auxiliary power unit it's the

129  
00:04:46,230 --> 00:04:44,560  
it's the system we use to generate

130  
00:04:47,830 --> 00:04:46,240  
hydraulic power so it burns off

131  
00:04:49,350 --> 00:04:47,840  
hydrazine

132  
00:04:50,870 --> 00:04:49,360  
spins a turbine which drives a pump

133  
00:04:53,430 --> 00:04:50,880  
which pumps hydraulic fluid around the

134  
00:04:55,110 --> 00:04:53,440  
orbiter we use that hydraulic fluid to

135  
00:04:57,189 --> 00:04:55,120  
throttle and gimbal the main engines

136  
00:05:00,070 --> 00:04:57,199  
move the aero surfaces everything you'd

137  
00:05:02,710 --> 00:05:00,080  
use hydraulic power for in an airplane

138  
00:05:04,550 --> 00:05:02,720

a large airplane so we we had a problem

139

00:05:06,550 --> 00:05:04,560

in one of the heaters on the fuel line

140

00:05:07,830 --> 00:05:06,560

and the fuel is hydrazine and when you

141

00:05:09,270 --> 00:05:07,840

get in orbit

142

00:05:11,430 --> 00:05:09,280

if you can't keep the heater on that

143

00:05:13,590 --> 00:05:11,440

hydrogen can freeze up and when it

144

00:05:15,110 --> 00:05:13,600

freezes that line can get compacted and

145

00:05:17,029 --> 00:05:15,120

loaded up with a lot of hydrazine and

146

00:05:19,110 --> 00:05:17,039

when it thaws you're worried about a big

147

00:05:20,790 --> 00:05:19,120

pressure spike coming into the line as

148

00:05:22,150 --> 00:05:20,800

that hydrazine thaws

149

00:05:24,230 --> 00:05:22,160

and potentially rupturing the line and

150

00:05:25,430 --> 00:05:24,240

causing a leak leaking hydrazine is

151  
00:05:26,790 --> 00:05:25,440  
really bad because when you get back in

152  
00:05:28,710 --> 00:05:26,800  
the atmosphere it immediately catches on

153  
00:05:30,629 --> 00:05:28,720  
fire and would have a big problem so we

154  
00:05:32,710 --> 00:05:30,639  
don't want a fuel leak in our in the aft

155  
00:05:34,150 --> 00:05:32,720  
compartment of the orbiter

156  
00:05:36,870 --> 00:05:34,160  
this particular system there's two

157  
00:05:39,430 --> 00:05:36,880  
heaters on this apu-1

158  
00:05:41,749 --> 00:05:39,440  
both of them are required for operations

159  
00:05:43,749 --> 00:05:41,759  
uh so that we we do have the redundancy

160  
00:05:45,189 --> 00:05:43,759  
because if you did lose your last heater

161  
00:05:47,670 --> 00:05:45,199  
while you're in orbit you wouldn't

162  
00:05:49,590 --> 00:05:47,680  
necessarily have time to react

163  
00:05:50,950 --> 00:05:49,600

the the loss of that system on orbit

164

00:05:52,390 --> 00:05:50,960

what we would do is

165

00:05:54,870 --> 00:05:52,400

had this problem occurred once we got in

166

00:05:56,629 --> 00:05:54,880

orbit we would have noticed it the crew

167

00:05:59,189 --> 00:05:56,639

would have evaluated and the ground

168

00:06:00,550 --> 00:05:59,199

control team would have evaluated the

169

00:06:02,950 --> 00:06:00,560

thermal response we might have been able

170

00:06:04,550 --> 00:06:02,960

to periodically run the apu to keep it

171

00:06:06,150 --> 00:06:04,560

warm

172

00:06:08,550 --> 00:06:06,160

kind of doubtful in the attitude that we

173

00:06:09,990 --> 00:06:08,560

get stuck within station because uh both

174

00:06:11,670 --> 00:06:10,000

of station's restrictions and shuttle's

175

00:06:13,350 --> 00:06:11,680

restrictions we can't really

176  
00:06:15,029 --> 00:06:13,360  
maneuver wherever we want to from an

177  
00:06:16,629 --> 00:06:15,039  
attitude and put the sun

178  
00:06:18,230 --> 00:06:16,639  
on the right spot so we probably would

179  
00:06:19,590 --> 00:06:18,240  
have burned that system off basically

180  
00:06:21,590 --> 00:06:19,600  
burned it to depletion got rid of all

181  
00:06:23,830 --> 00:06:21,600  
the hydrazine and therefore not worried

182  
00:06:26,070 --> 00:06:23,840  
about it loss of a single apu by itself

183  
00:06:27,830 --> 00:06:26,080  
on orbit is not an early mission

184  
00:06:29,270 --> 00:06:27,840  
termination that would have been an okay

185  
00:06:31,430 --> 00:06:29,280  
posture to be in for the mission had we

186  
00:06:32,629 --> 00:06:31,440  
lost an apu so had we not caught this

187  
00:06:33,830 --> 00:06:32,639  
pre-launch

188  
00:06:35,909 --> 00:06:33,840

it would have been uh it would have been

189

00:06:37,749 --> 00:06:35,919

an okay uh day on or it wouldn't have

190

00:06:38,950 --> 00:06:37,759

been a bad day um but it's a really good

191

00:06:40,230 --> 00:06:38,960

thing we did catch it because that gives

192

00:06:42,710 --> 00:06:40,240

us the opportunity to now fix it and

193

00:06:44,550 --> 00:06:42,720

launch with uh with full-up redundancy

194

00:06:45,749 --> 00:06:44,560

um mike can talk to you about a little

195

00:06:47,350 --> 00:06:45,759

more about what signature we actually

196

00:06:48,390 --> 00:06:47,360

saw and what we're gonna now have to do

197

00:06:49,830 --> 00:06:48,400

to troubleshoot

198

00:06:52,469 --> 00:06:49,840

but it was a pretty pretty

199

00:06:54,710 --> 00:06:52,479

straightforward uh scrub today the team

200

00:06:56,070 --> 00:06:54,720

uh made a very good call

201  
00:06:57,510 --> 00:06:56,080  
we talked about it for about the right

202  
00:06:58,629 --> 00:06:57,520  
amount of time and then we talked a

203  
00:07:00,309 --> 00:06:58,639  
little bit more just to make sure we

204  
00:07:01,830 --> 00:07:00,319  
really did have all the

205  
00:07:02,710 --> 00:07:01,840  
all the right understanding of the

206  
00:07:03,990 --> 00:07:02,720  
system

207  
00:07:05,670 --> 00:07:04,000  
and more importantly to make sure while

208  
00:07:07,589 --> 00:07:05,680  
we were sitting there you almost get a

209  
00:07:09,270 --> 00:07:07,599  
kind of a free orbit checkout because

210  
00:07:11,189 --> 00:07:09,280  
you have that really cold hydrogen

211  
00:07:12,710 --> 00:07:11,199  
oxygen in the aft compartment chilling

212  
00:07:14,550 --> 00:07:12,720  
everything down so we really got to see

213  
00:07:16,469 --> 00:07:14,560

how this heater performed and all its

214

00:07:17,670 --> 00:07:16,479

associated heaters uh we wanted to make

215

00:07:18,790 --> 00:07:17,680

sure before we started the drain that

216

00:07:20,150 --> 00:07:18,800

there weren't any other troubleshooting

217

00:07:22,309 --> 00:07:20,160

steps to take

218

00:07:25,189 --> 00:07:22,319

and we did that uh didn't have anything

219

00:07:26,550 --> 00:07:25,199

to do and so uh mike uh made that scrub

220

00:07:27,749 --> 00:07:26,560

call and it was it was a really good one

221

00:07:29,830 --> 00:07:27,759

at the right time

222

00:07:31,749 --> 00:07:29,840

um so now we're in a recovery plan i'll

223

00:07:33,830 --> 00:07:31,759

let mike talk to you about that plan

224

00:07:36,710 --> 00:07:33,840

um and what that means to us in terms of

225

00:07:38,150 --> 00:07:36,720

the range and the schedules um we look

226

00:07:40,790 --> 00:07:38,160

like we got a good shot to keep trying

227

00:07:42,469 --> 00:07:40,800

here uh and uh you know there's an atlas

228

00:07:43,670 --> 00:07:42,479

that's scheduled for launch right now on

229

00:07:45,270 --> 00:07:43,680

the sixth

230

00:07:47,350 --> 00:07:45,280

so our last possible launch attempt

231

00:07:49,430 --> 00:07:47,360

would be on wednesday the 4th in front

232

00:07:50,950 --> 00:07:49,440

of that atlas launch they look like

233

00:07:52,469 --> 00:07:50,960

they're still in good shape we'll

234

00:07:53,589 --> 00:07:52,479

obviously keep tabs on them as we go

235

00:07:54,950 --> 00:07:53,599

forward but

236

00:07:55,670 --> 00:07:54,960

if we had to go on the other side of

237

00:07:57,589 --> 00:07:55,680

them

238

00:07:59,670 --> 00:07:57,599

we'd come back probably around the 8th

239

00:08:02,070 --> 00:07:59,680

or 9th those aren't really good launch

240

00:08:03,909 --> 00:08:02,080

days from the station's perspective

241

00:08:06,390 --> 00:08:03,919

that would couple the shuttles undocking

242

00:08:07,749 --> 00:08:06,400

with the 25 soyuz undocking and we don't

243

00:08:09,749 --> 00:08:07,759

want those two events on top of each

244

00:08:11,990 --> 00:08:09,759

other this is a case where we can

245

00:08:13,589 --> 00:08:12,000

actually allow the 25 soyuz to undock

246

00:08:15,430 --> 00:08:13,599

while a shuttle is present we just can't

247

00:08:16,710 --> 00:08:15,440

do that on the same day so we'd have to

248

00:08:19,110 --> 00:08:16,720

wait a couple extra days we'd probably

249

00:08:20,390 --> 00:08:19,120

move to the ninth maybe even the 10th as

250

00:08:22,230 --> 00:08:20,400

our first launch attempt on the other

251  
00:08:23,589 --> 00:08:22,240  
side of atlas we're gonna have to go do

252  
00:08:24,950 --> 00:08:23,599  
some homework there and talk to the

253  
00:08:26,550 --> 00:08:24,960  
russians about exactly the right way to

254  
00:08:27,909 --> 00:08:26,560  
deconflict that but we're not going to

255  
00:08:29,589 --> 00:08:27,919  
do too much on that just yet because we

256  
00:08:31,909 --> 00:08:29,599  
think we still got a shot in front of

257  
00:08:33,430 --> 00:08:31,919  
atlas and with that i'll stop talking so

258  
00:08:34,230 --> 00:08:33,440  
mike can give you more of the details

259  
00:08:35,350 --> 00:08:34,240  
okay

260  
00:08:36,550 --> 00:08:35,360  
thanks mike

261  
00:08:38,149 --> 00:08:36,560  
well let's see the

262  
00:08:39,589 --> 00:08:38,159  
mike mentioned how well we did overnight

263  
00:08:41,430 --> 00:08:39,599

the launch team did overnight getting

264

00:08:43,190 --> 00:08:41,440

recovered from the rotating service

265

00:08:45,030 --> 00:08:43,200

structure delay and that was outstanding

266

00:08:46,949 --> 00:08:45,040

effort to say it was four or five hours

267

00:08:48,470 --> 00:08:46,959

late probably doesn't sound like much to

268

00:08:50,949 --> 00:08:48,480

the folks in the room but i can tell you

269

00:08:52,470 --> 00:08:50,959

uh that it was an outstanding effort

270

00:08:55,110 --> 00:08:52,480

probably the latest we've ever rotated

271

00:08:56,790 --> 00:08:55,120

the rss and still got to tanking on time

272

00:08:58,550 --> 00:08:56,800

so tanking was going perfectly fine and

273

00:09:00,150 --> 00:08:58,560

we started talking about the apu issue

274

00:09:01,670 --> 00:09:00,160

at about nine o'clock this morning give

275

00:09:04,150 --> 00:09:01,680

or take a few minutes

276

00:09:06,470 --> 00:09:04,160

and what we saw was that when the fuel

277

00:09:08,389 --> 00:09:06,480

line chilled down because of the

278

00:09:10,790 --> 00:09:08,399

environment in the after the orbiter the

279

00:09:12,470 --> 00:09:10,800

thermostat that controls the heater

280

00:09:13,990 --> 00:09:12,480

didn't come on

281

00:09:15,509 --> 00:09:14,000

didn't command the heater to come on

282

00:09:17,829 --> 00:09:15,519

it's much like a thermostat in your home

283

00:09:20,070 --> 00:09:17,839

when it gets cold and you want the heat

284

00:09:21,269 --> 00:09:20,080

the thermostat kicks on the heater that

285

00:09:21,990 --> 00:09:21,279

didn't happen

286

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

and

287

00:09:26,150 --> 00:09:24,000

there was wasn't much troubleshooting we

288

00:09:28,230 --> 00:09:26,160

could do while we were still in in uh et

289

00:09:30,790 --> 00:09:28,240

load we had to get back into the crew

290

00:09:32,550 --> 00:09:30,800

module and uh and command some some uh

291

00:09:34,870 --> 00:09:32,560

the heater on from the from the crew

292

00:09:36,870 --> 00:09:34,880

module itself so we had to wait until we

293

00:09:38,949 --> 00:09:36,880

were done with et load to get the ground

294

00:09:40,310 --> 00:09:38,959

crews into the end of the ship and do

295

00:09:42,310 --> 00:09:40,320

that next part of the troubleshooting

296

00:09:44,870 --> 00:09:42,320

which was to command the heater on from

297

00:09:46,630 --> 00:09:44,880

the crew module and that didn't work and

298

00:09:48,310 --> 00:09:46,640

so at that point we knew we had a

299

00:09:49,670 --> 00:09:48,320

problem with that heater

300

00:09:52,230 --> 00:09:49,680

we weren't sure if it was a thermostat

301  
00:09:54,150 --> 00:09:52,240  
or the heater and uh but we knew we only

302  
00:09:55,509 --> 00:09:54,160  
had one of those two and we did some

303  
00:09:57,030 --> 00:09:55,519  
talking as mike said we talked for a

304  
00:09:58,710 --> 00:09:57,040  
couple of hours about could we get

305  
00:10:00,790 --> 00:09:58,720  
comfortable launching in a configuration

306  
00:10:02,790 --> 00:10:00,800  
like this and frankly this was a this

307  
00:10:05,030 --> 00:10:02,800  
was a pretty straightforward scrub uh

308  
00:10:06,550 --> 00:10:05,040  
declaration today you don't like lifting

309  
00:10:07,670 --> 00:10:06,560  
off of that redundancy especially in a

310  
00:10:11,910 --> 00:10:07,680  
critical sys

311  
00:10:13,829 --> 00:10:11,920  
so we declared the scrub at 1216 today

312  
00:10:15,990 --> 00:10:13,839  
the team immediately got into the drain

313  
00:10:18,310 --> 00:10:16,000

operation of the external tank both

314

00:10:20,710 --> 00:10:18,320

commodities are off the tank now it

315

00:10:22,069 --> 00:10:20,720

takes us 24 hours to fully drain the

316

00:10:23,829 --> 00:10:22,079

tank there's there's a little bit of

317

00:10:25,509 --> 00:10:23,839

hydrogen left in the bottom of the tank

318

00:10:27,269 --> 00:10:25,519

that has to boil off and then we inert

319

00:10:29,269 --> 00:10:27,279

the tank with with helium

320

00:10:31,030 --> 00:10:29,279

that operation takes a full 24 hours

321

00:10:33,590 --> 00:10:31,040

from the scrub declaration and so

322

00:10:35,110 --> 00:10:33,600

tomorrow afternoon

323

00:10:36,630 --> 00:10:35,120

will be the first time we can start

324

00:10:38,310 --> 00:10:36,640

going into the after the orbiter which

325

00:10:40,389 --> 00:10:38,320

is where this fuel line is for the

326

00:10:41,829 --> 00:10:40,399

auxiliary power unit we have to go into

327

00:10:43,350 --> 00:10:41,839

the after the orbiter we have to get our

328

00:10:45,190 --> 00:10:43,360

hands on the fuel line we have to get

329

00:10:46,949 --> 00:10:45,200

our hands on the on the thermostat and

330

00:10:49,590 --> 00:10:46,959

the heater to really see what the

331

00:10:50,710 --> 00:10:49,600

problem is so after access is absolutely

332

00:10:52,550 --> 00:10:50,720

required

333

00:10:54,069 --> 00:10:52,560

that will happen tomorrow afternoon and

334

00:10:55,670 --> 00:10:54,079

maybe about dinner time tomorrow we'll

335

00:10:57,910 --> 00:10:55,680

start our troubleshooting the

336

00:10:59,829 --> 00:10:57,920

troubleshooting involves taking in a can

337

00:11:01,430 --> 00:10:59,839

of mist and spraying it on the on the

338

00:11:03,030 --> 00:11:01,440

thermostat to see if we can force a

339

00:11:04,630 --> 00:11:03,040

lower temperature on the thermostat and

340

00:11:05,910 --> 00:11:04,640

have it kick on lower than the

341

00:11:08,230 --> 00:11:05,920

temperatures we could have gotten in the

342

00:11:09,829 --> 00:11:08,240

ship today by ambient and if that works

343

00:11:11,829 --> 00:11:09,839

then we might have just a thermostat

344

00:11:13,829 --> 00:11:11,839

that's that's that's out of kilter and

345

00:11:15,030 --> 00:11:13,839

we could replace that thermostat and be

346

00:11:16,630 --> 00:11:15,040

in good shape

347

00:11:18,069 --> 00:11:16,640

if it's more than that then then it

348

00:11:19,750 --> 00:11:18,079

could be in a

349

00:11:21,670 --> 00:11:19,760

box called the lca the load control

350

00:11:24,790 --> 00:11:21,680

assembly which is essentially a box full

351  
00:11:25,990 --> 00:11:24,800  
of switches basically and uh if there's

352  
00:11:27,509 --> 00:11:26,000  
if there's something wrong in that box

353  
00:11:29,430 --> 00:11:27,519  
we have to change out that box that's a

354  
00:11:31,269 --> 00:11:29,440  
that's a much more extensive much more

355  
00:11:33,110 --> 00:11:31,279  
extensive job it would take us quite

356  
00:11:34,870 --> 00:11:33,120  
some time to do that

357  
00:11:36,949 --> 00:11:34,880  
but we're not there yet right now we

358  
00:11:38,790 --> 00:11:36,959  
think we can we can get in we will get

359  
00:11:40,630 --> 00:11:38,800  
in and do the check on the heater itself

360  
00:11:42,790 --> 00:11:40,640  
on the thermostat and the heater and if

361  
00:11:45,110 --> 00:11:42,800  
we can go down the easy path we're still

362  
00:11:46,870 --> 00:11:45,120  
on a track for monday morning

363  
00:11:48,389 --> 00:11:46,880

this initial round of troubleshooting

364

00:11:51,030 --> 00:11:48,399

still supports a launch attempt monday

365

00:11:52,870 --> 00:11:51,040

morning so that's the path we're on now

366

00:11:53,910 --> 00:11:52,880

we have a i have a launch team meeting

367

00:11:55,590 --> 00:11:53,920

tomorrow evening to see how the

368

00:11:57,509 --> 00:11:55,600

troubleshooting is going and then

369

00:11:59,269 --> 00:11:57,519

another meeting sunday morning to see

370

00:12:00,150 --> 00:11:59,279

what what happened what transpired

371

00:12:01,910 --> 00:12:00,160

overnight

372

00:12:03,190 --> 00:12:01,920

saturday night with further

373

00:12:04,870 --> 00:12:03,200

troubleshooting

374

00:12:06,710 --> 00:12:04,880

so that's where we are today

375

00:12:08,790 --> 00:12:06,720

unfortunate for team endeavor and mark

376

00:12:10,550 --> 00:12:08,800

kelly and his crew i talked to mark when

377

00:12:12,310 --> 00:12:10,560

he was in the astro van it was kind of

378

00:12:13,750 --> 00:12:12,320

funny the way the way the timing worked

379

00:12:15,670 --> 00:12:13,760

out today the crew was ready to go out

380

00:12:16,790 --> 00:12:15,680

to the pad and we weren't ready yet to

381

00:12:18,949 --> 00:12:16,800

to scrub

382

00:12:20,629 --> 00:12:18,959

and so we we let them proceed to the pad

383

00:12:22,310 --> 00:12:20,639

and but then we held them at the at the

384

00:12:24,150 --> 00:12:22,320

launch control centers there was no

385

00:12:25,670 --> 00:12:24,160

reason to commit them inside the launch

386

00:12:27,190 --> 00:12:25,680

danger area

387

00:12:28,710 --> 00:12:27,200

and so i talked to him in in the astra

388

00:12:30,710 --> 00:12:28,720

van and told them what was going on and

389

00:12:32,310 --> 00:12:30,720

they understood and and and then shortly

390

00:12:34,230 --> 00:12:32,320

after that we scrubbed and they turned

391

00:12:36,150 --> 00:12:34,240

around and came back to to their crew

392

00:12:38,389 --> 00:12:36,160

quarters in the operations and control

393

00:12:40,389 --> 00:12:38,399

operations and checkout building so

394

00:12:42,150 --> 00:12:40,399

disappointing day for team endeavor and

395

00:12:43,509 --> 00:12:42,160

and the astronauts but

396

00:12:45,110 --> 00:12:43,519

as we always say in this business we

397

00:12:47,430 --> 00:12:45,120

will not fly this machine until it's

398

00:12:49,030 --> 00:12:47,440

ready and today it was not ready to go

399

00:12:50,310 --> 00:12:49,040

we hope we can get there by monday and

400

00:12:53,110 --> 00:12:50,320

we'll have more status for you as the

401

00:12:55,269 --> 00:12:53,120

weekend goes on that's it

402

00:12:57,110 --> 00:12:55,279

all right thank you mike and we'll take

403

00:12:58,949 --> 00:12:57,120

questions now please be sure to give

404

00:13:00,790 --> 00:12:58,959

your name and affiliation when we call

405

00:13:03,590 --> 00:13:00,800

on you and mike comes to you we'll start

406

00:13:05,190 --> 00:13:03,600

here in the front with marcia

407

00:13:07,110 --> 00:13:05,200

two quick questions

408

00:13:08,710 --> 00:13:07,120

first for mike lineback if it becomes

409

00:13:10,389 --> 00:13:08,720

more invasive are you even going to be

410

00:13:12,230 --> 00:13:10,399

able to make the first try out of the

411

00:13:15,190 --> 00:13:12,240

other side of the

412

00:13:16,870 --> 00:13:15,200

atlas cutout and for mr cabana just

413

00:13:19,030 --> 00:13:16,880

wondering if you had a chance to meet

414

00:13:20,870 --> 00:13:19,040

with congresswoman giffords and

415

00:13:22,230 --> 00:13:20,880

any interactions you may have had with

416

00:13:24,230 --> 00:13:22,240

her

417

00:13:25,910 --> 00:13:24,240

yeah so the first part you know we're

418

00:13:27,350 --> 00:13:25,920

we're set up to try for monday we can

419

00:13:29,269 --> 00:13:27,360

try all the way through wednesday and

420

00:13:30,790 --> 00:13:29,279

then we have to stand down for the atlas

421

00:13:32,550 --> 00:13:30,800

so we have a couple of days extra in

422

00:13:34,550 --> 00:13:32,560

there to play with to to do a little bit

423

00:13:36,310 --> 00:13:34,560

more troubleshooting

424

00:13:37,990 --> 00:13:36,320

so we haven't given up on launching

425

00:13:40,870 --> 00:13:38,000

before the apple certainly that's still

426

00:13:42,389 --> 00:13:40,880

a very viable option if if the if we

427

00:13:44,150 --> 00:13:42,399

have to change out that box the load

428

00:13:46,230 --> 00:13:44,160

control assembly then that's a that's a

429

00:13:48,629 --> 00:13:46,240

significant deal

430

00:13:50,629 --> 00:13:48,639

and the retest on that box is is quite

431

00:13:52,629 --> 00:13:50,639

extensive a full two days re-test on

432

00:13:54,550 --> 00:13:52,639

that on that box and so that would

433

00:13:55,910 --> 00:13:54,560

probably drive us to after after the

434

00:13:57,670 --> 00:13:55,920

atlas but we'll just have to see how

435

00:13:59,430 --> 00:13:57,680

that plays out

436

00:14:01,189 --> 00:13:59,440

and i did not get a chance to meet with

437

00:14:03,110 --> 00:14:01,199

gabby but i understand she's enjoying

438

00:14:05,829 --> 00:14:03,120

her time in florida and her time with

439

00:14:08,629 --> 00:14:05,839

mark and she's doing well

440

00:14:10,870 --> 00:14:08,639

okay right here

441

00:14:12,949 --> 00:14:10,880

john disney siriusxm satellite radio

442

00:14:14,550 --> 00:14:12,959

just from mike how quickly did you know

443

00:14:17,110 --> 00:14:14,560

this was going to be a showstopper given

444

00:14:18,629 --> 00:14:17,120

your knowledge of uh orbiter systems

445

00:14:20,550 --> 00:14:18,639

when you heard it was a heater problem

446

00:14:22,230 --> 00:14:20,560

on an apu did you know there's only a

447

00:14:23,670 --> 00:14:22,240

limited number of roads you could go

448

00:14:25,990 --> 00:14:23,680

down did you know pretty well right away

449

00:14:28,310 --> 00:14:26,000

you have to call it a day

450

00:14:29,910 --> 00:14:28,320

i'd say within the first i don't know

451  
00:14:31,590 --> 00:14:29,920  
maybe hour hour and a half or something

452  
00:14:32,790 --> 00:14:31,600  
like that you you never like to give up

453  
00:14:34,470 --> 00:14:32,800  
too early

454  
00:14:35,990 --> 00:14:34,480  
but also as you say you know we get to

455  
00:14:37,509 --> 00:14:36,000  
know these orbiters pretty well we get

456  
00:14:39,110 --> 00:14:37,519  
to know the systems we know what our

457  
00:14:41,509 --> 00:14:39,120  
launch commit criteria are we were in

458  
00:14:43,910 --> 00:14:41,519  
violation of the launch commit criteria

459  
00:14:45,990 --> 00:14:43,920  
and and uh while we were talking of a

460  
00:14:47,430 --> 00:14:46,000  
potential way out of the violation we

461  
00:14:50,069 --> 00:14:47,440  
just weren't going to get there after an

462  
00:14:51,910 --> 00:14:50,079  
hour and a half or two hours or so

463  
00:14:53,750 --> 00:14:51,920

but we wanted to be fully convinced mike

464

00:14:56,230 --> 00:14:53,760

wanted to be fully convinced from the

465

00:14:58,949 --> 00:14:56,240

program perspective that we exhausted

466

00:15:00,150 --> 00:14:58,959

all possible options and that's why it

467

00:15:02,150 --> 00:15:00,160

took us a little time to get to the

468

00:15:03,670 --> 00:15:02,160

scrub declaration yeah one of the things

469

00:15:06,069 --> 00:15:03,680

you know the initial signature looked

470

00:15:07,430 --> 00:15:06,079

like just one element of a heater on a

471

00:15:08,550 --> 00:15:07,440

line that was failed and if that's the

472

00:15:10,550 --> 00:15:08,560

case

473

00:15:12,629 --> 00:15:10,560

the rest of that line can keep thermal

474

00:15:14,150 --> 00:15:12,639

mass we can actually use the attitude of

475

00:15:15,750 --> 00:15:14,160

the orbiter to keep the rest of that

476  
00:15:17,350 --> 00:15:15,760  
line warm so if that was the actual

477  
00:15:19,590 --> 00:15:17,360  
failure case we could probably work our

478  
00:15:21,509 --> 00:15:19,600  
way through that problem uh once we let

479  
00:15:23,509 --> 00:15:21,519  
it sit chilled down for a longer period

480  
00:15:25,189 --> 00:15:23,519  
of time we saw that it was actually in

481  
00:15:26,790 --> 00:15:25,199  
fact the entire string of heaters along

482  
00:15:31,030 --> 00:15:26,800  
that line that were gone and there

483  
00:15:37,110 --> 00:15:33,910  
okay right here in front

484  
00:15:39,749 --> 00:15:37,120  
randy siegel wstu radio mike

485  
00:15:41,430 --> 00:15:39,759  
the apu's on the other two

486  
00:15:43,590 --> 00:15:41,440  
were working properly there was no

487  
00:15:45,189 --> 00:15:43,600  
glitches nothing that showed anything so

488  
00:15:46,550 --> 00:15:45,199

in any of the testing that's done you're

489

00:15:49,189 --> 00:15:46,560

basically just going to work on that one

490

00:15:50,790 --> 00:15:49,199

apu only that's the bad one making the

491

00:15:51,990 --> 00:15:50,800

assumption that the others are fine as

492

00:15:54,550 --> 00:15:52,000

they stand

493

00:15:56,389 --> 00:15:54,560

that's exactly right every other

494

00:15:58,069 --> 00:15:56,399

the other two apus and all their heaters

495

00:16:01,269 --> 00:15:58,079

were working perfectly fine so it's just

496

00:16:05,509 --> 00:16:03,430

okay let's come over here and pick up

497

00:16:07,829 --> 00:16:05,519

some right here

498

00:16:09,829 --> 00:16:07,839

hi mark kirkman interspace news a couple

499

00:16:12,150 --> 00:16:09,839

quick questions actually um first off

500

00:16:13,990 --> 00:16:12,160

are you tied to atlantis are we in that

501

00:16:16,710 --> 00:16:14,000

day for day trade-off in terms of uh

502

00:16:18,550 --> 00:16:16,720

hitting atlantis schedule and also i'm

503

00:16:20,230 --> 00:16:18,560

maybe confusing myself on systems

504

00:16:21,749 --> 00:16:20,240

knowledge here i thought your earlier

505

00:16:23,829 --> 00:16:21,759

discussions were saying that you had

506

00:16:25,590 --> 00:16:23,839

problems with both strings of heaters

507

00:16:27,509 --> 00:16:25,600

wouldn't that lead to

508

00:16:29,430 --> 00:16:27,519

not a single point failure or am i am i

509

00:16:30,550 --> 00:16:29,440

confused in what i heard earlier thanks

510

00:16:32,550 --> 00:16:30,560

let's see on the

511

00:16:35,110 --> 00:16:32,560

on the atlantis launch date

512

00:16:37,269 --> 00:16:35,120

they're not yet directly tied one to one

513

00:16:38,470 --> 00:16:37,279

i forget how much longer we go but we

514

00:16:39,670 --> 00:16:38,480

knew we could go to the other side of

515

00:16:41,269 --> 00:16:39,680

atlas

516

00:16:43,430 --> 00:16:41,279

and probably a week or two before we

517

00:16:45,829 --> 00:16:43,440

start running into problems um the

518

00:16:47,910 --> 00:16:45,839

longer pull there was was mlp and srb

519

00:16:49,590 --> 00:16:47,920

stacking and that's all behind us

520

00:16:51,350 --> 00:16:49,600

but at some point we do start to bump

521

00:16:53,590 --> 00:16:51,360

and and i i don't have the final answer

522

00:16:55,749 --> 00:16:53,600

there but i know it's not imminent uh to

523

00:16:57,670 --> 00:16:55,759

have problems with uh with the next one

524

00:17:01,030 --> 00:16:57,680

in fact we've we intentionally decoupled

525

00:17:04,230 --> 00:17:01,040

the rollout of atlantis over to the vab

526  
00:17:05,750 --> 00:17:04,240  
uh to decouple a round uh endeavor so

527  
00:17:07,590 --> 00:17:05,760  
that we could get that done regardless

528  
00:17:08,789 --> 00:17:07,600  
of any potential little slips here we

529  
00:17:10,230 --> 00:17:08,799  
were mostly looking at landing and

530  
00:17:11,510 --> 00:17:10,240  
staying in orbit a couple extra days but

531  
00:17:13,270 --> 00:17:11,520  
a launch slip would have done the same

532  
00:17:15,029 --> 00:17:13,280  
thing to us so so i think those two were

533  
00:17:17,510 --> 00:17:15,039  
decoupled

534  
00:17:20,069 --> 00:17:17,520  
on the heater question

535  
00:17:21,750 --> 00:17:20,079  
it was multiple heaters on

536  
00:17:24,710 --> 00:17:21,760  
string b

537  
00:17:25,909 --> 00:17:24,720  
that that were gone so right string a

538  
00:17:27,750 --> 00:17:25,919

was fine

539

00:17:29,190 --> 00:17:27,760

and what you probably saw still was

540

00:17:30,789 --> 00:17:29,200

there's both the ground power that we

541

00:17:32,630 --> 00:17:30,799

can feed to that heater string and

542

00:17:34,630 --> 00:17:32,640

onboard ship power

543

00:17:36,310 --> 00:17:34,640

it's it's a switch in the cockpit that

544

00:17:37,909 --> 00:17:36,320

would send power through an alternate

545

00:17:39,669 --> 00:17:37,919

route source so we were switching

546

00:17:40,549 --> 00:17:39,679

between the that's what mike was talking

547

00:17:42,549 --> 00:17:40,559

about having to wait to get in the

548

00:17:44,390 --> 00:17:42,559

cockpit to try the alternate power feed

549

00:17:45,830 --> 00:17:44,400

to see if if the problem maybe was on

550

00:17:47,430 --> 00:17:45,840

the ground side

551  
00:17:49,990 --> 00:17:47,440  
on the b heaters and it turned out to

552  
00:17:51,830 --> 00:17:50,000  
not be it was in the on the ship side

553  
00:17:53,430 --> 00:17:51,840  
and the thing that was a little bit uh

554  
00:17:55,350 --> 00:17:53,440  
maybe confusing if you're listening to

555  
00:17:57,510 --> 00:17:55,360  
it those four heaters one of them comes

556  
00:17:58,870 --> 00:17:57,520  
on at at a higher temperature than the

557  
00:18:00,630 --> 00:17:58,880  
others and they kind of come on

558  
00:18:02,710 --> 00:18:00,640  
sequentially is a way you can think of

559  
00:18:03,990 --> 00:18:02,720  
it and so and so the one that didn't

560  
00:18:06,070 --> 00:18:04,000  
come on we know there's something wrong

561  
00:18:07,830 --> 00:18:06,080  
with that string either that heater or

562  
00:18:09,190 --> 00:18:07,840  
that thermostat um

563  
00:18:11,270 --> 00:18:09,200

and then the second one comes on at a

564

00:18:12,630 --> 00:18:11,280

slightly lower temperature that was a

565

00:18:14,230 --> 00:18:12,640

little flaky we're not quite sure about

566

00:18:16,150 --> 00:18:14,240

that one yet we think it's failed as

567

00:18:17,669 --> 00:18:16,160

well and the other two the other two

568

00:18:19,270 --> 00:18:17,679

don't come on in the launch pad because

569

00:18:20,549 --> 00:18:19,280

it never gets that cold

570

00:18:22,549 --> 00:18:20,559

and so it

571

00:18:24,870 --> 00:18:22,559

it's probably a case where the feed to

572

00:18:27,510 --> 00:18:24,880

that whole string is is is off but i'm

573

00:18:28,630 --> 00:18:27,520

we're just not sure yet

574

00:18:35,270 --> 00:18:28,640

todd

575

00:18:38,789 --> 00:18:35,280

for mike leinbach um if you had to

576

00:18:42,390 --> 00:18:38,799

remove and replace the lca how many

577

00:18:44,070 --> 00:18:42,400

days or shifts would that take and um

578

00:18:47,029 --> 00:18:44,080

i was also wondering if you might

579

00:18:48,950 --> 00:18:47,039

clarify um on the unusual turn of the

580

00:18:50,310 --> 00:18:48,960

astro van into the parking lot at the

581

00:18:52,390 --> 00:18:50,320

lcc

582

00:18:54,549 --> 00:18:52,400

it sounds as if

583

00:18:58,070 --> 00:18:54,559

that was done so the crew could caucus

584

00:19:00,950 --> 00:18:58,080

with you is is that the way that went or

585

00:19:02,150 --> 00:19:00,960

why exactly did they pull into the lcc

586

00:19:04,230 --> 00:19:02,160

parking lot

587

00:19:06,230 --> 00:19:04,240

no the uh the uh

588

00:19:07,830 --> 00:19:06,240

the astro van issue i can talk to the

589

00:19:10,390 --> 00:19:07,840

astro band at at any point in their

590

00:19:11,750 --> 00:19:10,400

travel and and so we just let them start

591

00:19:13,430 --> 00:19:11,760

coming out to the pad because we needed

592

00:19:14,549 --> 00:19:13,440

just a few more minutes to wrap up our

593

00:19:15,909 --> 00:19:14,559

discussions

594

00:19:17,669 --> 00:19:15,919

and uh

595

00:19:18,549 --> 00:19:17,679

you know knowing the way this was going

596

00:19:20,230 --> 00:19:18,559

to go

597

00:19:22,070 --> 00:19:20,240

by that time we weren't going to let

598

00:19:23,909 --> 00:19:22,080

them inside the blast danger area

599

00:19:25,190 --> 00:19:23,919

probably not the launch danger area and

600

00:19:26,230 --> 00:19:25,200

it just got to the point where we said

601  
00:19:28,549 --> 00:19:26,240  
you know

602  
00:19:30,310 --> 00:19:28,559  
we're done with our discussion it just

603  
00:19:32,710 --> 00:19:30,320  
happened it was just happenstance that

604  
00:19:35,110 --> 00:19:32,720  
they were at the lcc and uh that's just

605  
00:19:37,350 --> 00:19:35,120  
the way it turned out

606  
00:19:40,150 --> 00:19:37,360  
the lca box changed out the guys working

607  
00:19:42,390 --> 00:19:40,160  
on that on that detailed plan uh that's

608  
00:19:43,990 --> 00:19:42,400  
that's that's going to be a a difficult

609  
00:19:46,630 --> 00:19:44,000  
box to change out

610  
00:19:48,870 --> 00:19:46,640  
and and in particular the retest there's

611  
00:19:50,150 --> 00:19:48,880  
a good 48 hours or so of retest because

612  
00:19:52,390 --> 00:19:50,160  
there are multiple systems that go

613  
00:19:54,950 --> 00:19:52,400

through that guy and so we we have to

614

00:19:56,310 --> 00:19:54,960

lay out that detailed plan um that that

615

00:20:00,230 --> 00:19:56,320

would be that would that would take us a

616

00:20:05,430 --> 00:20:03,029

randy avera interspace news uh for both

617

00:20:08,549 --> 00:20:05,440

leinbach and moses anytime you go into

618

00:20:10,310 --> 00:20:08,559

the aft compartment it's a hazard

619

00:20:12,549 --> 00:20:10,320

to make sure you get in and get out not

620

00:20:14,710 --> 00:20:12,559

damage anything how much access are you

621

00:20:16,470 --> 00:20:14,720

going to require and also do you have

622

00:20:17,830 --> 00:20:16,480

spares for these parts that are in

623

00:20:19,270 --> 00:20:17,840

question

624

00:20:22,230 --> 00:20:19,280

yeah right now

625

00:20:24,310 --> 00:20:22,240

access to this this lca and the heater

626

00:20:26,310 --> 00:20:24,320

is on the left side of the ship we only

627

00:20:28,470 --> 00:20:26,320

have to go in the left door of the of

628

00:20:30,390 --> 00:20:28,480

the aft we'll put in the entry level

629

00:20:32,549 --> 00:20:30,400

platform and one platform level before

630

00:20:33,990 --> 00:20:32,559

that below that excuse me and we'll be

631

00:20:34,870 --> 00:20:34,000

able to do all troubleshooting from that

632

00:20:36,390 --> 00:20:34,880

from that

633

00:20:39,110 --> 00:20:36,400

entry location we don't have to go in

634

00:20:40,710 --> 00:20:39,120

the right side of the ship at all

635

00:20:44,149 --> 00:20:40,720

spares no not an issue we asked that

636

00:20:48,470 --> 00:20:47,029

clara moskowitz with space.com and i was

637

00:20:50,630 --> 00:20:48,480

just hoping you could clarify the

638

00:20:51,990 --> 00:20:50,640

history of this kind of issue uh has it

639

00:20:55,029 --> 00:20:52,000

happened in the past when was the last

640

00:20:57,270 --> 00:20:55,039

time and how often has this come up

641

00:20:59,430 --> 00:20:57,280

yeah let's see the schedule i saw the

642

00:21:02,390 --> 00:20:59,440

recovery schedule it did fail we had a

643

00:21:04,390 --> 00:21:02,400

similar failure to this maybe oh gosh i

644

00:21:05,990 --> 00:21:04,400

don't remember the sts number

645

00:21:07,909 --> 00:21:06,000

but that's where we dug out our history

646

00:21:10,070 --> 00:21:07,919

whenever we have a failure on on the

647

00:21:12,070 --> 00:21:10,080

ship we keep good detail records of how

648

00:21:13,430 --> 00:21:12,080

we've recovered from that failure to

649

00:21:16,070 --> 00:21:13,440

give us a starting point for the

650

00:21:17,750 --> 00:21:16,080

recovery of the current failure and so

651  
00:21:19,590 --> 00:21:17,760  
yeah we've had this failure before but i

652  
00:21:21,190 --> 00:21:19,600  
don't remember which ship it was

653  
00:21:22,870 --> 00:21:21,200  
let's see just on the history of this

654  
00:21:24,950 --> 00:21:22,880  
particular one

655  
00:21:26,950 --> 00:21:24,960  
we tend to lump heater performance into

656  
00:21:27,990 --> 00:21:26,960  
a category we call it the file 9

657  
00:21:29,590 --> 00:21:28,000  
checkout

658  
00:21:31,190 --> 00:21:29,600  
if we were going to ground check out

659  
00:21:32,630 --> 00:21:31,200  
every single heater system we'd have to

660  
00:21:34,789 --> 00:21:32,640  
do kind of what we're about to go do now

661  
00:21:36,950 --> 00:21:34,799  
which is go in and actually chill down

662  
00:21:38,549 --> 00:21:36,960  
each individual thermostat to get it to

663  
00:21:40,070 --> 00:21:38,559

kick on by itself

664

00:21:42,310 --> 00:21:40,080

and that's a very invasive intensive

665

00:21:44,070 --> 00:21:42,320

thing to do every single flow so what we

666

00:21:45,029 --> 00:21:44,080

do is we check their performance on

667

00:21:46,630 --> 00:21:45,039

orbit

668

00:21:47,990 --> 00:21:46,640

and if the performance of the heaters we

669

00:21:50,070 --> 00:21:48,000

switch between the a strings and the b

670

00:21:51,350 --> 00:21:50,080

strings on orbit so we give a full ship

671

00:21:53,190 --> 00:21:51,360

set at checkout

672

00:21:55,430 --> 00:21:53,200

and as long as there's nothing anomalous

673

00:21:56,789 --> 00:21:55,440

in any of the orbit performance then we

674

00:21:58,470 --> 00:21:56,799

consider that checked and ready to go

675

00:22:00,950 --> 00:21:58,480

for the next flight so

676  
00:22:02,870 --> 00:22:00,960  
the last time this string was checked on

677  
00:22:04,630 --> 00:22:02,880  
the ground i think they tell me was

678  
00:22:06,390 --> 00:22:04,640  
and i just lost the date from my head it

679  
00:22:08,070 --> 00:22:06,400  
was uh it was at least two years ago i

680  
00:22:10,070 --> 00:22:08,080  
believe but its last performance in

681  
00:22:11,909 --> 00:22:10,080  
orbit was was perfect so

682  
00:22:12,950 --> 00:22:11,919  
something obviously opened up between

683  
00:22:16,390 --> 00:22:12,960  
then and now and that's what we're going

684  
00:22:21,669 --> 00:22:18,950  
uh greg dobbs with hd net television uh

685  
00:22:24,149 --> 00:22:21,679  
first for mike mores if you end up

686  
00:22:25,909 --> 00:22:24,159  
having had multiple heater failures you

687  
00:22:28,149 --> 00:22:25,919  
suggested maybe there was a second one

688  
00:22:30,070 --> 00:22:28,159

does that point toward or away a

689

00:22:32,070 --> 00:22:30,080

thermostat problem or something more

690

00:22:33,909 --> 00:22:32,080

important mike leinbach two things

691

00:22:35,350 --> 00:22:33,919

number one what's the fisher cut bait

692

00:22:37,510 --> 00:22:35,360

time to decide whether you're going to

693

00:22:39,909 --> 00:22:37,520

proceed toward a monday launch i assume

694

00:22:43,190 --> 00:22:39,919

it's sometime sunday and you mentioned

695

00:22:45,830 --> 00:22:43,200

shortly after the scrub a short circuit

696

00:22:47,830 --> 00:22:45,840

so let's see on the on the

697

00:22:49,830 --> 00:22:47,840

multiple failure thing

698

00:22:51,990 --> 00:22:49,840

it kind of depends a thermostat that's

699

00:22:53,350 --> 00:22:52,000

running a little low and just didn't

700

00:22:54,950 --> 00:22:53,360

trip

701  
00:22:56,789 --> 00:22:54,960  
and when we chill it down we see that it

702  
00:22:58,789 --> 00:22:56,799  
actually does function that would be a

703  
00:23:00,470 --> 00:22:58,799  
pretty quick change out

704  
00:23:02,230 --> 00:23:00,480  
but the rest of that circuit if there's

705  
00:23:04,070 --> 00:23:02,240  
a thermostat that's failed such that it

706  
00:23:05,430 --> 00:23:04,080  
might have an open circuit in it not

707  
00:23:07,350 --> 00:23:05,440  
necessarily a short circuit but just an

708  
00:23:08,950 --> 00:23:07,360  
open that would open up the ground these

709  
00:23:11,029 --> 00:23:08,960  
things are wired together such that they

710  
00:23:13,110 --> 00:23:11,039  
sh all this all the heaters on the at

711  
00:23:15,029 --> 00:23:13,120  
least the front half of that string

712  
00:23:17,029 --> 00:23:15,039  
share a common ground and so that

713  
00:23:18,950 --> 00:23:17,039

opening up would then pull down the in

714

00:23:20,710 --> 00:23:18,960

the lca box that mike was talking about

715

00:23:22,390 --> 00:23:20,720

would pull open that circuit which would

716

00:23:24,630 --> 00:23:22,400

then give us the signature where we see

717

00:23:26,950 --> 00:23:24,640

the whole string failed so so a single

718

00:23:28,870 --> 00:23:26,960

failure on one heater thermostat could

719

00:23:30,070 --> 00:23:28,880

still cause this problem

720

00:23:32,070 --> 00:23:30,080

that's what we need to go find out was

721

00:23:33,750 --> 00:23:32,080

it a single thermostat by itself or was

722

00:23:35,990 --> 00:23:33,760

it one a failure in there that pulled

723

00:23:37,990 --> 00:23:36,000

down the rest of the system

724

00:23:39,909 --> 00:23:38,000

and as far as the fisher cut bait time

725

00:23:41,430 --> 00:23:39,919

for monday's launch attempt

726

00:23:43,669 --> 00:23:41,440

recall we're going to have to rotate the

727

00:23:45,669 --> 00:23:43,679

the rss to the park position that would

728

00:23:47,190 --> 00:23:45,679

that would occur sunday afternoon

729

00:23:48,870 --> 00:23:47,200

probably on the order of three o'clock

730

00:23:50,149 --> 00:23:48,880

or so

731

00:23:53,110 --> 00:23:50,159

and here again we could be a little bit

732

00:23:54,710 --> 00:23:53,120

late as we've just proven on that but uh

733

00:23:56,390 --> 00:23:54,720

but uh you know sunday afternoon we have

734

00:23:57,909 --> 00:23:56,400

to get into launch preparations because

735

00:24:00,630 --> 00:23:57,919

we'd be obviously fueling the ship

736

00:24:04,549 --> 00:24:00,640

monday morning so sometime

737

00:24:07,029 --> 00:24:04,559

noonish sunday probably

738

00:24:09,430 --> 00:24:07,039

bill uh bill harwood cbs i guess uh for

739

00:24:11,350 --> 00:24:09,440

bob cabana if i could um

740

00:24:13,029 --> 00:24:11,360

what did the president say about uh i

741

00:24:14,470 --> 00:24:13,039

don't know you know i guess giving you

742

00:24:15,510 --> 00:24:14,480

some sympathy for having to scrub the

743

00:24:17,029 --> 00:24:15,520

launch i know that it was a

744

00:24:18,549 --> 00:24:17,039

disappointment to you guys but can you

745

00:24:21,110 --> 00:24:18,559

tell us anything about

746

00:24:22,789 --> 00:24:21,120

that conversation and did he

747

00:24:25,110 --> 00:24:22,799

meet with ms giffords and where did that

748

00:24:27,590 --> 00:24:25,120

take place i assume in the lcc

749

00:24:29,590 --> 00:24:27,600

uh as far as the scrub you know i didn't

750

00:24:31,590 --> 00:24:29,600

talk to him in detail it was only a

751  
00:24:33,909 --> 00:24:31,600  
greeting and in passing between uh his

752  
00:24:36,230 --> 00:24:33,919  
stops as we escorted him around that uh

753  
00:24:39,110 --> 00:24:36,240  
he was very supportive of uh you know he

754  
00:24:40,630 --> 00:24:39,120  
understands and uh he we're going to do

755  
00:24:42,310 --> 00:24:40,640  
the right thing he had a great talk with

756  
00:24:45,110 --> 00:24:42,320  
the crew he really enjoyed talking with

757  
00:24:49,750 --> 00:24:45,120  
him and it went on for some time and

758  
00:24:55,909 --> 00:24:51,990  
just come back over here any questions

759  
00:25:01,590 --> 00:24:59,269  
jd wallace with kold tv out of tucson

760  
00:25:03,669 --> 00:25:01,600  
just curious would the wind now looking

761  
00:25:05,669 --> 00:25:03,679  
in hindsight would the wind have maybe

762  
00:25:07,110 --> 00:25:05,679  
delayed this anyway since it got pretty

763  
00:25:08,230 --> 00:25:07,120

gusty right around when it would have

764

00:25:09,990 --> 00:25:08,240

launched

765

00:25:12,390 --> 00:25:10,000

see they gave me the the actual

766

00:25:14,070 --> 00:25:12,400

observations so uh here at kennedy the

767

00:25:15,590 --> 00:25:14,080

winds were within limits it shifted

768

00:25:18,070 --> 00:25:15,600

around it wasn't a crosswind concern as

769

00:25:20,310 --> 00:25:18,080

much it was a tailwind so we would go

770

00:25:22,789 --> 00:25:20,320

for a landing on the 3-3 runway so that

771

00:25:24,470 --> 00:25:22,799

would have been a go rtls forecast

772

00:25:25,590 --> 00:25:24,480

over on the tao sights we had thought

773

00:25:27,669 --> 00:25:25,600

heading into this that we were going to

774

00:25:29,190 --> 00:25:27,679

have a good solid tall sighted estrus

775

00:25:30,950 --> 00:25:29,200

and there won't be any problems turns

776

00:25:33,350 --> 00:25:30,960

out it rained all day long at estrus and

777

00:25:35,029 --> 00:25:33,360

so estrus was actually down zaragoza was

778

00:25:36,549 --> 00:25:35,039

raining as well but just outside the

779

00:25:38,230 --> 00:25:36,559

circle so zaragoza would have been a go

780

00:25:41,029 --> 00:25:38,240

towel site so we actually had observed

781

00:25:45,830 --> 00:25:41,039

go weather both rtls and tau which is a

782

00:25:50,070 --> 00:25:48,390

right any more questions over here

783

00:25:51,669 --> 00:25:50,080

all right let's come back uh over here

784

00:25:52,789 --> 00:25:51,679

on the front

785

00:25:59,830 --> 00:25:52,799

yes

786

00:26:03,430 --> 00:26:01,750

clark people magazine is there any

787

00:26:05,430 --> 00:26:03,440

knowledge um

788

00:26:07,350 --> 00:26:05,440

whether the congresswoman

789

00:26:09,029 --> 00:26:07,360

will now stay for the launch or will she

790

00:26:10,950 --> 00:26:09,039

be returning to houston does anybody

791

00:26:13,510 --> 00:26:10,960

have any information

792

00:26:15,430 --> 00:26:13,520

they haven't told us what her plans are

793

00:26:17,990 --> 00:26:15,440

thank you

794

00:26:20,149 --> 00:26:18,000

okay let's uh go right here in the back

795

00:26:22,470 --> 00:26:20,159

of ken

796

00:26:24,549 --> 00:26:22,480

hi ken kramer's space flight magazine uh

797

00:26:27,029 --> 00:26:24,559

for bob cabana uh do you know if uh

798

00:26:30,630 --> 00:26:27,039

president obama would come back

799

00:26:32,549 --> 00:26:30,640

and um um for either of the mikes um the

800

00:26:34,390 --> 00:26:32,559

atlas is there any chance the air force

801  
00:26:36,149 --> 00:26:34,400  
might might make room for for the

802  
00:26:38,390 --> 00:26:36,159  
shuttle if you have to have a few days

803  
00:26:40,310 --> 00:26:38,400  
in the middle of the week

804  
00:26:41,750 --> 00:26:40,320  
well he did say if it was monday he

805  
00:26:43,510 --> 00:26:41,760  
wouldn't be able to make it back for it

806  
00:26:45,190 --> 00:26:43,520  
on monday but

807  
00:26:48,390 --> 00:26:45,200  
as far as a future launch we'll have to

808  
00:26:50,310 --> 00:26:48,400  
see no no firm commitment there

809  
00:26:52,070 --> 00:26:50,320  
and with the with the atlas as always

810  
00:26:53,190 --> 00:26:52,080  
we'll we'll talk to them and see how

811  
00:26:54,789 --> 00:26:53,200  
they're doing on their processing and

812  
00:26:56,390 --> 00:26:54,799  
how we're doing on ours and when we get

813  
00:26:58,070 --> 00:26:56,400

closer to monday tuesday time frame if

814

00:26:59,430 --> 00:26:58,080

we if we look like we're go and we need

815

00:27:02,310 --> 00:26:59,440

a couple extra days we can talk to them

816

00:27:03,590 --> 00:27:02,320

about that uh if it looks like uh that

817

00:27:05,269 --> 00:27:03,600

they're having problems that might give

818

00:27:06,470 --> 00:27:05,279

us a little room it might be better to

819

00:27:08,470 --> 00:27:06,480

let them go because we need a little

820

00:27:09,990 --> 00:27:08,480

extra time to go troubleshoot too so

821

00:27:10,789 --> 00:27:10,000

that's a dynamic discussion and yeah

822

00:27:12,470 --> 00:27:10,799

we'll certainly be having those

823

00:27:13,909 --> 00:27:12,480

conversations

824

00:27:16,149 --> 00:27:13,919

okay

825

00:27:18,230 --> 00:27:16,159

alan boyle with msnbc

826

00:27:20,470 --> 00:27:18,240

for bob cabana i wonder if you had any

827

00:27:23,269 --> 00:27:20,480

more anecdotes about either the meeting

828

00:27:25,590 --> 00:27:23,279

with uh congresswoman giffords or any of

829

00:27:27,830 --> 00:27:25,600

the other interactions for example you

830

00:27:30,310 --> 00:27:27,840

hear some of the statements that obama

831

00:27:32,830 --> 00:27:30,320

may have made like where's the duct tape

832

00:27:34,710 --> 00:27:32,840

or uh

833

00:27:36,789 --> 00:27:34,720

other bond mods that you might be able

834

00:27:39,110 --> 00:27:36,799

to pass along sure

835

00:27:41,510 --> 00:27:39,120

his meeting with pr was private with uh

836

00:27:42,789 --> 00:27:41,520

with gabby and as far as when he was

837

00:27:44,389 --> 00:27:42,799

talking with the crew i really wasn't

838

00:27:45,750 --> 00:27:44,399

listening to everything that they had to

839

00:27:47,430 --> 00:27:45,760

say but they were

840

00:27:48,870 --> 00:27:47,440

they were just talking about

841

00:27:50,070 --> 00:27:48,880

you know the mission and what they were

842

00:27:52,630 --> 00:27:50,080

going to do and

843

00:27:54,230 --> 00:27:52,640

on it and he was extremely interested i

844

00:27:55,990 --> 00:27:54,240

understand the girls asked some great

845

00:27:58,870 --> 00:27:56,000

questions when they were touring

846

00:28:00,310 --> 00:27:58,880

atlantis of janet cavandi and they were

847

00:28:02,070 --> 00:28:00,320

really enthused and

848

00:28:04,630 --> 00:28:02,080

as well as the president and first lady

849

00:28:06,389 --> 00:28:04,640

uh talking about seeing atlantis up

850

00:28:07,990 --> 00:28:06,399

close and i know he enjoyed his time

851  
00:28:09,350 --> 00:28:08,000  
with the crew

852  
00:28:16,870 --> 00:28:09,360  
you had a question all the way in the

853  
00:28:27,590 --> 00:28:18,710  
no let's not do that because people on

854  
00:28:31,990 --> 00:28:30,070  
donna linewand with usa today can you

855  
00:28:34,230 --> 00:28:32,000  
tell me how the astronauts will be

856  
00:28:36,149 --> 00:28:34,240  
spending the next couple of days and how

857  
00:28:38,549 --> 00:28:36,159  
much access they'll have to their

858  
00:28:42,310 --> 00:28:38,559  
families and what you'll be doing them

859  
00:28:43,350 --> 00:28:42,320  
doing with them to keep them up to speed

860  
00:28:47,510 --> 00:28:43,360  
well

861  
00:28:49,510 --> 00:28:47,520  
i guess i haven't been there before uh

862  
00:28:51,430 --> 00:28:49,520  
they're uh they will have time with

863  
00:28:53,830 --> 00:28:51,440

their uh with their families obviously

864

00:28:55,669 --> 00:28:53,840

not their uh children but those that are

865

00:28:58,070 --> 00:28:55,679

old enough to have

866

00:28:59,909 --> 00:28:58,080

you know allow them to be in quarantine

867

00:29:01,830 --> 00:28:59,919

and visit them there'll be time out at

868

00:29:04,230 --> 00:29:01,840

the beach house to relax and get

869

00:29:06,310 --> 00:29:04,240

together with their families again

870

00:29:08,149 --> 00:29:06,320

they'll obviously be

871

00:29:10,310 --> 00:29:08,159

going over their procedures on a on a

872

00:29:11,669 --> 00:29:10,320

regular basis basis making sure they're

873

00:29:13,669 --> 00:29:11,679

ready and

874

00:29:14,789 --> 00:29:13,679

they'll be listening in to hear you know

875

00:29:17,190 --> 00:29:14,799

how we're doing

876

00:29:18,549 --> 00:29:17,200

on the troubleshooting and

877

00:29:20,389 --> 00:29:18,559

looking forward to what the weather is

878

00:29:22,070 --> 00:29:20,399

going to be and what the plan is for

879

00:29:24,070 --> 00:29:22,080

going to fly but mainly they're just

880

00:29:26,310 --> 00:29:24,080

going to be relaxing in crew quarters

881

00:29:27,830 --> 00:29:26,320

they're well prepared they've worked

882

00:29:30,470 --> 00:29:27,840

long and hard for this and they're ready

883

00:29:33,669 --> 00:29:30,480

to go so this is an opportunity to just

884

00:29:34,870 --> 00:29:33,679

kick back a little bit and relax

885

00:29:39,430 --> 00:29:34,880

james

886

00:29:41,909 --> 00:29:39,440

first for mike leinbach just to further

887

00:29:44,070 --> 00:29:41,919

clarify it sounds like the crew

888

00:29:46,389 --> 00:29:44,080

knew as they were even suiting up or

889

00:29:49,029 --> 00:29:46,399

before they even walked out that

890

00:29:53,029 --> 00:29:49,039

scrub was or this issue was in work and

891

00:29:55,669 --> 00:29:53,039

a scrub was either possible or probable

892

00:29:57,190 --> 00:29:55,679

uh well like us they know the ship very

893

00:29:58,870 --> 00:29:57,200

well if not better

894

00:30:00,870 --> 00:29:58,880

i assume colonel cabana knows it

895

00:30:02,310 --> 00:30:00,880

extremely well um

896

00:30:04,549 --> 00:30:02,320

so yeah they probably understood that

897

00:30:06,470 --> 00:30:04,559

this was a significant problem that we

898

00:30:08,389 --> 00:30:06,480

might not make our way out of

899

00:30:11,269 --> 00:30:08,399

but in order to stay on the timeline had

900

00:30:13,430 --> 00:30:11,279

we gotten lucky uh we had to we had to

901  
00:30:15,990 --> 00:30:13,440  
keep them headed towards the pad and and

902  
00:30:17,669 --> 00:30:16,000  
the ingress and and indeed if we needed

903  
00:30:18,630 --> 00:30:17,679  
another hour or two to talk the problem

904  
00:30:20,710 --> 00:30:18,640  
we would have done that and they would

905  
00:30:21,750 --> 00:30:20,720  
have strapped in and had we scrubbed

906  
00:30:23,909 --> 00:30:21,760  
after they strapped in and they would

907  
00:30:25,269 --> 00:30:23,919  
have understood that too so it was just

908  
00:30:27,830 --> 00:30:25,279  
a very coincidental thing with the

909  
00:30:29,669 --> 00:30:27,840  
timing of the crew

910  
00:30:32,310 --> 00:30:29,679  
okay right here

911  
00:30:33,990 --> 00:30:32,320  
smith kg u n t v in in tucson does

912  
00:30:36,870 --> 00:30:34,000  
meeting with the president effectively

913  
00:30:39,430 --> 00:30:36,880

stretch the crew quarantine rules

914

00:30:42,789 --> 00:30:39,440

no actually the president

915

00:30:45,510 --> 00:30:42,799

was uh had a physical by the uh flight

916

00:30:48,070 --> 00:30:45,520

crews uh crew surgeon and uh was cleared

917

00:30:49,269 --> 00:30:48,080

to meet with the crew and the crews in a

918

00:30:51,350 --> 00:30:49,279

big room

919

00:30:52,789 --> 00:30:51,360

you know i mean nobody was up close to

920

00:30:54,470 --> 00:30:52,799

him other than the president and first

921

00:30:56,389 --> 00:30:54,480

lady and they were both cleared by the

922

00:30:57,669 --> 00:30:56,399

doctor

923

00:30:59,430 --> 00:30:57,679

is that similar

924

00:31:01,269 --> 00:30:59,440

used to make sure family members are

925

00:31:02,389 --> 00:31:01,279

okay to be in close quarters absolutely

926  
00:31:04,549 --> 00:31:02,399  
all the

927  
00:31:06,549 --> 00:31:04,559  
whenever we have a crew in quarantine

928  
00:31:09,669 --> 00:31:06,559  
anybody that is with the crew in

929  
00:31:12,149 --> 00:31:09,679  
quarantine uh has to have been cleared

930  
00:31:14,789 --> 00:31:12,159  
by a flight dock and

931  
00:31:16,950 --> 00:31:14,799  
you know it was nothing unusual or out

932  
00:31:18,470 --> 00:31:16,960  
of the ordinary

933  
00:31:20,070 --> 00:31:18,480  
thank you

934  
00:31:22,470 --> 00:31:20,080  
scott powers from the orlando sentinel

935  
00:31:24,710 --> 00:31:22,480  
for mike leinbach a couple of questions

936  
00:31:26,470 --> 00:31:24,720  
first could the the two lines that were

937  
00:31:28,230 --> 00:31:26,480  
involved here do they each have four

938  
00:31:29,430 --> 00:31:28,240

heaters on them is it my understanding

939

00:31:31,509 --> 00:31:29,440

or

940

00:31:33,830 --> 00:31:31,519

and the second question is

941

00:31:37,269 --> 00:31:33,840

uh the else the the um

942

00:31:39,590 --> 00:31:37,279

the uh switchbox when you get that off

943

00:31:41,269 --> 00:31:39,600

is the problem uh that takes a couple of

944

00:31:43,190 --> 00:31:41,279

extra days mainly because of so much

945

00:31:44,710 --> 00:31:43,200

testing that needs to be done or is it

946

00:31:47,110 --> 00:31:44,720

actually being able to get to it and get

947

00:31:50,310 --> 00:31:47,120

it out of that that spot

948

00:31:52,230 --> 00:31:50,320

i'm not 100 certain of the configuration

949

00:31:54,470 --> 00:31:52,240

of of the heaters and and the different

950

00:31:56,149 --> 00:31:54,480

strings maybe bob or mike has that i'm

951  
00:31:57,190 --> 00:31:56,159  
counting them right now okay and the

952  
00:32:00,950 --> 00:31:57,200  
other one

953  
00:32:03,669 --> 00:32:00,960  
avionics bay and change out that that

954  
00:32:05,990 --> 00:32:03,679  
box and and uh so a lot of work to to

955  
00:32:08,310 --> 00:32:06,000  
open that box the avionics bay up and

956  
00:32:11,029 --> 00:32:08,320  
change it out close it back out and then

957  
00:32:12,710 --> 00:32:11,039  
the re-test so it's a significant deal

958  
00:32:14,070 --> 00:32:12,720  
and there's um there's looks like

959  
00:32:16,230 --> 00:32:14,080  
there's 12 different heaters on that

960  
00:32:18,470 --> 00:32:16,240  
line but not all of them will cycle at

961  
00:32:20,070 --> 00:32:18,480  
the temperatures we see at the pad so uh

962  
00:32:22,470 --> 00:32:20,080  
the four we were talking about we knew

963  
00:32:24,070 --> 00:32:22,480

weren't responding uh there's the rest

964

00:32:25,830 --> 00:32:24,080

of them are in the category they may or

965

00:32:27,029 --> 00:32:25,840

may not be responding at the pad so

966

00:32:28,389 --> 00:32:27,039

we're gonna have to do the teams are

967

00:32:30,310 --> 00:32:28,399

doing that exactly right now pulling all

968

00:32:31,669 --> 00:32:30,320

that detailed data comparing it to the

969

00:32:33,669 --> 00:32:31,679

history to say should that heater have

970

00:32:35,430 --> 00:32:33,679

been cycling to know exactly which

971

00:32:37,190 --> 00:32:35,440

pieces are failed that helps us with

972

00:32:40,230 --> 00:32:37,200

kind of trying to find our common root

973

00:32:41,909 --> 00:32:40,240

cause those two lines are identical

974

00:32:43,269 --> 00:32:41,919

the two heater strings are identical so

975

00:32:44,870 --> 00:32:43,279

yeah if you think about it there's a

976  
00:32:47,350 --> 00:32:44,880  
basically a pipe that carries the

977  
00:32:49,750 --> 00:32:47,360  
hydrogen of a fluid line and it has a

978  
00:32:51,190 --> 00:32:49,760  
wrapped line around it uh that wrap is a

979  
00:32:53,029 --> 00:32:51,200  
is a resistance heater so you run

980  
00:32:54,870 --> 00:32:53,039  
electricity through the wire it heats up

981  
00:32:56,789 --> 00:32:54,880  
and it provides heat and so there's

982  
00:32:58,149 --> 00:32:56,799  
there's the a string is wrapped along

983  
00:33:00,070 --> 00:32:58,159  
the pipe and then right beside it the b

984  
00:33:01,990 --> 00:33:00,080  
string is wrapped along so so there's

985  
00:33:03,110 --> 00:33:02,000  
basically two separate heaters that run

986  
00:33:05,430 --> 00:33:03,120  
along the same

987  
00:33:07,029 --> 00:33:05,440  
same piece of fluid line and and so the

988  
00:33:08,549 --> 00:33:07,039

one string was working the other one was

989

00:33:09,909 --> 00:33:08,559

not

990

00:33:11,669 --> 00:33:09,919

okay we'll take one or two more and then

991

00:33:13,990 --> 00:33:11,679

we'll wrap up right here

992

00:33:15,990 --> 00:33:14,000

very inner space news for bob cabana in

993

00:33:18,389 --> 00:33:16,000

your opening statement you said that the

994

00:33:20,630 --> 00:33:18,399

president obama said that he would

995

00:33:22,470 --> 00:33:20,640

promise you his support

996

00:33:24,149 --> 00:33:22,480

could you give us more about the context

997

00:33:26,310 --> 00:33:24,159

of that statement and is this something

998

00:33:28,470 --> 00:33:26,320

new from what you've heard in the past

999

00:33:30,389 --> 00:33:28,480

from the president no i i think the

1000

00:33:32,870 --> 00:33:30,399

president supports our space flight

1001  
00:33:34,870 --> 00:33:32,880  
program and he's very supportive of what

1002  
00:33:37,269 --> 00:33:34,880  
we're doing

1003  
00:33:38,789 --> 00:33:37,279  
the commercial space

1004  
00:33:40,230 --> 00:33:38,799  
we've got uh

1005  
00:33:42,310 --> 00:33:40,240  
here at kennedy space center we've got

1006  
00:33:46,149 --> 00:33:42,320  
the commercial crew

1007  
00:33:49,350 --> 00:33:46,159  
program here at ksc uh supporting that

1008  
00:33:51,269 --> 00:33:49,360  
he is supportive of us building a uh

1009  
00:33:54,149 --> 00:33:51,279  
a large rocket and crew vehicle to go

1010  
00:33:55,509 --> 00:33:54,159  
beyond our home planet so

1011  
00:33:56,789 --> 00:33:55,519  
he just

1012  
00:33:59,669 --> 00:33:56,799  
emphasized

1013  
00:34:03,110 --> 00:33:59,679

that he supports what we're doing and

1014

00:34:07,509 --> 00:34:05,590

grant miller the odessan i guess this is

1015

00:34:09,430 --> 00:34:07,519

for one of the mikes uh can you tell us

1016

00:34:11,349 --> 00:34:09,440

how the weather looks for monday through

1017

00:34:12,790 --> 00:34:11,359

wednesday launch next week i know that's

1018

00:34:15,829 --> 00:34:12,800

a ways off but

1019

00:34:17,909 --> 00:34:15,839

and for here or the abort sides

1020

00:34:19,349 --> 00:34:17,919

so i'm not trying to be flippant but i

1021

00:34:20,790 --> 00:34:19,359

don't i don't know and i'm not sure it

1022

00:34:22,310 --> 00:34:20,800

matters much right because the the

1023

00:34:23,669 --> 00:34:22,320

forecasts are what they are the

1024

00:34:25,589 --> 00:34:23,679

long-range forecast we talked this

1025

00:34:27,430 --> 00:34:25,599

morning we talked at a 48 hour scrub so

1026

00:34:28,470 --> 00:34:27,440

that would have been a sunday uh attempt

1027

00:34:30,869 --> 00:34:28,480

and we kind of looked at the same

1028

00:34:32,950 --> 00:34:30,879

weather pattern we're facing right now

1029

00:34:35,109 --> 00:34:32,960

decent really decent chance here at

1030

00:34:37,510 --> 00:34:35,119

kennedy for good launch weather uh winds

1031

00:34:39,510 --> 00:34:37,520

were dropping off basically low clouds

1032

00:34:41,430 --> 00:34:39,520

the towel weather was about the same

1033

00:34:42,869 --> 00:34:41,440

which was iffy but i know that's going

1034

00:34:44,389 --> 00:34:42,879

to improve because the high pressure

1035

00:34:45,669 --> 00:34:44,399

will be settling in finally over spain

1036

00:34:47,430 --> 00:34:45,679

and france

1037

00:34:48,710 --> 00:34:47,440

and so we should have decent tau weather

1038

00:34:49,750 --> 00:34:48,720

at the beginning of next week but we

1039

00:34:51,270 --> 00:34:49,760

haven't even started to look at the

1040

00:34:52,950 --> 00:34:51,280

long-range forecast yet

1041

00:34:57,990 --> 00:34:52,960

i tend to delete all the email with a

1042

00:35:01,270 --> 00:34:59,750

all right we'll take one more back here

1043

00:35:03,589 --> 00:35:01,280

and that'll be it

1044

00:35:05,589 --> 00:35:03,599

james bond with nico nico a question for

1045

00:35:08,550 --> 00:35:05,599

bob cabana um did the president have any

1046

00:35:11,990 --> 00:35:08,560

words of encouragement uh to you to the

1047

00:35:14,230 --> 00:35:12,000

staff here at ksc uh with the shuttle uh

1048

00:35:15,030 --> 00:35:14,240

program winding down what what were his

1049

00:35:16,870 --> 00:35:15,040

uh

1050

00:35:19,190 --> 00:35:16,880

comments too

1051  
00:35:21,030 --> 00:35:19,200  
no specific comments he was just uh you

1052  
00:35:22,790 --> 00:35:21,040  
know everybody that he ran into he

1053  
00:35:24,950 --> 00:35:22,800  
thanked him for uh you know what we were

1054  
00:35:27,910 --> 00:35:24,960  
doing and that i wasn't privy to all the

1055  
00:35:29,030 --> 00:35:27,920  
president's conversations uh a few short

1056  
00:35:30,550 --> 00:35:29,040  
greetings and

1057  
00:35:32,950 --> 00:35:30,560  
he was just you know it was very

1058  
00:35:35,030 --> 00:35:32,960  
positive he was really uh enjoyed his

1059  
00:35:37,349 --> 00:35:35,040  
tour he enjoyed seeing all the that he

1060  
00:35:39,430 --> 00:35:37,359  
saw and uh you know wants us to

1061  
00:35:40,790 --> 00:35:39,440  
keep doing good things

1062  
00:35:42,950 --> 00:35:40,800  
and george before you wrap up let me

1063  
00:35:45,670 --> 00:35:42,960

just i forgot to mention uh we talked a

1064

00:35:46,870 --> 00:35:45,680

lot about et-122 our external tank uh

1065

00:35:48,310 --> 00:35:46,880

and all the modifications it went

1066

00:35:50,310 --> 00:35:48,320

through and i failed to in my opening

1067

00:35:51,750 --> 00:35:50,320

remarks tell you that uh we went ahead

1068

00:35:54,150 --> 00:35:51,760

the ice team went out looked at that

1069

00:35:55,430 --> 00:35:54,160

tank uh because we had it fully loaded

1070

00:35:57,430 --> 00:35:55,440

uh the inspection teams are out there

1071

00:35:59,349 --> 00:35:57,440

now or we'll be going out there now that

1072

00:36:01,109 --> 00:35:59,359

it's drained but the reports from that

1073

00:36:02,069 --> 00:36:01,119

team were perfect the tank looked

1074

00:36:03,510 --> 00:36:02,079

beautiful

1075

00:36:04,790 --> 00:36:03,520

their words were that it looked like

1076

00:36:06,069 --> 00:36:04,800

every other tank

1077

00:36:07,349 --> 00:36:06,079

performance was flawless from that

1078

00:36:08,950 --> 00:36:07,359

external tank so i did want to make sure

1079

00:36:10,550 --> 00:36:08,960

we mentioned that

1080

00:36:11,990 --> 00:36:10,560

we ended up getting a good tanking test

1081

00:36:14,390 --> 00:36:12,000

so we know this tank is in really great

1082

00:36:20,710 --> 00:36:17,190

and i'd also like to just add my thanks

1083

00:36:22,470 --> 00:36:20,720

to to both me mike's uh i think the team

1084

00:36:24,150 --> 00:36:22,480

just did an outstanding job getting us

1085

00:36:26,950 --> 00:36:24,160

to where we needed to be today had we

1086

00:36:28,710 --> 00:36:26,960

had the opportunity to launch and they

1087

00:36:32,069 --> 00:36:28,720

overcame an awful lot it's an

1088

00:36:34,630 --> 00:36:32,079

outstanding team uh the flow team uh

1089

00:36:37,349 --> 00:36:34,640

they got endeavor ready to go fly uh it

1090

00:36:39,750 --> 00:36:37,359

was super yeah i just i can't say enough

1091

00:36:41,829 --> 00:36:39,760

good things about them so these guys did

1092

00:36:45,510 --> 00:36:41,839

a an awesome job and we'll get it right

1093

00:36:47,109 --> 00:36:45,520

and we'll go fly as soon as we can

1094

00:36:49,750 --> 00:36:47,119

all right before we wrap up we have a

1095

00:36:52,630 --> 00:36:49,760

one minute video of president obama's

1096

00:37:07,109 --> 00:36:52,640

visit here this afternoon and after that

1097

00:37:10,470 --> 00:37:08,470

and you're going to you squeeze that

1098

00:37:16,630 --> 00:37:10,480

bottle and watch what happens you don't

1099

00:37:16,640 --> 00:37:45,510

just soaks it up

1100

00:37:58,550 --> 00:37:47,349

how much of that is orbiting how much of

1101

00:37:58,560 --> 00:38:05,589

the pyramids of egypt