



1
00:00:06,550 --> 00:00:04,870
good morning thank you for joining us

2
00:00:09,669 --> 00:00:06,560
here at nasa's kennedy space center in

3
00:00:11,910 --> 00:00:09,679
florida for the sts-133 pre-launch news

4
00:00:13,350 --> 00:00:11,920
conference for space shuttle discovery's

5
00:00:16,230 --> 00:00:13,360
mission to the international space

6
00:00:17,590 --> 00:00:16,240
station joining me today is mike moose

7
00:00:19,910 --> 00:00:17,600
chair of the pre-launch mission

8
00:00:21,830 --> 00:00:19,920
management team good morning

9
00:00:23,990 --> 00:00:21,840
mike leinbach shuttle launch director

10
00:00:26,390 --> 00:00:24,000
good morning and kathy winters shuttle

11
00:00:27,589 --> 00:00:26,400
weather officer good morning we'll hear

12
00:00:29,269 --> 00:00:27,599
from our panelists and then we'll take

13
00:00:30,630 --> 00:00:29,279

questions mr mores

14

00:00:32,549 --> 00:00:30,640

thanks henry

15

00:00:34,470 --> 00:00:32,559

well let's see uh welcome everybody we

16

00:00:36,630 --> 00:00:34,480

had our I minus two mission management

17

00:00:37,830 --> 00:00:36,640

team meeting this morning uh went went

18

00:00:39,350 --> 00:00:37,840

very quickly

19

00:00:40,549 --> 00:00:39,360

uh if i wouldn't have talked about how

20

00:00:41,990 --> 00:00:40,559

quickly it was going it would have gone

21

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

even faster

22

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

we didn't have any technical issues to

23

00:00:47,270 --> 00:00:45,440

discuss uh kathy will talk to you about

24

00:00:48,630 --> 00:00:47,280

the weather we got a good briefing on

25

00:00:49,430 --> 00:00:48,640

what's in front of us with some of the

26

00:00:51,029 --> 00:00:49,440

uh

27

00:00:52,630 --> 00:00:51,039

some of the fronts coming in and the and

28

00:00:53,510 --> 00:00:52,640

the tropical storm system down to the

29

00:00:55,189 --> 00:00:53,520

south

30

00:00:56,630 --> 00:00:55,199

and and i'll let her go into all that

31

00:00:58,709 --> 00:00:56,640

stuff but again no technical issues

32

00:01:00,470 --> 00:00:58,719

everybody pulled go to head uh head into

33

00:01:01,910 --> 00:01:00,480

count no problems whatsoever

34

00:01:03,110 --> 00:01:01,920

you know the last several days and if

35

00:01:04,149 --> 00:01:03,120

you want to back up even more than that

36

00:01:05,670 --> 00:01:04,159

with the uh

37

00:01:07,590 --> 00:01:05,680

the fuel leak that we had it's been a

38

00:01:08,789 --> 00:01:07,600

very challenging time for the team some

39

00:01:10,469 --> 00:01:08,799

of those issues are

40

00:01:13,030 --> 00:01:10,479

are more frustrating than anything it

41

00:01:14,310 --> 00:01:13,040

you know the uh the the two helium or

42

00:01:16,550 --> 00:01:14,320

the helium leak and the nitrogen like

43

00:01:17,990 --> 00:01:16,560

the two gas sleeves we had uh were very

44

00:01:19,830 --> 00:01:18,000

straight forward in terms of how to fix

45

00:01:21,270 --> 00:01:19,840

them but they had a lot of overhead that

46

00:01:22,950 --> 00:01:21,280

went along with them

47

00:01:24,630 --> 00:01:22,960

in terms of the hazardous ops required

48

00:01:26,390 --> 00:01:24,640

and the vents and and the work to get in

49

00:01:28,149 --> 00:01:26,400

there and it's like working on your car

50

00:01:29,270 --> 00:01:28,159

you gotta you gotta fix it repair it and

51
00:01:31,109 --> 00:01:29,280
then hook it back up and then check it

52
00:01:32,950 --> 00:01:31,119
and see if you got it working right and

53
00:01:34,550 --> 00:01:32,960
sometimes that gets a little frustrating

54
00:01:36,310 --> 00:01:34,560
uh for the teams but they they held

55
00:01:38,630 --> 00:01:36,320
together beautifully they performed

56
00:01:40,390 --> 00:01:38,640
outstanding uh working all weekend long

57
00:01:41,590 --> 00:01:40,400
and got everything buttoned up

58
00:01:43,510 --> 00:01:41,600
we needed to take a little bit extra

59
00:01:44,389 --> 00:01:43,520
time mostly for those those constraints

60
00:01:46,870 --> 00:01:44,399
that we were talking about with the

61
00:01:48,069 --> 00:01:46,880
hazardous clears and once that was done

62
00:01:49,830 --> 00:01:48,079
we're sitting there in great shape out

63
00:01:51,670 --> 00:01:49,840

at the pad

64

00:01:53,030 --> 00:01:51,680

the mission's in great shape a couple

65

00:01:54,789 --> 00:01:53,040

day delay there is not going to change

66

00:01:56,789 --> 00:01:54,799

the mission timeline at all

67

00:01:57,990 --> 00:01:56,799

the uh the window launch window's all

68

00:02:00,069 --> 00:01:58,000

all good too we have all the way through

69

00:02:01,590 --> 00:02:00,079

the seventh uh the teams back in houston

70

00:02:04,149 --> 00:02:01,600

have been working kind of behind the

71

00:02:06,870 --> 00:02:04,159

scenes right before uh right right

72

00:02:09,109 --> 00:02:06,880

around fr time frame last week the the

73

00:02:10,550 --> 00:02:09,119

orbiter team was working on some uh some

74

00:02:11,910 --> 00:02:10,560

ways to possibly

75

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

increase the thermal limits that we're

76

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

allowed to go to

77

00:02:16,790 --> 00:02:14,879

uh what we call beta angle which is the

78

00:02:19,030 --> 00:02:16,800

sun angle when the shuttle's by itself

79

00:02:20,869 --> 00:02:19,040

we can kind of maneuver and get to a uh

80

00:02:22,630 --> 00:02:20,879

we call it a ptc a passive thermal

81

00:02:25,030 --> 00:02:22,640

control where we basically do a a

82

00:02:26,390 --> 00:02:25,040

barbecue roll so to speak a rotisserie

83

00:02:28,229 --> 00:02:26,400

with the shuttle where we roll it so

84

00:02:30,630 --> 00:02:28,239

that not one side's always facing at the

85

00:02:32,309 --> 00:02:30,640

sun that lets the lets it stay evenly

86

00:02:33,750 --> 00:02:32,319

heated when we're docked to station we

87

00:02:35,750 --> 00:02:33,760

can't do that so our thermal limit stock

88

00:02:37,190 --> 00:02:35,760

to station become a problem so they

89

00:02:38,869 --> 00:02:37,200

looked at expanding our ability to take

90

00:02:40,150 --> 00:02:38,879

care of our thermal limits after we

91

00:02:41,990 --> 00:02:40,160

undock and that's starting to look

92

00:02:43,030 --> 00:02:42,000

pretty good um the station team is

93

00:02:44,630 --> 00:02:43,040

looking at what we can do while we're

94

00:02:47,190 --> 00:02:44,640

docked we may be able to find a way to

95

00:02:49,670 --> 00:02:47,200

squeak out uh the eighth as a launch day

96

00:02:50,949 --> 00:02:49,680

with some some creative timelining

97

00:02:52,070 --> 00:02:50,959

basically closing hatches and being

98

00:02:53,190 --> 00:02:52,080

ready to undock right away in the

99

00:02:54,470 --> 00:02:53,200

morning

100

00:02:55,589 --> 00:02:54,480

but we're not going there yet and

101
00:02:58,070 --> 00:02:55,599
obviously we don't need to talk about

102
00:02:59,509 --> 00:02:58,080
that for a long time hopefully never

103
00:03:00,710 --> 00:02:59,519
and when we launched on time here on

104
00:03:02,229 --> 00:03:00,720
wednesday so

105
00:03:03,509 --> 00:03:02,239
just to let you know if we do scrub

106
00:03:04,630 --> 00:03:03,519
we'll be looking at maybe squeezing out

107
00:03:06,070 --> 00:03:04,640
one more day

108
00:03:07,110 --> 00:03:06,080
again we got to talk about range issues

109
00:03:08,949 --> 00:03:07,120
and all that stuff but right now still

110
00:03:09,910 --> 00:03:08,959
everything's clear and in great shape

111
00:03:10,790 --> 00:03:09,920
and that's all i had for you this

112
00:03:12,390 --> 00:03:10,800
morning

113
00:03:13,509 --> 00:03:12,400

mike okay well thanks

114

00:03:15,350 --> 00:03:13,519

i don't have a lot to report this

115

00:03:17,830 --> 00:03:15,360

morning we got into the the countdown

116

00:03:19,110 --> 00:03:17,840

yesterday on time we should be into prsd

117

00:03:20,949 --> 00:03:19,120

load that's the load of the liquid

118

00:03:22,869 --> 00:03:20,959

oxygen and liquid hydrogen for the fuel

119

00:03:25,830 --> 00:03:22,879

cells that should be going on uh should

120

00:03:27,990 --> 00:03:25,840

be picking up right right now as i speak

121

00:03:30,070 --> 00:03:28,000

we'll be doing our standard rest of the

122

00:03:32,309 --> 00:03:30,080

countdown with rss retract about seven

123

00:03:34,710 --> 00:03:32,319

o'clock tomorrow evening and looking for

124

00:03:36,149 --> 00:03:34,720

the opening of the window at 3 47

125

00:03:38,149 --> 00:03:36,159

wednesday afternoon with a preferred

126

00:03:39,589 --> 00:03:38,159

launch time of 3 52

127

00:03:40,949 --> 00:03:39,599

plus remind us a few seconds and of

128

00:03:42,390 --> 00:03:40,959

course we'll adjust that real time on

129

00:03:43,670 --> 00:03:42,400

launch day with the flight director out

130

00:03:45,110 --> 00:03:43,680

of houston

131

00:03:47,030 --> 00:03:45,120

right now we're not tracking any issues

132

00:03:48,390 --> 00:03:47,040

at all that would prevent launch or

133

00:03:49,990 --> 00:03:48,400

really bothering us at all or a couple

134

00:03:51,990 --> 00:03:50,000

little nits out there but it's very very

135

00:03:53,670 --> 00:03:52,000

typical kind of kind of issues for this

136

00:03:55,830 --> 00:03:53,680

point in the countdown nothing that's

137

00:03:57,670 --> 00:03:55,840

going to hold us up at all really

138

00:03:59,670 --> 00:03:57,680

mike mentioned the scrub turnaround

139

00:04:01,910 --> 00:03:59,680

options we have four attempts in five

140

00:04:04,390 --> 00:04:01,920

days which history says we should have a

141

00:04:06,470 --> 00:04:04,400

a good high ninety percent kind of time

142

00:04:08,550 --> 00:04:06,480

percentile of getting off the pad with

143

00:04:10,229 --> 00:04:08,560

those four attempts in five days so

144

00:04:11,990 --> 00:04:10,239

everything's going really really well we

145

00:04:14,390 --> 00:04:12,000

recovered from our our problems over the

146

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

weekend and fine shape i went through

147

00:04:17,430 --> 00:04:16,000

the fire room this morning the team is

148

00:04:18,229 --> 00:04:17,440

in great spirits they're looking forward

149

00:04:19,990 --> 00:04:18,239

to

150

00:04:22,629 --> 00:04:20,000

launching discovery for the final time

151
00:04:25,270 --> 00:04:22,639
and getting her on on to a great mission

152
00:04:27,270 --> 00:04:25,280
and that's all i have um kathy

153
00:04:28,950 --> 00:04:27,280
well the weather has been very very nice

154
00:04:30,790 --> 00:04:28,960
here the last few days in the central

155
00:04:32,310 --> 00:04:30,800
florida area we are expecting a little

156
00:04:34,390 --> 00:04:32,320
bit of a transition as we get into

157
00:04:36,230 --> 00:04:34,400
mid-week on launch day we should start

158
00:04:37,749 --> 00:04:36,240
seeing more moisture migrate into the

159
00:04:40,310 --> 00:04:37,759
area with that we always have some

160
00:04:42,150 --> 00:04:40,320
concerns for some low cloud ceilings and

161
00:04:44,870 --> 00:04:42,160
also a chance for some isolated showers

162
00:04:47,590 --> 00:04:44,880
in the area so we do have a 30 chance of

163
00:04:51,270 --> 00:04:47,600

kfc weather prohibiting launch now if we

164

00:04:53,510 --> 00:04:51,280

um happen to delay 24 hours then the the

165

00:04:55,270 --> 00:04:53,520

weather gets a little more difficult we

166

00:04:57,030 --> 00:04:55,280

do have a front that's expected to move

167

00:04:58,629 --> 00:04:57,040

through the area dragging an upper level

168

00:05:01,749 --> 00:04:58,639

low that's going to be sitting off in

169

00:05:02,550 --> 00:05:01,759

the western gulf of mexico over florida

170

00:05:04,629 --> 00:05:02,560

and

171

00:05:07,029 --> 00:05:04,639

then we expect much more chance for

172

00:05:08,469 --> 00:05:07,039

showers low cloud ceilings and even a

173

00:05:10,710 --> 00:05:08,479

chance for an isolated thunderstorm in

174

00:05:12,710 --> 00:05:10,720

the area on thursday so with that on

175

00:05:15,029 --> 00:05:12,720

thursday we have 30 chance of ksc

176

00:05:15,990 --> 00:05:15,039

weather prohibiting launch on friday the

177

00:05:17,670 --> 00:05:16,000

front will push through and then we'll

178

00:05:20,230 --> 00:05:17,680

have some strong winds behind it and due

179

00:05:22,150 --> 00:05:20,240

to the threat of a violation of winds at

180

00:05:24,469 --> 00:05:22,160

the launch pad and also a low cloud

181

00:05:26,629 --> 00:05:24,479

ceiling if we happen to delay 48 hours

182

00:05:28,070 --> 00:05:26,639

then we may end up with we also have a

183

00:05:29,510 --> 00:05:28,080

30 percent chance of kc weather

184

00:05:31,990 --> 00:05:29,520

preventing launch just due to the post

185

00:05:34,070 --> 00:05:32,000

frontal weather the towel sides look

186

00:05:37,590 --> 00:05:34,080

good on launch day all three sites are

187

00:05:39,830 --> 00:05:37,600

are go our forecast go and also um on

188

00:05:41,909 --> 00:05:39,840

day two as well except for just zaragoza

189

00:05:44,230 --> 00:05:41,919

has a slight chance for some fog both on

190

00:05:46,550 --> 00:05:44,240

if we happen to delay 24 hours and also

191

00:05:47,909 --> 00:05:46,560

48 hours so overall tile sites are

192

00:05:49,350 --> 00:05:47,919

looking good

193

00:05:50,790 --> 00:05:49,360

um i do want to show the satellite

194

00:05:53,270 --> 00:05:50,800

picture so i can show you a tropical

195

00:05:55,909 --> 00:05:53,280

storm tomas that is uh down in the

196

00:05:58,390 --> 00:05:55,919

caribbean become more disorganized over

197

00:05:59,590 --> 00:05:58,400

the last 24 hours as it's been under a

198

00:06:02,070 --> 00:05:59,600

lot of sheer

199

00:06:02,950 --> 00:06:02,080

it is expected though to

200

00:06:04,629 --> 00:06:02,960

become

201
00:06:05,990 --> 00:06:04,639
in a less sheer environment if you will

202
00:06:07,110 --> 00:06:06,000
get into a better environment and

203
00:06:08,870 --> 00:06:07,120
possibly

204
00:06:10,550 --> 00:06:08,880
redevelop but it's not going to be an

205
00:06:13,430 --> 00:06:10,560
issue for us here in florida or for the

206
00:06:16,070 --> 00:06:13,440
srb recovery area for the next five to

207
00:06:17,510 --> 00:06:16,080
seven days beyond that one of the models

208
00:06:18,950 --> 00:06:17,520
is trying to linger it down there in the

209
00:06:20,629 --> 00:06:18,960
caribbean as opposed to making a

210
00:06:22,390 --> 00:06:20,639
northeast move like most of the models

211
00:06:24,790 --> 00:06:22,400
are doing so we'll just keep watching it

212
00:06:26,469 --> 00:06:24,800
that's so far looking good now the srb

213
00:06:28,629 --> 00:06:26,479

recovery area looks good for launch day

214

00:06:30,150 --> 00:06:28,639

just five to six foot seas but if as

215

00:06:32,230 --> 00:06:30,160

they remain out there for a couple more

216

00:06:34,790 --> 00:06:32,240

days we do expect the seas to pick up to

217

00:06:36,710 --> 00:06:34,800

eight to 11 feet by friday out in that

218

00:06:39,909 --> 00:06:36,720

area so it is going to be a bit bumpy

219

00:06:41,110 --> 00:06:39,919

for them for srb recovery but overall it

220

00:06:43,189 --> 00:06:41,120

looks like wednesday is kind of the

221

00:06:44,790 --> 00:06:43,199

transition day that's the best day

222

00:06:46,550 --> 00:06:44,800

for us to go out of the three days that

223

00:06:48,629 --> 00:06:46,560

we're talking about so hopefully we go

224

00:06:50,790 --> 00:06:48,639

on that damn 30 percent chance of ksu

225

00:06:52,629 --> 00:06:50,800

weather prohibiting launch

226

00:06:53,830 --> 00:06:52,639

okay thank you

227

00:06:55,430 --> 00:06:53,840

we'll now take questions when the

228

00:06:57,270 --> 00:06:55,440

microphone comes your way please state

229

00:06:58,870 --> 00:06:57,280

your name affiliation and to whom you're

230

00:07:00,150 --> 00:06:58,880

addressing your question i will start

231

00:07:02,950 --> 00:07:00,160

over here with bill

232

00:07:04,230 --> 00:07:02,960

the hardware cbs for mike leinbach um

233

00:07:05,510 --> 00:07:04,240

you know all orbiters i mean they used

234

00:07:06,629 --> 00:07:05,520

to joke that columbia you know had a lot

235

00:07:08,309 --> 00:07:06,639

of trouble getting to the pad but once

236

00:07:10,070 --> 00:07:08,319

it got through everything was great does

237

00:07:12,150 --> 00:07:10,080

discovery have a personality to you as

238

00:07:13,670 --> 00:07:12,160

you go into this last flow in terms of

239

00:07:15,189 --> 00:07:13,680

how it's behaved over the years or any

240

00:07:18,390 --> 00:07:15,199

thoughts you have about making this last

241

00:07:20,070 --> 00:07:18,400

launch now discovery's been a fine ship

242

00:07:22,469 --> 00:07:20,080

you know we have kid a couple times in

243

00:07:24,309 --> 00:07:22,479

the past about about getting colombia on

244

00:07:26,390 --> 00:07:24,319

orbit but that was only because we loved

245

00:07:29,270 --> 00:07:26,400

her too

246

00:07:30,309 --> 00:07:29,280

the team the teams themselves are a bit

247

00:07:31,909 --> 00:07:30,319

different they have different

248

00:07:32,950 --> 00:07:31,919

personality in the processing teams i

249

00:07:34,790 --> 00:07:32,960

think i've talked to you about that

250

00:07:35,990 --> 00:07:34,800

before and so the teams are bringing a

251
00:07:37,830 --> 00:07:36,000
little bit of different atmosphere to

252
00:07:39,110 --> 00:07:37,840
their integrated scheduling meetings or

253
00:07:41,670 --> 00:07:39,120
their meetings over in the orbiter

254
00:07:43,909 --> 00:07:41,680
processing facility

255
00:07:45,909 --> 00:07:43,919
discovery herself is a fine ship she's

256
00:07:47,670 --> 00:07:45,919
ready to go

257
00:07:51,909 --> 00:07:47,680
just hate to see her retire so early in

258
00:07:56,230 --> 00:07:54,070
marcia

259
00:07:57,830 --> 00:07:56,240
marshad an associated press

260
00:07:58,869 --> 00:07:57,840
for mike moses

261
00:08:01,909 --> 00:07:58,879
if

262
00:08:02,950 --> 00:08:01,919
uh thursday's forecast is so bad and i

263
00:08:05,990 --> 00:08:02,960

missed that

264

00:08:07,830 --> 00:08:06,000

percentage that i think you'd like drop

265

00:08:10,230 --> 00:08:07,840

me a little time i said 30 i think it's

266

00:08:11,830 --> 00:08:10,240

60 percent chance of violating concerns

267

00:08:14,070 --> 00:08:11,840

if that remains the case on wednesday

268

00:08:16,230 --> 00:08:14,080

and you don't go wednesday for weather

269

00:08:18,469 --> 00:08:16,240

or something else minor would you just

270

00:08:19,909 --> 00:08:18,479

skip thursday and try for friday given

271

00:08:22,070 --> 00:08:19,919

the bad forecast or do you think you

272

00:08:23,589 --> 00:08:22,080

just what's the thinking right now well

273

00:08:25,430 --> 00:08:23,599

the good news is if that happens we'll

274

00:08:26,950 --> 00:08:25,440

be just 24 hours out from that forecast

275

00:08:29,189 --> 00:08:26,960

have a much better definition of what it

276

00:08:32,070 --> 00:08:29,199

really is what the violations really are

277

00:08:33,029 --> 00:08:32,080

um but uh but given the the prsd loading

278

00:08:34,550 --> 00:08:33,039

that mike was talking about with our

279

00:08:36,310 --> 00:08:34,560

scrub turnaround having four attempts in

280

00:08:37,990 --> 00:08:36,320

five days um

281

00:08:39,990 --> 00:08:38,000

it may or may not buy us something to

282

00:08:41,269 --> 00:08:40,000

hop over that day right now i wouldn't

283

00:08:43,190 --> 00:08:41,279

make that decision ahead of time we'll

284

00:08:45,590 --> 00:08:43,200

just wait till we get there

285

00:08:46,949 --> 00:08:45,600

and and for either the two mics is there

286

00:08:48,870 --> 00:08:46,959

any

287

00:08:50,710 --> 00:08:48,880

sadness that you detect in the hallways

288

00:08:52,070 --> 00:08:50,720

i mean it's exciting going into a launch

289

00:08:53,509 --> 00:08:52,080

but this is the last launch for

290

00:08:54,790 --> 00:08:53,519

discovery and i'm just wondering what

291

00:08:57,910 --> 00:08:54,800

you

292

00:09:00,230 --> 00:08:57,920

just

293

00:09:02,150 --> 00:09:00,240

see walking up and down the hallways

294

00:09:04,070 --> 00:09:02,160

well see i'll take it first you know um

295

00:09:05,829 --> 00:09:04,080

i think i talked to you last time in a

296

00:09:07,670 --> 00:09:05,839

press conference but there's still a

297

00:09:09,269 --> 00:09:07,680

certain amount of disbelief

298

00:09:11,190 --> 00:09:09,279

that uh that it's really her final

299

00:09:13,509 --> 00:09:11,200

launch we all know it you know we've

300

00:09:15,350 --> 00:09:13,519

come to grips with that fact but uh it's

301

00:09:17,030 --> 00:09:15,360

it's hard to it's hard to believe after

302

00:09:19,509 --> 00:09:17,040

having discovering the rest of the fleet

303

00:09:21,829 --> 00:09:19,519

for 30 years flying so well for america

304

00:09:24,949 --> 00:09:21,839

to uh to bring it to an end so it's it's

305

00:09:26,710 --> 00:09:24,959

difficult to to uh to accept emotionally

306

00:09:28,070 --> 00:09:26,720

but uh rationally we all know it's

307

00:09:29,910 --> 00:09:28,080

coming to an end and we need to get on

308

00:09:31,509 --> 00:09:29,920

with it we'll finish this mission then

309

00:09:33,430 --> 00:09:31,519

and then put discovery in the in the

310

00:09:35,509 --> 00:09:33,440

transition retirement phase

311

00:09:37,670 --> 00:09:35,519

and uh start safing her and getting her

312

00:09:38,949 --> 00:09:37,680

ready for ultimate disposition some

313

00:09:42,790 --> 00:09:38,959

museum somewhere i'm not quite sure

314

00:09:46,470 --> 00:09:44,470

irene thoughts with reuters kathy could

315

00:09:47,990 --> 00:09:46,480

you just go through the no goes for

316

00:09:49,670 --> 00:09:48,000

wednesday thursday friday because i

317

00:09:51,590 --> 00:09:49,680

think um

318

00:09:53,670 --> 00:09:51,600

thanks okay

319

00:09:55,590 --> 00:09:53,680

on the wednesday there's a 30 chance of

320

00:09:56,790 --> 00:09:55,600

kissing weather bribing launch thursday

321

00:09:58,870 --> 00:09:56,800

is the day the front moves through and

322

00:10:00,310 --> 00:09:58,880

that's the 60 chance

323

00:10:01,910 --> 00:10:00,320

and then on friday we're back to a 30

324

00:10:03,590 --> 00:10:01,920

percent chance

325

00:10:05,190 --> 00:10:03,600

nope you said that only five percent

326

00:10:07,350 --> 00:10:05,200

each day

327

00:10:09,509 --> 00:10:07,360

that's right at least in my dreams

328

00:10:10,389 --> 00:10:09,519

it's 50 50. everyone gets 50 50 every

329

00:10:13,910 --> 00:10:10,399

day

330

00:10:18,389 --> 00:10:15,990

hi robert perlman with collectspace.com

331

00:10:20,069 --> 00:10:18,399

uh for mike leinbach um i know your own

332

00:10:22,230 --> 00:10:20,079

history goes back to what the agencies

333

00:10:24,069 --> 00:10:22,240

in 1984 do you have any distinct

334

00:10:26,069 --> 00:10:24,079

remember memories about watching

335

00:10:27,829 --> 00:10:26,079

discovery fly for the first time and are

336

00:10:30,310 --> 00:10:27,839

there any members who are going to be in

337

00:10:33,190 --> 00:10:30,320

the firing room who were on console for

338

00:10:35,110 --> 00:10:33,200

that first launch um second part of your

339

00:10:36,310 --> 00:10:35,120

question the answer is yes we've had uh

340

00:10:38,470 --> 00:10:36,320

they're members of the launch team that

341

00:10:40,310 --> 00:10:38,480

have been around since sts-1

342

00:10:41,829 --> 00:10:40,320

and so we'll we will do something to

343

00:10:44,710 --> 00:10:41,839

recognize them

344

00:10:46,069 --> 00:10:44,720

um my own personal recollections uh when

345

00:10:48,630 --> 00:10:46,079

i was a test director the nasa test

346

00:10:49,590 --> 00:10:48,640

director to launch launch ntd

347

00:10:51,910 --> 00:10:49,600

sts

348

00:10:54,310 --> 00:10:51,920

33r was my first mission with discovery

349

00:10:56,389 --> 00:10:54,320

a department of defense mission with uh

350

00:10:58,150 --> 00:10:56,399

with fred gregory as a commander so i

351

00:11:00,870 --> 00:10:58,160

have a lot of members of discovery of

352

00:11:02,790 --> 00:11:00,880

course as we all do and um it goes back

353

00:11:05,030 --> 00:11:02,800

quite some time it's going to be hard to

354

00:11:06,389 --> 00:11:05,040

uh to see her end but we're looking

355

00:11:07,990 --> 00:11:06,399

looking forward to a great mission and

356

00:11:09,430 --> 00:11:08,000

seeing her on the runway and greeting

357

00:11:13,030 --> 00:11:09,440

the crew when they get back as we always

358

00:11:17,990 --> 00:11:15,590

in the back please

359

00:11:20,230 --> 00:11:18,000

uh gina cincer abc news have you given

360

00:11:22,150 --> 00:11:20,240

any thought to how you'll say godspeed

361

00:11:23,990 --> 00:11:22,160

to discovery what it launches is anyone

362

00:11:24,949 --> 00:11:24,000

giving you any advice

363

00:11:28,630 --> 00:11:24,959

um

364

00:11:30,069 --> 00:11:28,640

i'm not good at taking advice so

365

00:11:32,230 --> 00:11:30,079

that's that goes with the job that's one

366

00:11:34,310 --> 00:11:32,240

of the qualifications for the job as you

367

00:11:36,870 --> 00:11:34,320

you're not good at taking advice um

368

00:11:38,710 --> 00:11:36,880

which is actually the opposite um

369

00:11:40,150 --> 00:11:38,720

no i i haven't thought of that yet but

370

00:11:44,630 --> 00:11:40,160

uh i'm sure something will come to me

371

00:11:44,640 --> 00:11:51,670

okay ken

372

00:11:55,110 --> 00:11:53,829

hi ken kramer for space flight magazine

373

00:11:57,509 --> 00:11:55,120

for mike leinbach i wonder if you could

374

00:11:58,949 --> 00:11:57,519

tell us a little stories about the

375

00:12:01,829 --> 00:11:58,959

actual people who are preparing

376

00:12:04,949 --> 00:12:01,839

discovery for the final time

377

00:12:06,629 --> 00:12:04,959

stories of the people gosh

378

00:12:10,069 --> 00:12:06,639

thousands and thousands of stories out

379

00:12:14,550 --> 00:12:12,310

oh man there are so many stories and so

380

00:12:16,470 --> 00:12:14,560

many parties and and uh so many

381

00:12:18,790 --> 00:12:16,480

recollections i'd hate to single out

382

00:12:20,550 --> 00:12:18,800

just a few i would like to uh to point

383

00:12:22,870 --> 00:12:20,560

out two people that that deserve a lot

384

00:12:24,150 --> 00:12:22,880

of credit for processing discovery in

385

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

the last phase of her career which is

386

00:12:27,990 --> 00:12:25,680

stephanie stilson

387

00:12:29,750 --> 00:12:28,000

the nasa flow director and wayne bingham

388

00:12:32,069 --> 00:12:29,760

uh the flow manager for the united space

389

00:12:34,470 --> 00:12:32,079

alliance those two folks have really led

390

00:12:35,750 --> 00:12:34,480

their team in in an outstanding manner

391

00:12:37,030 --> 00:12:35,760

kept them together in the face of

392

00:12:39,509 --> 00:12:37,040

adversity

393

00:12:41,430 --> 00:12:39,519

have processorship just extremely well

394

00:12:43,110 --> 00:12:41,440

and all the credit for for a great

395

00:12:44,790 --> 00:12:43,120

mission from a hardware perspective goes

396

00:12:49,030 --> 00:12:44,800

to those two individuals and and

397

00:13:02,069 --> 00:12:58,150

todd

398

00:13:03,750 --> 00:13:02,079

today for either of the

399

00:13:05,430 --> 00:13:03,760

mics

400

00:13:07,590 --> 00:13:05,440

you know i'm wondering if you can just

401
00:13:10,389 --> 00:13:07,600
reflect for us on

402
00:13:12,150 --> 00:13:10,399
the retirement of the

403
00:13:14,069 --> 00:13:12,160
shuttle fleet and

404
00:13:15,030 --> 00:13:14,079
what your thoughts are

405
00:13:17,590 --> 00:13:15,040
about

406
00:13:22,470 --> 00:13:17,600
the wisdom of doing that at a time where

407
00:13:23,509 --> 00:13:22,480
we don't have a replacement ship yet

408
00:13:24,470 --> 00:13:23,519
let's see mike's been talking for a

409
00:13:26,230 --> 00:13:24,480
while so

410
00:13:29,190 --> 00:13:26,240
i'll attempt that one you sure you don't

411
00:13:34,470 --> 00:13:31,670
um let's see you know

412
00:13:37,350 --> 00:13:34,480
ideal world yeah obviously you'd want to

413
00:13:38,949 --> 00:13:37,360

to be able to uh before you you sell

414

00:13:40,230 --> 00:13:38,959

your your current car and go buy a new

415

00:13:41,829 --> 00:13:40,240

one you want to make sure you got you

416

00:13:43,509 --> 00:13:41,839

know the next one to buy or same thing

417

00:13:45,030 --> 00:13:43,519

with the house or or anything you'd like

418

00:13:47,030 --> 00:13:45,040

to have the next thing ready to jump

419

00:13:48,710 --> 00:13:47,040

right into um so from that standpoint

420

00:13:51,110 --> 00:13:48,720

it's a little different but the the

421

00:13:53,269 --> 00:13:51,120

realities are that that you know nasa is

422

00:13:55,750 --> 00:13:53,279

on a on a fixed budget just like most

423

00:13:57,509 --> 00:13:55,760

american families and and without a big

424

00:13:59,670 --> 00:13:57,519

infusion of cash we can only do a couple

425

00:14:01,350 --> 00:13:59,680

of things at a time uh with all our

426

00:14:03,350 --> 00:14:01,360

aeronautics and science research with

427

00:14:05,189 --> 00:14:03,360

the human space flight programs and all

428

00:14:06,310 --> 00:14:05,199

the other work that's going on you kind

429

00:14:08,550 --> 00:14:06,320

of have to

430

00:14:10,230 --> 00:14:08,560

share it amongst the family and and so

431

00:14:12,710 --> 00:14:10,240

to get another human space flight

432

00:14:14,389 --> 00:14:12,720

program started we have to shut one down

433

00:14:16,949 --> 00:14:14,399

um ideally yeah i'd love to have the

434

00:14:18,310 --> 00:14:16,959

cash to be able to to do that together

435

00:14:19,990 --> 00:14:18,320

and so from a

436

00:14:21,829 --> 00:14:20,000

uh wisdom standpoint's not the right

437

00:14:23,670 --> 00:14:21,839

word because we're talking politics and

438

00:14:24,710 --> 00:14:23,680

there's not always a lot of wisdom that

439

00:14:26,069 --> 00:14:24,720

goes into

440

00:14:28,310 --> 00:14:26,079

into political decisions but the

441

00:14:30,150 --> 00:14:28,320

realities are there so so yeah there's a

442

00:14:31,590 --> 00:14:30,160

little bit of um i wish we could do this

443

00:14:33,430 --> 00:14:31,600

differently

444

00:14:34,629 --> 00:14:33,440

but then again if this is what it is

445

00:14:36,550 --> 00:14:34,639

we're going to make the best of it we're

446

00:14:38,150 --> 00:14:36,560

going to take this shuttle team here

447

00:14:40,230 --> 00:14:38,160

that does an amazing job processing

448

00:14:42,470 --> 00:14:40,240

vehicles does an amazing job operating

449

00:14:43,750 --> 00:14:42,480

and flying a spacecraft and go apply

450

00:14:45,030 --> 00:14:43,760

them to the team that's off developing

451
00:14:46,710 --> 00:14:45,040
the new program and we're going to make

452
00:14:48,550 --> 00:14:46,720
that one a successful human space flight

453
00:14:50,069 --> 00:14:48,560
program as well

454
00:14:51,670 --> 00:14:50,079
and just uh

455
00:14:53,350 --> 00:14:51,680
just a little bit i've shared this with

456
00:14:55,350 --> 00:14:53,360
a couple folks privately

457
00:14:57,590 --> 00:14:55,360
and um one thing you learn in our

458
00:15:00,470 --> 00:14:57,600
business is redundancy is not only good

459
00:15:01,910 --> 00:15:00,480
and in some situations it's mandatory uh

460
00:15:03,829 --> 00:15:01,920
when the shuttle stops flying we will

461
00:15:05,189 --> 00:15:03,839
have a grand total of one way to get to

462
00:15:07,030 --> 00:15:05,199
the space station

463
00:15:08,550 --> 00:15:07,040

and our russian partners are outstanding

464

00:15:10,069 --> 00:15:08,560

partners very very reliable don't get me

465

00:15:12,389 --> 00:15:10,079

wrong they're outstanding partners and

466

00:15:14,550 --> 00:15:12,399

they'll do a terrific job but you have

467

00:15:16,470 --> 00:15:14,560

redundancy for a reason and without the

468

00:15:18,629 --> 00:15:16,480

shuttle we lose that redundancy and and

469

00:15:20,389 --> 00:15:18,639

so from an engineering perspective it's

470

00:15:22,230 --> 00:15:20,399

it's not it's not an emotional thing

471

00:15:23,590 --> 00:15:22,240

it's it's it's a it's a

472

00:15:25,350 --> 00:15:23,600

an engineering

473

00:15:28,870 --> 00:15:25,360

shortfall that we won't have redundancy

474

00:15:31,430 --> 00:15:28,880

in getting astronauts to orbit

475

00:15:32,310 --> 00:15:31,440

and just a quick follow for either of

476
00:15:33,430 --> 00:15:32,320
you

477
00:15:36,310 --> 00:15:33,440
mikes

478
00:15:37,829 --> 00:15:36,320
what are your thoughts about

479
00:15:40,870 --> 00:15:37,839
handle are handing over the

480
00:15:42,629 --> 00:15:40,880
responsibility for flying u.s astronauts

481
00:15:45,910 --> 00:15:42,639
into low-earth orbit

482
00:15:48,069 --> 00:15:45,920
to commercial companies rather than nasa

483
00:15:49,110 --> 00:15:48,079
doing that job

484
00:15:50,870 --> 00:15:49,120
a lot of that

485
00:15:52,310 --> 00:15:50,880
is going to go into the details of how

486
00:15:54,710 --> 00:15:52,320
those contracts are written what

487
00:15:56,310 --> 00:15:54,720
oversight is there you know you look at

488
00:15:57,749 --> 00:15:56,320

the model uh right now for all our

489

00:16:01,189 --> 00:15:57,759

science missions and i'm not trying to

490

00:16:03,030 --> 00:16:01,199

equate a a mars orbiter to a an

491

00:16:05,030 --> 00:16:03,040

astronaut flying to the station but but

492

00:16:06,470 --> 00:16:05,040

we effectively do that there we contract

493

00:16:07,990 --> 00:16:06,480

that launch vehicle

494

00:16:10,870 --> 00:16:08,000

and they provide services but we still

495

00:16:12,550 --> 00:16:10,880

have a nasa insight and oversight team

496

00:16:14,150 --> 00:16:12,560

um all the way down to having a nasa

497

00:16:17,189 --> 00:16:14,160

launch director on those missions that

498

00:16:19,030 --> 00:16:17,199

is providing a level of redundancy i i

499

00:16:20,790 --> 00:16:19,040

could envision a similar model but again

500

00:16:23,189 --> 00:16:20,800

the details of how you go write those

501
00:16:26,069 --> 00:16:23,199
contracts and the model of operation

502
00:16:27,189 --> 00:16:26,079
will dictate the the end outcome

503
00:16:29,910 --> 00:16:27,199
you got to be

504
00:16:31,430 --> 00:16:29,920
careful right because because the

505
00:16:33,269 --> 00:16:31,440
there's the reason to do commercial

506
00:16:35,430 --> 00:16:33,279
space flight which is exactly what

507
00:16:37,590 --> 00:16:35,440
nasa's purpose is which is to promote

508
00:16:39,749 --> 00:16:37,600
technology development uh seed the

509
00:16:41,509 --> 00:16:39,759
marketplace to get everybody out there

510
00:16:44,389 --> 00:16:41,519
doing space flight to get

511
00:16:46,470 --> 00:16:44,399
the human race in the orbit basically uh

512
00:16:47,749 --> 00:16:46,480
you know that's our ultimate future and

513
00:16:50,389 --> 00:16:47,759

our ultimate goal

514

00:16:51,590 --> 00:16:50,399

but but you got to be careful

515

00:16:52,790 --> 00:16:51,600

there's a lot of you know we talk mike

516

00:16:54,710 --> 00:16:52,800

talks about redundancy that's a great

517

00:16:56,150 --> 00:16:54,720

thing people tend to throw at us that

518

00:16:58,230 --> 00:16:56,160

we're a big bureaucracy and we have a

519

00:17:00,790 --> 00:16:58,240

lot of paperwork and a lot of redundancy

520

00:17:03,189 --> 00:17:00,800

um we have it because we need it because

521

00:17:04,390 --> 00:17:03,199

we fly perfectly and we do our best to

522

00:17:05,590 --> 00:17:04,400

fly perfectly

523

00:17:07,189 --> 00:17:05,600

i'm not saying that commercial companies

524

00:17:09,110 --> 00:17:07,199

won't do it but but it's a lot easier

525

00:17:10,789 --> 00:17:09,120

before you start flying to show that

526

00:17:13,270 --> 00:17:10,799

maybe you don't need so much redundancy

527

00:17:14,549 --> 00:17:13,280

in bureaucracy and paperwork and um you

528

00:17:16,549 --> 00:17:14,559

know just this afternoon i'm gonna go

529

00:17:18,949 --> 00:17:16,559

hear a waiver on a piece of paper that

530

00:17:21,029 --> 00:17:18,959

says um that we're not violating any

531

00:17:22,789 --> 00:17:21,039

constraints on an antenna in the srb

532

00:17:24,470 --> 00:17:22,799

because the number says it's 14 days

533

00:17:26,949 --> 00:17:24,480

before launch and when we wrote the

534

00:17:29,270 --> 00:17:26,959

requirement we didn't count for scrubs

535

00:17:30,549 --> 00:17:29,280

before we actually started sue seven so

536

00:17:32,150 --> 00:17:30,559

here we delayed two days and so i'm

537

00:17:33,270 --> 00:17:32,160

going to break my requirement but if i

538

00:17:34,789 --> 00:17:33,280

would have started the countdown and

539

00:17:36,549 --> 00:17:34,799

delayed two days i wouldn't have any

540

00:17:37,669 --> 00:17:36,559

paper to take so yeah we have a fair bit

541

00:17:39,029 --> 00:17:37,679

of paperwork that you really wish you

542

00:17:40,230 --> 00:17:39,039

didn't have to deal with

543

00:17:41,990 --> 00:17:40,240

and it really kind of makes no sense

544

00:17:43,510 --> 00:17:42,000

some days why you have some of that

545

00:17:45,270 --> 00:17:43,520

paperwork but the system overall really

546

00:17:46,870 --> 00:17:45,280

drives you to a system of safety and

547

00:17:48,150 --> 00:17:46,880

it's all driven towards that we talked

548

00:17:49,350 --> 00:17:48,160

about that with the

549

00:17:51,190 --> 00:17:49,360

the work that was going on this weekend

550

00:17:53,029 --> 00:17:51,200

at the pad it's sometimes frustrating

551
00:17:54,470 --> 00:17:53,039
that you're waiting on the paperwork the

552
00:17:57,110 --> 00:17:54,480
engineers who are going to go turn the

553
00:17:58,630 --> 00:17:57,120
wrenches and replace those leaky qd's

554
00:18:00,230 --> 00:17:58,640
wrote what they're going to go do but

555
00:18:02,230 --> 00:18:00,240
they can't do it until the paper comes

556
00:18:02,950 --> 00:18:02,240
back to them blessed and signed and and

557
00:18:06,230 --> 00:18:02,960
and

558
00:18:07,669 --> 00:18:06,240
that step because you never know when

559
00:18:09,669 --> 00:18:07,679
you're going to miss something and that

560
00:18:11,669 --> 00:18:09,679
one little bolt that one little fitting

561
00:18:13,830 --> 00:18:11,679
that one little piece of plastic tubing

562
00:18:15,510 --> 00:18:13,840
could be the uh the loss of the mission

563
00:18:17,110 --> 00:18:15,520

that day and so we do want to make sure

564

00:18:17,990 --> 00:18:17,120

we're careful i've gone off track a

565

00:18:19,350 --> 00:18:18,000

little bit from what you were talking

566

00:18:20,710 --> 00:18:19,360

about with commercial crew but but i

567

00:18:22,789 --> 00:18:20,720

think as long as you set it up right and

568

00:18:24,310 --> 00:18:22,799

you you set the right architecture right

569

00:18:25,590 --> 00:18:24,320

framework the right insight and

570

00:18:27,190 --> 00:18:25,600

oversight there's no reason you couldn't

571

00:18:31,590 --> 00:18:27,200

be just as safe and successful with a

572

00:18:34,390 --> 00:18:32,789

just a quick question for kathy

573

00:18:35,590 --> 00:18:34,400

yesterday you said that uh you know

574

00:18:37,750 --> 00:18:35,600

you're indicating there might be a

575

00:18:40,310 --> 00:18:37,760

change in the weather whatever

576

00:18:41,830 --> 00:18:40,320

is this an optimistic forecast today or

577

00:18:43,510 --> 00:18:41,840

or is there any trends out there that

578

00:18:45,430 --> 00:18:43,520

might turn this around tomorrow the

579

00:18:47,510 --> 00:18:45,440

other way well it all depends on the

580

00:18:49,430 --> 00:18:47,520

location of the upper level low in texas

581

00:18:51,590 --> 00:18:49,440

there are some differences on the models

582

00:18:53,510 --> 00:18:51,600

in those so um the closer that upper

583

00:18:55,590 --> 00:18:53,520

level low is to florida the more

584

00:18:57,110 --> 00:18:55,600

moisture the more dynamics the more

585

00:18:59,430 --> 00:18:57,120

chance of getting some showers in the

586

00:19:01,110 --> 00:18:59,440

area and a low cloud ceiling so it's

587

00:19:03,669 --> 00:19:01,120

going to depend on where that drops and

588

00:19:05,669 --> 00:19:03,679

so that's why 30 is covering

589

00:19:07,029 --> 00:19:05,679

but we are noting that you know it is a

590

00:19:09,350 --> 00:19:07,039

transition day

591

00:19:11,029 --> 00:19:09,360

and and every model run looks a little

592

00:19:12,470 --> 00:19:11,039

different it shuffles out shuffles when

593

00:19:16,470 --> 00:19:12,480

that moisture comes in but wednesday is

594

00:19:20,870 --> 00:19:19,190

denise chaosbase.com um how has the

595

00:19:23,029 --> 00:19:20,880

launch delays affected the crew's

596

00:19:24,390 --> 00:19:23,039

pre-launch activities and schedule have

597

00:19:25,990 --> 00:19:24,400

the extra days just given them more time

598

00:19:26,950 --> 00:19:26,000

for training or what have they been up

599

00:19:28,390 --> 00:19:26,960

to

600

00:19:29,830 --> 00:19:28,400

yeah they basically filled in some

601
00:19:31,510 --> 00:19:29,840
training uh if you were out there a

602
00:19:33,029 --> 00:19:31,520
little earlier you heard the sta flying

603
00:19:34,150 --> 00:19:33,039
over the shuttle training aircraft which

604
00:19:35,830 --> 00:19:34,160
is the uh

605
00:19:37,110 --> 00:19:35,840
the aircraft the astronauts used to

606
00:19:39,590 --> 00:19:37,120
simulate shuttle landings they were

607
00:19:41,669 --> 00:19:39,600
flying approaches up at the the slf the

608
00:19:43,430 --> 00:19:41,679
shuttle landing facility um today's

609
00:19:44,630 --> 00:19:43,440
their last scheduled training run they

610
00:19:46,630 --> 00:19:44,640
have another one on the books tomorrow

611
00:19:48,150 --> 00:19:46,640
if they want it but uh but we'll have to

612
00:19:49,510 --> 00:19:48,160
wait and see what commander lindsey

613
00:19:51,110 --> 00:19:49,520

feels like but but yeah they basically

614

00:19:52,310 --> 00:19:51,120

backfill some training

615

00:19:53,669 --> 00:19:52,320

and then kind of take a little bit of

616

00:19:56,310 --> 00:19:53,679

down time they've been pushing pretty

617

00:19:57,909 --> 00:19:56,320

hard to get here um you know

618

00:19:59,590 --> 00:19:57,919

knowing how crews respond they usually

619

00:20:01,190 --> 00:19:59,600

get into crew quarters they

620

00:20:03,669 --> 00:20:01,200

they they immediately attack their books

621

00:20:05,029 --> 00:20:03,679

study their procedures uh you know

622

00:20:06,390 --> 00:20:05,039

they're at the business end of the

623

00:20:08,070 --> 00:20:06,400

mission and they know they need to do it

624

00:20:10,070 --> 00:20:08,080

exactly right and the more prep work

625

00:20:11,590 --> 00:20:10,080

they can do the better i think

626

00:20:14,149 --> 00:20:11,600

in some ways they they appreciate having

627

00:20:15,430 --> 00:20:14,159

an extra data to study a little more but

628

00:20:16,630 --> 00:20:15,440

at their own pace now it's not somebody

629

00:20:17,990 --> 00:20:16,640

else driving their schedule so you can

630

00:20:19,990 --> 00:20:18,000

kind of relax a little bit

631

00:20:21,190 --> 00:20:20,000

um but i know they're anxious to go and

632

00:20:24,070 --> 00:20:21,200

we're anxious to get them out to the pad

633

00:20:24,080 --> 00:20:29,350

irene

634

00:20:34,149 --> 00:20:32,070

um thanks um mike moses i think this is

635

00:20:36,630 --> 00:20:34,159

for you since you stuck your toe in the

636

00:20:39,669 --> 00:20:36,640

political waters um i know and nasa

637

00:20:41,669 --> 00:20:39,679

tries to stay above politics yet the

638

00:20:43,909 --> 00:20:41,679

political reality is the foundation

639

00:20:45,750 --> 00:20:43,919

which the space program operates

640

00:20:47,750 --> 00:20:45,760

and in light of the fact that it seems

641

00:20:50,070 --> 00:20:47,760

that there's a another pretty strong

642

00:20:52,870 --> 00:20:50,080

political shift that may take place

643

00:20:55,830 --> 00:20:52,880

tomorrow on election day do you have um

644

00:20:57,909 --> 00:20:55,840

any concerns or any um

645

00:21:01,110 --> 00:20:57,919

thoughts about how

646

00:21:02,870 --> 00:21:01,120

that might impact nasa at all

647

00:21:04,549 --> 00:21:02,880

you know uh

648

00:21:07,190 --> 00:21:04,559

when i started uh

649

00:21:09,110 --> 00:21:07,200

in the shuttle program uh back a while

650

00:21:10,710 --> 00:21:09,120

back you know the programs were there

651
00:21:11,990 --> 00:21:10,720
and moving along the state the station

652
00:21:13,029 --> 00:21:12,000
program was there and moving along

653
00:21:14,310 --> 00:21:13,039
although

654
00:21:15,990 --> 00:21:14,320
at the time when i started it was still

655
00:21:18,470 --> 00:21:16,000
the there were quite a few years where

656
00:21:19,590 --> 00:21:18,480
only one vote made station live in

657
00:21:21,029 --> 00:21:19,600
congress so

658
00:21:22,470 --> 00:21:21,039
but there was always the shuttle program

659
00:21:23,909 --> 00:21:22,480
that kind of

660
00:21:25,590 --> 00:21:23,919
isolated you from the roller coaster up

661
00:21:29,110 --> 00:21:25,600
and downs as you as you went through you

662
00:21:30,549 --> 00:21:29,120
know changes in congressional leadership

663
00:21:32,149 --> 00:21:30,559

you know administration leadership in

664

00:21:33,510 --> 00:21:32,159

the white house changes can sometimes

665

00:21:34,710 --> 00:21:33,520

change direction but the

666

00:21:37,270 --> 00:21:34,720

the vision for the space program has

667

00:21:39,350 --> 00:21:37,280

kind of been been been moving forward

668

00:21:41,510 --> 00:21:39,360

we've hit a transition time right now

669

00:21:43,510 --> 00:21:41,520

and just because we're in transition you

670

00:21:45,830 --> 00:21:43,520

feel those political waves a lot more

671

00:21:47,110 --> 00:21:45,840

than you would have a few years ago so

672

00:21:49,190 --> 00:21:47,120

you know i don't think anything's

673

00:21:52,070 --> 00:21:49,200

different these days than it was that

674

00:21:53,750 --> 00:21:52,080

the last uh midterm elections or the or

675

00:21:55,430 --> 00:21:53,760

wind backs a couple more years four or

676
00:21:56,950 --> 00:21:55,440
eight years i think this has always been

677
00:21:57,669 --> 00:21:56,960
there that that turmoil has always been

678
00:21:59,190 --> 00:21:57,679
there

679
00:22:00,950 --> 00:21:59,200
it's just that because

680
00:22:02,710 --> 00:22:00,960
as an agency we're at a crossroads

681
00:22:04,070 --> 00:22:02,720
transition point right now

682
00:22:06,470 --> 00:22:04,080
you're just feeling the ripples a little

683
00:22:07,830 --> 00:22:06,480
more so yeah there's going to be some

684
00:22:09,110 --> 00:22:07,840
some changes i think coming out of the

685
00:22:11,190 --> 00:22:09,120
elections

686
00:22:12,470 --> 00:22:11,200
maybe not who knows

687
00:22:15,669 --> 00:22:12,480
and does that mean a change of direction

688
00:22:17,590 --> 00:22:15,679

for nasa uh maybe who knows but you know

689

00:22:19,110 --> 00:22:17,600

at the end of the day we're the agents

690

00:22:21,029 --> 00:22:19,120

of the uh of the government and we we

691

00:22:22,630 --> 00:22:21,039

follow the orders both in terms of the

692

00:22:24,390 --> 00:22:22,640

the authorization and the direction that

693

00:22:26,549 --> 00:22:24,400

they the president sets and then the

694

00:22:27,830 --> 00:22:26,559

funding that congress provides for it so

695

00:22:31,430 --> 00:22:27,840

we'll just wait and see if that mission

696

00:22:32,390 --> 00:22:31,440

changes and we'll react accordingly

697

00:22:36,950 --> 00:22:32,400

marcia

698

00:22:39,750 --> 00:22:36,960

linebach um are you anticipating lots of

699

00:22:40,950 --> 00:22:39,760

parties post launch or are you

700

00:22:43,190 --> 00:22:40,960

encouraging

701
00:22:44,789 --> 00:22:43,200
people to wait until we'll stop i'm just

702
00:22:46,149 --> 00:22:44,799
wondering when the big festivities

703
00:22:47,990 --> 00:22:46,159
really kick in

704
00:22:50,630 --> 00:22:48,000
you know there's a whole team set up to

705
00:22:52,310 --> 00:22:50,640
uh to recognize the employees and and do

706
00:22:53,430 --> 00:22:52,320
different things for them and i'll i'm

707
00:22:54,710 --> 00:22:53,440
going to be 100

708
00:22:56,950 --> 00:22:54,720
honest with you i don't know when the

709
00:22:58,390 --> 00:22:56,960
final party for discovery is i've been

710
00:23:00,630 --> 00:22:58,400
kind of busy over the last couple of

711
00:23:02,470 --> 00:23:00,640
weeks um i'm sure there will be one

712
00:23:05,190 --> 00:23:02,480
they'll probably be at our recreation

713
00:23:07,270 --> 00:23:05,200

center here on on base i'm certain it'll

714

00:23:09,430 --> 00:23:07,280

be after we'll stop um so we can all

715

00:23:11,350 --> 00:23:09,440

celebrate a successful mission

716

00:23:12,870 --> 00:23:11,360

and uh there'll be a lot of a lot of

717

00:23:14,310 --> 00:23:12,880

hugging a lot of padding on the back i'm

718

00:23:17,430 --> 00:23:14,320

sure i don't know what it is i really

719

00:23:18,230 --> 00:23:17,440

don't i'm looking forward to it though

720

00:23:22,710 --> 00:23:18,240

ken

721

00:23:24,390 --> 00:23:22,720

for mike leinbach and mike moises mike

722

00:23:26,230 --> 00:23:24,400

you mentioned that

723

00:23:29,190 --> 00:23:26,240

discovery is a great ship has a lot of

724

00:23:31,590 --> 00:23:29,200

life left in her could you estimate

725

00:23:33,190 --> 00:23:31,600

somehow how many missions or years you

726

00:23:34,710 --> 00:23:33,200

think that could be

727

00:23:36,390 --> 00:23:34,720

oh boy well

728

00:23:37,830 --> 00:23:36,400

all orbiters were designed for 100

729

00:23:40,470 --> 00:23:37,840

mission life

730

00:23:42,149 --> 00:23:40,480

um the time was was uh not as long as

731

00:23:43,830 --> 00:23:42,159

we've been flying them but but they were

732

00:23:45,269 --> 00:23:43,840

designed for 100 missions each so in

733

00:23:47,350 --> 00:23:45,279

some respects she's

734

00:23:51,110 --> 00:23:47,360

she's just in her in her early

735

00:23:53,350 --> 00:23:51,120

30s late 30s something like that

736

00:23:54,870 --> 00:23:53,360

like the b-52 i mean the b-52 is still

737

00:23:57,029 --> 00:23:54,880

flying we upgrade the orbiters they're

738

00:23:58,710 --> 00:23:57,039

they're in fine shape they're

739

00:23:59,990 --> 00:23:58,720

to most people's view they're the best

740

00:24:01,430 --> 00:24:00,000

they've ever been they're the safest

741

00:24:03,110 --> 00:24:01,440

they've ever been

742

00:24:04,789 --> 00:24:03,120

could we keep on flying i believe we

743

00:24:06,390 --> 00:24:04,799

could but that's not the direction we've

744

00:24:08,149 --> 00:24:06,400

been given and so we need to get on with

745

00:24:09,350 --> 00:24:08,159

the direction we may not like it but

746

00:24:11,110 --> 00:24:09,360

that's the direction we've been given

747

00:24:14,950 --> 00:24:11,120

and so we'll get on with retiring these

748

00:24:16,630 --> 00:24:14,960

ships and moving into the next program

749

00:24:19,590 --> 00:24:16,640

kind of sounds like you think she could

750

00:24:20,549 --> 00:24:19,600

go another 10 years maybe

751
00:24:23,669 --> 00:24:20,559
longer

752
00:24:25,190 --> 00:24:23,679
i think with proper care and feeding

753
00:24:27,110 --> 00:24:25,200
it's a machine

754
00:24:28,549 --> 00:24:27,120
after all and machines

755
00:24:32,310 --> 00:24:28,559
as long as you take care of them they'll

756
00:24:42,870 --> 00:24:35,190
are there any further questions

757
00:24:47,909 --> 00:24:45,430
todd alberson of florida today for

758
00:24:49,669 --> 00:24:47,919
either mike um

759
00:24:51,669 --> 00:24:49,679
i'm wondering if you can kind of give us

760
00:24:53,750 --> 00:24:51,679
a picture of what things are going to

761
00:24:56,710 --> 00:24:53,760
look like here

762
00:24:58,830 --> 00:24:56,720
in regard to the development of a heavy

763
00:25:02,470 --> 00:24:58,840

lift launch vehicle the

764

00:25:05,590 --> 00:25:02,480

congress has authorized you guys to move

765

00:25:08,789 --> 00:25:05,600

ahead with the development and

766

00:25:11,750 --> 00:25:08,799

do you have any idea of what regime test

767

00:25:13,669 --> 00:25:11,760

flights might look like and

768

00:25:15,669 --> 00:25:13,679

what's going to be going on here at the

769

00:25:18,789 --> 00:25:15,679

kennedy space center in regard to heavy

770

00:25:20,870 --> 00:25:18,799

lift for the next five years

771

00:25:22,230 --> 00:25:20,880

let's see todd the um uh

772

00:25:24,230 --> 00:25:22,240

yeah so the authorization language talks

773

00:25:25,909 --> 00:25:24,240

about a heavy lift um

774

00:25:27,510 --> 00:25:25,919

heavy lift vehicle this the space launch

775

00:25:29,110 --> 00:25:27,520

system obviously there's going to need

776

00:25:31,510 --> 00:25:29,120

to be infrastructure changes here at

777

00:25:33,110 --> 00:25:31,520

kennedy to support that

778

00:25:35,510 --> 00:25:33,120

but anything that looks like a test

779

00:25:36,710 --> 00:25:35,520

flight or a schedule like that is really

780

00:25:38,230 --> 00:25:36,720

up in the air we don't have the

781

00:25:40,630 --> 00:25:38,240

appropriations yet to know how much

782

00:25:42,390 --> 00:25:40,640

money is coming we we assume based on

783

00:25:43,269 --> 00:25:42,400

last levels what we would get

784

00:25:44,710 --> 00:25:43,279

um

785

00:25:46,870 --> 00:25:44,720

also the the appropriations bill can

786

00:25:48,710 --> 00:25:46,880

have a lot of splits dictating earmarks

787

00:25:50,630 --> 00:25:48,720

that go to certain centers that have to

788

00:25:51,750 --> 00:25:50,640

have a split all that can factor in to

789

00:25:53,269 --> 00:25:51,760

say how much

790

00:25:55,110 --> 00:25:53,279

money we're going to spend here at

791

00:25:56,950 --> 00:25:55,120

kennedy space center on infrastructure

792

00:25:58,710 --> 00:25:56,960

upgrades all i can say is we are

793

00:26:00,630 --> 00:25:58,720

definitely if we're developing a heavy

794

00:26:02,710 --> 00:26:00,640

lift vehicle obviously uh the launch

795

00:26:05,830 --> 00:26:02,720

pads the processing facilities are all

796

00:26:07,750 --> 00:26:05,840

gonna have to be uh modified or to uh or

797

00:26:09,110 --> 00:26:07,760

built new to accommodate that and so

798

00:26:11,510 --> 00:26:09,120

that works going on there's a whole team

799

00:26:12,950 --> 00:26:11,520

of folks here at kennedy who's off who

800

00:26:14,149 --> 00:26:12,960

are off looking at that

801
00:26:15,510 --> 00:26:14,159
and laying it out but it's still a

802
00:26:17,430 --> 00:26:15,520
little bit in limbo because we haven't

803
00:26:19,909 --> 00:26:17,440
yet picked an architecture

804
00:26:21,830 --> 00:26:19,919
the size of the vehicle uh fuel that it

805
00:26:24,070 --> 00:26:21,840
would carry upper stage size all that

806
00:26:25,110 --> 00:26:24,080
stuff kind of dictates what you're going

807
00:26:27,029 --> 00:26:25,120
to do

808
00:26:27,830 --> 00:26:27,039
you know it's it's it's pretty basic to

809
00:26:29,430 --> 00:26:27,840
say we're probably going to be

810
00:26:32,070 --> 00:26:29,440
processing in the vab we're going to be

811
00:26:33,110 --> 00:26:32,080
using launch complex 39 um and other

812
00:26:34,870 --> 00:26:33,120
than that

813
00:26:36,549 --> 00:26:34,880

all the cards are on the table to to

814

00:26:38,070 --> 00:26:36,559

trade it out so i don't have any

815

00:26:40,390 --> 00:26:38,080

specifics

816

00:26:42,630 --> 00:26:40,400

well and just to just to to

817

00:26:45,110 --> 00:26:42,640

lay something out for you you know pad b

818

00:26:47,830 --> 00:26:45,120

is is being raised down to the to the

819

00:26:49,909 --> 00:26:47,840

concrete so it's so it's more adaptable

820

00:26:52,149 --> 00:26:49,919

to any type vehicle pad a we're going to

821

00:26:53,269 --> 00:26:52,159

leave it alone just in case the uh after

822

00:26:55,029 --> 00:26:53,279

the final mission we're going to leave

823

00:26:57,029 --> 00:26:55,039

it alone for some time in case the heavy

824

00:26:59,110 --> 00:26:57,039

lift vehicle is shuttle derived then

825

00:27:00,870 --> 00:26:59,120

we'd be able to to adapt it much more

826
00:27:02,630 --> 00:27:00,880
easily than if we'd already demolished

827
00:27:04,070 --> 00:27:02,640
the thing so we're going to leave pad

828
00:27:05,750 --> 00:27:04,080
alone until we know what the what the

829
00:27:07,990 --> 00:27:05,760
design is as mike says you know the the

830
00:27:09,350 --> 00:27:08,000
design of the infrastructure is dictated

831
00:27:11,110 --> 00:27:09,360
by the design of the rocket not the

832
00:27:13,110 --> 00:27:11,120
other way and so we're going to leave

833
00:27:14,470 --> 00:27:13,120
pat alone betting on the common it'll be

834
00:27:15,909 --> 00:27:14,480
shuttle drive if it's not well then

835
00:27:17,510 --> 00:27:15,919
we'll react to those changes when it

836
00:27:18,870 --> 00:27:17,520
happens

837
00:27:20,710 --> 00:27:18,880
okay we'll take our last question over

838
00:27:21,909 --> 00:27:20,720

here please yeah james bond with nico

839

00:27:23,590 --> 00:27:21,919

nicodoga

840

00:27:26,789 --> 00:27:23,600

two quick questions for mike mores and

841

00:27:29,430 --> 00:27:26,799

mike lineback after a successful mission

842

00:27:31,269 --> 00:27:29,440

um what's the process uh length of and

843

00:27:34,789 --> 00:27:31,279

type of process to actually retire the

844

00:27:37,029 --> 00:27:34,799

ship uh discovery and uh maybe from mike

845

00:27:39,510 --> 00:27:37,039

uh lineback what do you want that plaque

846

00:27:41,830 --> 00:27:39,520

to say uh when she finds her final home

847

00:27:44,230 --> 00:27:41,840

uh in the museum

848

00:27:47,430 --> 00:27:44,240

let's see the uh once discovery's back

849

00:27:49,110 --> 00:27:47,440

it'll follow about the 30-day ish plan

850

00:27:50,789 --> 00:27:49,120

that's just the normal plan as if it was

851
00:27:52,630 --> 00:27:50,799
coming back and and being turned around

852
00:27:53,990 --> 00:27:52,640
again we call that uh down mission

853
00:27:57,430 --> 00:27:54,000
processing where it gets back into the

854
00:27:58,710 --> 00:27:57,440
opf we save the uh the critical systems

855
00:28:00,070 --> 00:27:58,720
get the payload infrastructure out

856
00:28:01,269 --> 00:28:00,080
that's mission specific take that out of

857
00:28:03,350 --> 00:28:01,279
the payload bay

858
00:28:05,029 --> 00:28:03,360
basically deconfigure its specific

859
00:28:06,549 --> 00:28:05,039
mission configuration

860
00:28:08,389 --> 00:28:06,559
and then it'll move into a phase that

861
00:28:11,190 --> 00:28:08,399
we're calling tnr transition and

862
00:28:13,510 --> 00:28:11,200
retirement where we move to a set of of

863
00:28:15,350 --> 00:28:13,520

safing steps where where uh like the

864

00:28:17,990 --> 00:28:15,360

fuel systems and the hydraulic systems

865

00:28:19,830 --> 00:28:18,000

are drained and decontaminated um

866

00:28:22,389 --> 00:28:19,840

and basically the music or the ship is

867

00:28:24,230 --> 00:28:22,399

then prepared for its its display state

868

00:28:26,549 --> 00:28:24,240

uh and then be ready that process is

869

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

gonna take i forget what the timeline

870

00:28:29,830 --> 00:28:28,480

shows but it's on the order of six to

871

00:28:31,430 --> 00:28:29,840

eight months

872

00:28:33,750 --> 00:28:31,440

uh i think end-to-end

873

00:28:34,789 --> 00:28:33,760

it's fairly flexible because we don't

874

00:28:36,549 --> 00:28:34,799

yet know

875

00:28:38,470 --> 00:28:36,559

uh we know what we're calling it the end

876

00:28:39,990 --> 00:28:38,480

state so we know what condition to put

877

00:28:42,149 --> 00:28:40,000

the major systems but we don't know the

878

00:28:44,389 --> 00:28:42,159

display state because we haven't gotten

879

00:28:45,750 --> 00:28:44,399

the request from this you know discovery

880

00:28:47,510 --> 00:28:45,760

hasn't been assigned necessarily to a

881

00:28:48,870 --> 00:28:47,520

specific museum they haven't told us

882

00:28:50,549 --> 00:28:48,880

what configuration they would like it to

883

00:28:52,870 --> 00:28:50,559

be in what hardware they would or would

884

00:28:54,710 --> 00:28:52,880

not like included um all that has to be

885

00:28:56,389 --> 00:28:54,720

negotiated so that's an ongoing process

886

00:28:57,909 --> 00:28:56,399

but we're looking at six to eight months

887

00:29:00,149 --> 00:28:57,919

worth of processing for discovery before

888

00:29:01,909 --> 00:29:00,159

it's ready to go

889

00:29:04,149 --> 00:29:01,919

well and i think to the to the question

890

00:29:06,630 --> 00:29:04,159

about the the display itself i'd i would

891

00:29:08,310 --> 00:29:06,640

like to see some some adaptation of the

892

00:29:09,830 --> 00:29:08,320

of the tribute that the discovery team

893

00:29:12,230 --> 00:29:09,840

put together the one you see over in the

894

00:29:14,310 --> 00:29:12,240

in the press dome there with all the

895

00:29:17,110 --> 00:29:14,320

patches and then and the order doing the

896

00:29:18,789 --> 00:29:17,120

reverse pitch maneuver um the team that

897

00:29:20,710 --> 00:29:18,799

works on discovery and loves discoveries

898

00:29:22,789 --> 00:29:20,720

the most loves discovery the most

899

00:29:24,310 --> 00:29:22,799

designed that tribute and so i think

900

00:29:28,070 --> 00:29:24,320

that'd be very appropriate to have with

901

00:29:31,669 --> 00:29:30,070

that will conclude today's pre-law news

902

00:29:34,149 --> 00:29:31,679

conference please join us on the

903

00:29:35,590 --> 00:29:34,159

television today at 1 pm eastern time

904

00:29:37,669 --> 00:29:35,600

for the international space station

905

00:29:40,549 --> 00:29:37,679

science briefing for more information on