1
00:00:08,710 --> 00:00:05,349
good morning welcome to the post-launch

2
00:00:10,230 --> 00:00:08,720
news conference for orbital atk's fifth

3
00:00:12,150 --> 00:00:10,240
resupply mission to the international

4
00:00:13,669 --> 00:00:12,160
space station under nasa's commercial

5
00:00:15,829 --> 00:00:13,679
resupply contract

6
00:00:17,510 --> 00:00:15,839
joining us here at kennedy space center

7
00:00:19,750 --> 00:00:17,520
are three people who will give us the

8
00:00:22,070 --> 00:00:19,760
latest updates on the mission

9
00:00:23,990 --> 00:00:22,080
kenneth todd operations integration

10
00:00:27,910 --> 00:00:24,000
manager international space station

11
00:00:36,790 --> 00:00:30,870
frank culbertson space systems group

12
00:00:42,830 --> 00:00:39,750
vern thorpe program manager for nasa

13
00:00:45,270 --> 00:00:42,840

missions united launch

14
00:00:46,950 --> 00:00:45,280
alliance after a few opening comments

15
00:00:48,389 --> 00:00:46,960
we'll take your questions

16
00:00:50,310 --> 00:00:48,399
for those on the phone if you have a

17
00:00:55,350 --> 00:00:50,320
question you can press star one to be

18
00:01:01,990 --> 00:00:57,990
first of all i'd like to extend my

19
00:01:05,030 --> 00:01:02,000
congratulations to the integrated

20
00:01:06,789 --> 00:01:05,040
orb atk and ula team

21
00:01:08,710 --> 00:01:06,799
clearly

22
00:01:11,190 --> 00:01:08,720
this team was ready to go go do this

23
00:01:14,550 --> 00:01:11,200
launch tonight and absolutely

24
00:01:16,070 --> 00:01:14,560
flawless countdown and i think for those

25
00:01:17,990 --> 00:01:16,080
of you that were here and saw it i think

26
00:01:20,870 --> 00:01:18,000
you would agree it was an absolutely

27
00:01:22,550 --> 00:01:20,880
spectacular launch and

28
00:01:25,429 --> 00:01:22,560
certainly never get tired of seeing

29
00:01:29,270 --> 00:01:25,439
those so again my congratulations to to

30
00:01:31,830 --> 00:01:29,280
this entire team here to my left

31
00:01:33,590 --> 00:01:31,840
back in houston

32
00:01:35,910 --> 00:01:33,600
this week we're having a

33
00:01:37,510 --> 00:01:35,920
a meeting of all of the program managers

34
00:01:38,710 --> 00:01:37,520
within the international space station

35
00:01:40,149 --> 00:01:38,720
program and

36
00:01:42,230 --> 00:01:40,159
in fact a couple of minutes before the

37
00:01:45,749 --> 00:01:42,240
launch i spoke with the with kirk

38
00:01:47,270 --> 00:01:45,759

shireman and uh he wanted to to pass on

39
00:01:49,830 --> 00:01:47,280
uh to me that all of the program

40
00:01:51,830 --> 00:01:49,840
managers expressed their excitement over

41
00:01:54,310 --> 00:01:51,840
this launch tonight and the ability to

42
00:01:56,069 --> 00:01:54,320
to not just not just get nasa hardware

43
00:01:58,469 --> 00:01:56,079
but but get some of our international

44
00:02:00,149 --> 00:01:58,479
partner hardware to orbit

45
00:02:01,429 --> 00:02:00,159
a lot of it being being the research

46
00:02:05,350 --> 00:02:01,439
that we're going to be doing on space

47
00:02:07,510 --> 00:02:05,360
station over the next uh 60 90 120 days

48
00:02:09,830 --> 00:02:07,520
and so it's uh it's a very exciting time

49
00:02:12,070 --> 00:02:09,840
for the program just coming off the crs4

50
00:02:15,190 --> 00:02:12,080
mission to be to be here and and on our

51
00:02:17,270 --> 00:02:15,200
way with the with this oa6 mission is

52
00:02:20,869 --> 00:02:17,280
certainly very exciting um

53
00:02:22,869 --> 00:02:20,879
the uh the iss is ready the crew's ready

54
00:02:24,710 --> 00:02:22,879
and we'll be ready to go saturday

55
00:02:26,470 --> 00:02:24,720
morning when we when we see you out the

56
00:02:27,670 --> 00:02:26,480
window frank

57
00:02:29,030 --> 00:02:27,680
thank you very much kenny and good

58
00:02:31,750 --> 00:02:29,040
morning to everybody

59
00:02:33,990 --> 00:02:31,760
uh it is certainly a good day for us um

60
00:02:35,190 --> 00:02:34,000
on behalf of all of orbital atk i'd like

61
00:02:36,949 --> 00:02:35,200
to thank the

62
00:02:38,949 --> 00:02:36,959
the teammates that helped make this

63
00:02:40,949 --> 00:02:38,959

happen of course united launch alliance

64
00:02:43,430 --> 00:02:40,959
and all the first folks that made this

65
00:02:45,030 --> 00:02:43,440
look easy it was a very smooth count

66
00:02:46,949 --> 00:02:45,040
we all know that it takes a lot of hard

67
00:02:48,830 --> 00:02:46,959
work doing hard jobs to make them look

68
00:02:51,350 --> 00:02:48,840
easy and and they certainly did that

69
00:02:53,350 --> 00:02:51,360
tonight of course the weather cooperated

70
00:02:55,270 --> 00:02:53,360
too which we were happy to see

71
00:02:58,070 --> 00:02:55,280
we had great support through the whole

72
00:02:59,750 --> 00:02:58,080
process from nasa kennedy space center

73
00:03:01,430 --> 00:02:59,760
processing the cargo

74
00:03:03,670 --> 00:03:01,440
and johnson space center of course in

75
00:03:04,470 --> 00:03:03,680
the iss program and also the 45th space

76
00:03:05,190 --> 00:03:04,480
wing

77
00:03:11,430 --> 00:03:05,200
in

78
00:03:13,589 --> 00:03:11,440
was a great team effort

79
00:03:15,430 --> 00:03:13,599
it allows us to deliver

80
00:03:17,350 --> 00:03:15,440
over three and a half tons of cargo to

81
00:03:19,750 --> 00:03:17,360
the international space station so they

82
00:03:22,149 --> 00:03:19,760
can continue their important research

83
00:03:25,670 --> 00:03:22,159
and keep the crew on board and keep them

84
00:03:28,229 --> 00:03:25,680
fed and clothed and and healthy

85
00:03:29,990 --> 00:03:28,239
this is a very important mission

86
00:03:31,830 --> 00:03:30,000
both what's happening on the station and

87
00:03:33,750 --> 00:03:31,840
what we're delivering and to be able to

88
00:03:35,990 --> 00:03:33,760

turn around so quickly

89
00:03:37,830 --> 00:03:36,000
with a great team supporting us

90
00:03:38,949 --> 00:03:37,840
it means a lot to us at the at the

91
00:03:40,390 --> 00:03:38,959
company

92
00:03:41,750 --> 00:03:40,400
we're looking forward to more missions

93
00:03:43,430 --> 00:03:41,760
in the near future

94
00:03:45,030 --> 00:03:43,440
but we've still got some big tasks ahead

95
00:03:47,350 --> 00:03:45,040
of us tonight

96
00:03:49,270 --> 00:03:47,360
the team has already completed the

97
00:03:51,190 --> 00:03:49,280
unfurling of the solar arrays both of

98
00:03:53,270 --> 00:03:51,200
them unfurl completely and are producing

99
00:03:55,350 --> 00:03:53,280
power and charging the batteries

100
00:03:57,030 --> 00:03:55,360
we are now managing the trajectory of

101
00:04:03,910 --> 00:03:57,040
the

102
00:04:05,910 --> 00:04:03,920
station early saturday morning east

103
00:04:07,910 --> 00:04:05,920
coast time and of course we're looking

104
00:04:10,149 --> 00:04:07,920
forward to that and getting the cygnus

105
00:04:11,670 --> 00:04:10,159
on board and opening the hatch and maybe

106
00:04:13,509 --> 00:04:11,680
they'll find a few easter eggs on board

107
00:04:15,990 --> 00:04:13,519
who knows

108
00:04:17,830 --> 00:04:16,000
but uh it's been a good night and uh

109
00:04:19,830 --> 00:04:17,840
we're very proud of what the team has

110
00:04:22,390 --> 00:04:19,840
done and thank everybody again for their

111
00:04:24,629 --> 00:04:22,400
support and vern you and your team put

112
00:04:26,550 --> 00:04:24,639
us almost exactly where we needed to be

113
00:04:29,990 --> 00:04:26,560

and we really appreciate that great work

114
00:04:31,909 --> 00:04:30,000
thank you well thanks frank um it's

115
00:04:32,790 --> 00:04:31,919
great to be here after another fantastic

116
00:04:35,430 --> 00:04:32,800
launch

117
00:04:38,070 --> 00:04:35,440
i'd like to say congratulations from ula

118
00:04:39,510 --> 00:04:38,080
to nasa and orbital atk and the entire

119
00:04:41,430 --> 00:04:39,520
mission team

120
00:04:42,390 --> 00:04:41,440
in just a little over 20 minutes we went

121
00:04:44,790 --> 00:04:42,400
from

122
00:04:46,230 --> 00:04:44,800
liftoff to delivering cygnus into

123
00:04:47,749 --> 00:04:46,240
exactly the orbit that it wanted to be

124
00:04:50,070 --> 00:04:47,759
in i think i mentioned before during the

125
00:04:51,990 --> 00:04:50,080
oa4 launch that's a faster than most

126
00:04:53,749 --> 00:04:52,000
pizza deliveries

127
00:04:56,150 --> 00:04:53,759
so we did it again tonight

128
00:04:57,510 --> 00:04:56,160
this was our second successful cargo

129
00:04:58,870 --> 00:04:57,520
mission of course the other one was

130
00:04:59,990 --> 00:04:58,880
three and a half months ago in early

131
00:05:02,550 --> 00:05:00,000
december

132
00:05:03,749 --> 00:05:02,560
and i've got a few numbers to share with

133
00:05:06,790 --> 00:05:03,759
you tonight

134
00:05:08,870 --> 00:05:06,800
many of you recall that the last time we

135
00:05:10,390 --> 00:05:08,880
launched a cygnus it took us three

136
00:05:12,230 --> 00:05:10,400
attempts over four days because of

137
00:05:13,990 --> 00:05:12,240
ground winds the the wind was blowing

138
00:05:15,749 --> 00:05:14,000

really hard and it was just exceeding

139
00:05:17,909 --> 00:05:15,759
the allowable limits for liftoff this

140
00:05:19,830 --> 00:05:17,919
time the weather cooperated beautifully

141
00:05:21,749 --> 00:05:19,840
winds were only blowing six knots at the

142
00:05:23,749 --> 00:05:21,759
time of t zero

143
00:05:26,230 --> 00:05:23,759
also for the first time that i can ever

144
00:05:28,310 --> 00:05:26,240
remember and one of the final weather

145
00:05:30,629 --> 00:05:28,320
updates we got the the launch weather

146
00:05:33,590 --> 00:05:30,639
officer actually gave us a zero percent

147
00:05:35,270 --> 00:05:33,600
probability of violation and uh it's

148
00:05:37,749 --> 00:05:35,280
rare that you get zero percent so the

149
00:05:40,390 --> 00:05:37,759
weather was just beautiful tonight

150
00:05:41,990 --> 00:05:40,400
we were targeting a 230 kilometer

151
00:05:44,710 --> 00:05:42,000
circular orbit

152
00:05:46,070 --> 00:05:44,720
and we came very very uh close to that

153
00:05:47,749 --> 00:05:46,080
like we normally do we were just a

154
00:05:49,749 --> 00:05:47,759
fraction of a kilometer off which is

155
00:05:51,029 --> 00:05:49,759
well well within the allowable

156
00:05:51,990 --> 00:05:51,039
dispersions

157
00:05:56,550 --> 00:05:52,000
and

158
00:05:59,590 --> 00:05:56,560
orbital parameters we we nailed it

159
00:06:02,309 --> 00:05:59,600
so we got cygnus where it wants to go

160
00:06:05,430 --> 00:06:02,319
as frank said uh you know it takes a a

161
00:06:06,790 --> 00:06:05,440
lot of folks to make this happen and uh

162
00:06:08,629 --> 00:06:06,800
you know the

163
00:06:10,790 --> 00:06:08,639

we're really focused on mission success

164
00:06:12,309 --> 00:06:10,800
at united launch alliance but for

165
00:06:15,110 --> 00:06:12,319
sustained mission success it really

166
00:06:17,590 --> 00:06:15,120
takes a broader team it takes a seamless

167
00:06:19,430 --> 00:06:17,600
integration between the launch team and

168
00:06:21,270 --> 00:06:19,440
our customers you know whether they're

169
00:06:23,110 --> 00:06:21,280
civil missions like this or commercial

170
00:06:25,430 --> 00:06:23,120
missions or government missions

171
00:06:27,749 --> 00:06:25,440
and we are really thankful on this

172
00:06:29,749 --> 00:06:27,759
mission in particular to have uh just a

173
00:06:31,590 --> 00:06:29,759
fantastic partnership and working

174
00:06:33,350 --> 00:06:31,600
relationship between all the all the

175
00:06:35,590 --> 00:06:33,360
team members

176
00:06:38,790 --> 00:06:35,600
i'd like to offer a big thank you to the

177
00:06:40,629 --> 00:06:38,800
air force and to the faa who provided

178
00:06:43,510 --> 00:06:40,639
outstanding support for this launch and

179
00:06:45,749 --> 00:06:43,520
they also helped make it all happen

180
00:06:47,749 --> 00:06:45,759
i want to say thanks to all the families

181
00:06:49,430 --> 00:06:47,759
that stand behind all of us and let us

182
00:06:51,589 --> 00:06:49,440
do these great things

183
00:06:53,430 --> 00:06:51,599
and thanks again to all of our mission

184
00:06:56,870 --> 00:06:53,440
partners who've worked with us to

185
00:06:59,589 --> 00:06:56,880
achieve now 106 consecutive successful

186
00:07:01,510 --> 00:06:59,599
missions since ula has formed and of

187
00:07:04,950 --> 00:07:01,520
course we do each one of those missions

188
00:07:08,390 --> 00:07:06,629

thank you we'll now take questions for

189
00:07:10,390 --> 00:07:08,400
those of you in the room you can raise

190
00:07:12,309 --> 00:07:10,400
your hand if you have a question

191
00:07:14,150 --> 00:07:12,319
and someone with a mic will come to you

192
00:07:16,070 --> 00:07:14,160
please introduce yourself and to whom

193
00:07:17,909 --> 00:07:16,080
your question is directed for those on

194
00:07:19,110 --> 00:07:17,919
the phone please press star 1 to be

195
00:07:23,510 --> 00:07:19,120
entered into the queue if you have a

196
00:07:27,749 --> 00:07:24,790
take this gentleman here in the front

197
00:07:31,670 --> 00:07:29,110
so can you tell me what the difference

198
00:07:33,110 --> 00:07:31,680
is first of all brian rue nasa social

199
00:07:35,430 --> 00:07:33,120
can you tell me what the difference in

200
00:07:38,790 --> 00:07:35,440
time is from launch to capture for a

201
00:07:41,350 --> 00:07:38,800
florida launch versus a virginia launch

202
00:07:43,029 --> 00:07:41,360
there's really no difference in time

203
00:07:44,550 --> 00:07:43,039
that relates to where we launch from it

204
00:07:47,029 --> 00:07:44,560
really depends on the phasing we have

205
00:07:48,790 --> 00:07:47,039
with the station at the time we launch

206
00:07:51,909 --> 00:07:48,800
for example on this mission launching

207
00:07:53,909 --> 00:07:51,919
today results in a saturday morning

208
00:07:55,589 --> 00:07:53,919
rendezvous and birthing if we had

209
00:07:56,950 --> 00:07:55,599
launched tomorrow night it also would

210
00:07:58,070 --> 00:07:56,960
have resulted in a saturday morning

211
00:08:00,070 --> 00:07:58,080
launching

212
00:08:01,670 --> 00:08:00,080
rendezvous and berthing and if we'd

213
00:08:03,830 --> 00:08:01,680

waited one more day we might have had a

214
00:08:05,189 --> 00:08:03,840
two day delay beyond that so it it

215
00:08:06,629 --> 00:08:05,199
really varies depending on where the

216
00:08:08,629 --> 00:08:06,639
station is in relation to the launch

217
00:08:10,550 --> 00:08:08,639
site at the at the time we launched but

218
00:08:15,670 --> 00:08:10,560
it's usually anywhere between one and a

219
00:08:19,990 --> 00:08:17,990
take over here

220
00:08:22,150 --> 00:08:20,000
uh thanks james d in florida today uh

221
00:08:23,990 --> 00:08:22,160
first one for for vern um

222
00:08:25,909 --> 00:08:24,000
i know you nailed the orbit there i saw

223
00:08:28,150 --> 00:08:25,919
some a few questions about the duration

224
00:08:30,629 --> 00:08:28,160
of the the centaur burn just wondered

225
00:08:33,430 --> 00:08:30,639
was there anything um

226
00:08:34,550 --> 00:08:33,440
out of the ordinary there or um

227
00:08:35,990 --> 00:08:34,560
were

228
00:08:37,990 --> 00:08:36,000
did it just turn out differently than

229
00:08:40,310 --> 00:08:38,000
people were anticipating from what was

230
00:08:41,909 --> 00:08:40,320
published so the well the pre-launch

231
00:08:43,029 --> 00:08:41,919
predictions of exactly when the events

232
00:08:44,949 --> 00:08:43,039
are going to occur are based on a

233
00:08:46,630 --> 00:08:44,959
preliminary trajectory typically it's

234
00:08:49,190 --> 00:08:46,640
been developed a few weeks before the

235
00:08:50,070 --> 00:08:49,200
launch so it's not unusual for things to

236
00:08:51,350 --> 00:08:50,080
vary

237
00:08:53,509 --> 00:08:51,360
a little bit based on the actual

238
00:08:55,990 --> 00:08:53,519

conditions of launch

239
00:08:58,790 --> 00:08:56,000
what i do know is that centaur

240
00:09:00,630 --> 00:08:58,800
nailed the orbit and uh like every

241
00:09:02,310 --> 00:09:00,640
mission we're going to go do a very very

242
00:09:04,949 --> 00:09:02,320
detailed you know post flight review we

243
00:09:06,870 --> 00:09:04,959
always do i always have done that

244
00:09:08,870 --> 00:09:06,880
to make sure that everything

245
00:09:10,550 --> 00:09:08,880
performed properly but from everything

246
00:09:12,230 --> 00:09:10,560
we've seen so far

247
00:09:14,310 --> 00:09:12,240
the mission was

248
00:09:15,190 --> 00:09:14,320
pretty nominal

249
00:09:16,310 --> 00:09:15,200
thank you

250
00:09:18,389 --> 00:09:16,320
frank just wondering if you could kind

251
00:09:20,550 --> 00:09:18,399
of reflect on this uh

252
00:09:23,670 --> 00:09:20,560
two mission detour down to florida that

253
00:09:26,630 --> 00:09:23,680
is now complete

254
00:09:28,710 --> 00:09:26,640
not quite 18 months ago i guess the

255
00:09:32,550 --> 00:09:28,720
process began and i don't know if you

256
00:09:33,269 --> 00:09:32,560
expected it to go as smoothly as it has

257
00:09:34,470 --> 00:09:33,279
just

258
00:09:35,670 --> 00:09:34,480
what do you think now that you've

259
00:09:36,949 --> 00:09:35,680
reached this point and you're ready to

260
00:09:39,590 --> 00:09:36,959
head home to

261
00:09:41,190 --> 00:09:39,600
wallops well this is a good example of

262
00:09:42,470 --> 00:09:41,200
industry working together to recover

263
00:09:45,110 --> 00:09:42,480

from a failure

264
00:09:46,470 --> 00:09:45,120
and to move forward in support of our

265
00:09:48,630 --> 00:09:46,480
customers such as nasa and the

266
00:09:51,030 --> 00:09:48,640
international space station in a very

267
00:09:52,710 --> 00:09:51,040
expeditious and efficient way

268
00:09:54,470 --> 00:09:52,720
when the accident occurred our company

269
00:09:56,150 --> 00:09:54,480
leadership

270
00:09:58,550 --> 00:09:56,160
came together basically and came up with

271
00:09:59,670 --> 00:09:58,560
a plan and we presented it to nasa and

272
00:10:01,670 --> 00:09:59,680
said

273
00:10:03,430 --> 00:10:01,680
we have a partnership with ula we think

274
00:10:05,110 --> 00:10:03,440
we can get you back

275
00:10:07,269 --> 00:10:05,120
and we can get back to delivering cargo

276
00:10:10,630 --> 00:10:07,279
very quickly and uh they took us up on

277
00:10:12,710 --> 00:10:10,640
it and uh with the help of of ula and

278
00:10:15,350 --> 00:10:12,720
and a lot of hard work by the team and

279
00:10:16,949 --> 00:10:15,360
and support of nasa we were able to pull

280
00:10:18,949 --> 00:10:16,959
it off pretty quickly in just over a

281
00:10:20,470 --> 00:10:18,959
year with another one just three and a

282
00:10:22,150 --> 00:10:20,480
half months behind it

283
00:10:24,949 --> 00:10:22,160
i think that shows the resiliency of

284
00:10:27,350 --> 00:10:24,959
american industry our ability to to

285
00:10:29,509 --> 00:10:27,360
react to unforeseen events

286
00:10:32,710 --> 00:10:29,519
and get things back on track in an

287
00:10:33,829 --> 00:10:32,720
efficient way it also shows that doing

288
00:10:36,310 --> 00:10:33,839

some of this

289
00:10:37,990 --> 00:10:36,320
on a commercial basis allows us to have

290
00:10:41,190 --> 00:10:38,000
the flexibility to do those kind of

291
00:10:42,230 --> 00:10:41,200
things and react to in a in a very quick

292
00:10:47,190 --> 00:10:42,240
way

293
00:10:49,670 --> 00:10:47,200
to to do no offense kenny but but um uh

294
00:10:52,790 --> 00:10:49,680
but it does allow us to show that this

295
00:10:55,110 --> 00:10:52,800
works and uh and i think we'll see that

296
00:10:57,350 --> 00:10:55,120
continue to happen going forward as we

297
00:10:59,509 --> 00:10:57,360
react to the reality of the future and

298
00:11:01,190 --> 00:10:59,519
events that it might occur we'll come

299
00:11:03,110 --> 00:11:01,200
together and the other part of that is

300
00:11:04,630 --> 00:11:03,120
the fact that

301
00:11:06,310 --> 00:11:04,640
when we had the failure the need to

302
00:11:08,230 --> 00:11:06,320
continue supporting international space

303
00:11:09,829 --> 00:11:08,240
station brought a lot of industry

304
00:11:12,150 --> 00:11:09,839
together we had a lot of offers of help

305
00:11:13,990 --> 00:11:12,160
from people and ended up working

306
00:11:15,829 --> 00:11:14,000
together very effectively to make sure

307
00:11:17,190 --> 00:11:15,839
the mission continues

308
00:11:18,389 --> 00:11:17,200
i also want to say thanks to the

309
00:11:21,030 --> 00:11:18,399
hundreds of people that showed up at

310
00:11:22,870 --> 00:11:21,040
this hour for the press conference and

311
00:11:25,829 --> 00:11:22,880
and you know my greetings to the

312
00:11:29,190 --> 00:11:25,839
thousands that must be watching it on on

313
00:11:34,550 --> 00:11:29,200

tv and online

314
00:11:39,750 --> 00:11:37,110
uh hi uh sultan bold media um i had a

315
00:11:43,430 --> 00:11:39,760
couple questions uh first what is the

316
00:11:46,870 --> 00:11:43,440
duration um these sort of refreshes

317
00:11:48,870 --> 00:11:46,880
sustain the iss for and uh two what is

318
00:11:52,629 --> 00:11:48,880
the statistical probability of easter

319
00:11:57,590 --> 00:11:54,870
i'll uh i'll leave the second one to

320
00:11:59,910 --> 00:11:57,600
frank since they packed it and

321
00:12:02,629 --> 00:11:59,920
we'll let him talk about eggs

322
00:12:04,790 --> 00:12:02,639
like that the crew might be watching

323
00:12:06,389 --> 00:12:04,800
yes but uh if your question is i mean

324
00:12:08,790 --> 00:12:06,399
we're looking at this mission for about

325
00:12:10,550 --> 00:12:08,800
about 55 days we we

326
00:12:12,230 --> 00:12:10,560
we planned uh

327
00:12:15,030 --> 00:12:12,240
consumables such that

328
00:12:17,030 --> 00:12:15,040
that we could sustain uh without this

329
00:12:18,949 --> 00:12:17,040
particular vehicle we'd always like to

330
00:12:20,629 --> 00:12:18,959
keep in front of in front of the

331
00:12:22,069 --> 00:12:20,639
arriving vehicles and not have anything

332
00:12:24,870 --> 00:12:22,079
there that's that's critical to our

333
00:12:26,310 --> 00:12:24,880
ability to to be successful on orbit in

334
00:12:28,949 --> 00:12:26,320
sustaining the cruise and keeping the

335
00:12:30,949 --> 00:12:28,959
research moving forward and and so

336
00:12:32,150 --> 00:12:30,959
that's kind of the timeline we always

337
00:12:34,550 --> 00:12:32,160
work to

338
00:12:35,350 --> 00:12:34,560

but we keep the vehicles long enough to

339
00:12:40,069 --> 00:12:35,360
to

340
00:12:42,629 --> 00:12:40,079
load them up with trash and and

341
00:12:45,350 --> 00:12:42,639
and then we'll we'll let them go so

342
00:12:49,350 --> 00:12:45,360
that's that's the kind of our plan for

343
00:12:53,350 --> 00:12:50,829
over

344
00:12:55,269 --> 00:12:53,360
here all right ken cranberry uh

345
00:12:57,269 --> 00:12:55,279
northeast astronomy reform and universe

346
00:12:58,710 --> 00:12:57,279
today for for vern maybe you could also

347
00:13:01,670 --> 00:12:58,720
look ahead we you know we've seen the

348
00:13:03,590 --> 00:13:01,680
beautiful crew access tower uh rising

349
00:13:04,870 --> 00:13:03,600
over the last few months and it's

350
00:13:07,110 --> 00:13:04,880
shining brightly there i wonder if you

351
00:13:09,110 --> 00:13:07,120
could tell us about that the progress

352
00:13:09,910 --> 00:13:09,120
when when it's going to be done

353
00:13:11,590 --> 00:13:09,920
and

354
00:13:13,190 --> 00:13:11,600
what it all means

355
00:13:15,750 --> 00:13:13,200
okay well we're uh doing that in

356
00:13:19,110 --> 00:13:15,760
preparation for when we start uh you

357
00:13:21,190 --> 00:13:19,120
know human flights from complex 41. that

358
00:13:23,430 --> 00:13:21,200
tower should be complete and fully

359
00:13:24,710 --> 00:13:23,440
operational by the end of the year

360
00:13:27,110 --> 00:13:24,720
and the

361
00:13:29,430 --> 00:13:27,120
biggest thing left to do is to put the

362
00:13:31,190 --> 00:13:29,440
the white room and the swing arm on top

363
00:13:33,990 --> 00:13:31,200

um and as we prepare for that you know

364
00:13:36,230 --> 00:13:34,000
we're we're running all the the cabling

365
00:13:38,629 --> 00:13:36,240
and plumbing and things like that uh

366
00:13:40,949 --> 00:13:38,639
inside the tower right now

367
00:13:42,949 --> 00:13:40,959
but i i think i want to say the november

368
00:13:44,629 --> 00:13:42,959
time frame fourth quarter this year

369
00:13:46,230 --> 00:13:44,639
we'll uh we'll wrap everything up and

370
00:13:48,949 --> 00:13:46,240
test it and it should be operational by

371
00:13:50,150 --> 00:13:48,959
the end of the year so well ahead of

372
00:13:58,389 --> 00:13:50,160
when we need to use it for the first

373
00:14:02,389 --> 00:14:00,949
well um you know we always

374
00:14:04,790 --> 00:14:02,399
from a station perspective we always

375
00:14:07,670 --> 00:14:04,800
want redundancy i mean frank just talked

376
00:14:09,670 --> 00:14:07,680
to you about you know the the beauty of

377
00:14:11,350 --> 00:14:09,680
of getting target orbit and and bringing

378
00:14:12,790 --> 00:14:11,360
together all these different

379
00:14:14,629 --> 00:14:12,800
uh

380
00:14:17,269 --> 00:14:14,639
factions to to make things happen and

381
00:14:19,350 --> 00:14:17,279
make good things happen uh even even out

382
00:14:20,949 --> 00:14:19,360
of the bad things and you know

383
00:14:22,629 --> 00:14:20,959
that represents redundancy in the

384
00:14:25,030 --> 00:14:22,639
industry thing and when we can when we

385
00:14:26,629 --> 00:14:25,040
can draw on on those kinds of things and

386
00:14:27,990 --> 00:14:26,639
and we look at it the same way relative

387
00:14:31,750 --> 00:14:28,000
to getting people to orbit so our

388
00:14:33,590 --> 00:14:31,760

ability to to to do that from here uh is

389
00:14:35,350 --> 00:14:33,600
is absolutely something we're we're

390
00:14:36,069 --> 00:14:35,360
supportive of and we're excited about

391
00:14:40,069 --> 00:14:36,079
and

392
00:14:42,310 --> 00:14:40,079
us more capability from a station

393
00:14:43,990 --> 00:14:42,320
standpoint more flexibility and that's a

394
00:14:45,430 --> 00:14:44,000
that's good for us going forward that's

395
00:14:46,550 --> 00:14:45,440
going to be good for sustaining the

396
00:14:47,269 --> 00:14:46,560
sustaining

397
00:14:50,550 --> 00:14:47,279
our

398
00:14:50,560 --> 00:14:55,590
additional questions

399
00:14:59,189 --> 00:14:57,590
all right well you can tune in on a

400
00:15:01,350 --> 00:14:59,199
saturday for the capture and

401
00:15:03,269 --> 00:15:01,360
installation of cygnus