1
00:00:10,390 --> 00:00:07,990
good morning and welcome to the flight

2
00:00:12,150 --> 00:00:10,400
day nine mission status briefing

3
00:00:13,749 --> 00:00:12,160
atlantis's crew is in their final full

4
00:00:16,710 --> 00:00:13,759
day in orbit and here to tell us about

5
00:00:18,630 --> 00:00:16,720
that we have the lead sts-132

6
00:00:20,230 --> 00:00:18,640
shuttle flight director mike serafin

7
00:00:23,109 --> 00:00:20,240
start with opening remarks and then take

8
00:00:26,390 --> 00:00:23,119
questions mike thank you brandi

9
00:00:28,550 --> 00:00:26,400
day nine of the sts-132 mission

10
00:00:30,070 --> 00:00:28,560
represents a welcome shift in the flight

11
00:00:31,109 --> 00:00:30,080
of atlantis to the international space

12
00:00:33,590 --> 00:00:31,119
station

13
00:00:35,830 --> 00:00:33,600

today uh the crew completed all of their

14
00:00:38,470 --> 00:00:35,840
primary mission objectives uh

15
00:00:39,510 --> 00:00:38,480
with the return of the integrated cargo

16
00:00:42,310 --> 00:00:39,520
carrier

17
00:00:44,790 --> 00:00:42,320
and the six old batteries from the port

18
00:00:46,470 --> 00:00:44,800
six location on the international space

19
00:00:47,590 --> 00:00:46,480
station's

20
00:00:49,350 --> 00:00:47,600
power

21
00:00:51,110 --> 00:00:49,360
channel so we've got the integrated

22
00:00:53,510 --> 00:00:51,120
cargo carrier back in the payload bay

23
00:00:55,029 --> 00:00:53,520
we've got three very successful space

24
00:00:57,830 --> 00:00:55,039
walks under our belt

25
00:00:59,430 --> 00:00:57,840
and the rossvet module has been

26
00:01:02,069 --> 00:00:59,440
installed on the international space

27
00:01:04,469 --> 00:01:02,079
station so now the mission shifts to

28
00:01:09,030 --> 00:01:04,479
returning atlantis home

29
00:01:13,109 --> 00:01:10,789
the robotics workstation and all the

30
00:01:14,710 --> 00:01:13,119
robotics that we worried about leading

31
00:01:17,109 --> 00:01:14,720
into this mission

32
00:01:18,950 --> 00:01:17,119
were just handled in an exceptional

33
00:01:20,310 --> 00:01:18,960
manner by the crew of atlantis as well

34
00:01:22,469 --> 00:01:20,320
as the crew of the international space

35
00:01:24,469 --> 00:01:22,479
station coming into this mission we

36
00:01:28,149 --> 00:01:24,479
talked about nine of the 12 days of this

37
00:01:30,069 --> 00:01:28,159
mission were populated with very heavily

38
00:01:31,429 --> 00:01:30,079

integrated and choreographed robotics

39
00:01:33,590 --> 00:01:31,439
activities

40
00:01:35,670 --> 00:01:33,600
today the the crew of atlantis and the

41
00:01:39,109 --> 00:01:35,680
international space station took a few

42
00:01:41,270 --> 00:01:39,119
moments to complement the folks that

43
00:01:44,230 --> 00:01:41,280
helped plan all the robotics on this

44
00:01:45,990 --> 00:01:44,240
mission as well as the folks that built

45
00:01:48,230 --> 00:01:46,000
and delivered the cupola and the

46
00:01:51,109 --> 00:01:48,240
robotics workstation associated with it

47
00:01:53,030 --> 00:01:51,119
and i'll just second their words that

48
00:01:55,830 --> 00:01:53,040
all of that was done in an outstanding

49
00:01:58,310 --> 00:01:55,840
manner canada arm 2 performed in a

50
00:02:00,149 --> 00:01:58,320
fantastic fashion it was all over the

51
00:02:01,590 --> 00:02:00,159
exterior the international space station

52
00:02:03,270 --> 00:02:01,600
this mission it was

53
00:02:06,389 --> 00:02:03,280
reaching down into the payload bay to

54
00:02:08,389 --> 00:02:06,399
remove cargo as well as put it back

55
00:02:10,630 --> 00:02:08,399
it moved from the center of the truss

56
00:02:12,630 --> 00:02:10,640
back to the russian segment over to the

57
00:02:14,150 --> 00:02:12,640
far port side of the truss and then back

58
00:02:16,309 --> 00:02:14,160
to the center of the international space

59
00:02:18,710 --> 00:02:16,319
station and again it was just an

60
00:02:21,030 --> 00:02:18,720
outstanding piece of machinery and the

61
00:02:22,630 --> 00:02:21,040
man and machine interface that

62
00:02:25,510 --> 00:02:22,640
supported it at the cupola and the

63
00:02:27,750 --> 00:02:25,520

cupola robotics workstation just worked

64
00:02:28,790 --> 00:02:27,760
in a in a fantastic fashion during the

65
00:02:31,509 --> 00:02:28,800
mission

66
00:02:32,869 --> 00:02:31,519
uh the afternoon uh today on the ninth

67
00:02:34,949 --> 00:02:32,879
day of the mission the crew has some

68
00:02:36,710 --> 00:02:34,959
off-duty time

69
00:02:38,630 --> 00:02:36,720
their last opportunity to take a break

70
00:02:41,190 --> 00:02:38,640
before they start to

71
00:02:43,030 --> 00:02:41,200
bringing atlantis home um tomorrow

72
00:02:45,589 --> 00:02:43,040
they're gonna start with the final

73
00:02:47,509 --> 00:02:45,599
transfer activities and get the last

74
00:02:49,509 --> 00:02:47,519
remaining cargo off of the international

75
00:02:52,150 --> 00:02:49,519
space station that they plan to return

76
00:02:53,030 --> 00:02:52,160
in atlanta's mid deck in cargo stowage

77
00:02:55,190 --> 00:02:53,040
area

78
00:02:57,589 --> 00:02:55,200
they'll transfer the suits that they use

79
00:02:59,509 --> 00:02:57,599
to perform their spacewalks on

80
00:03:02,309 --> 00:02:59,519
back into atlantis and

81
00:03:04,229 --> 00:03:02,319
we'll perform a a final verification

82
00:03:05,830 --> 00:03:04,239
make sure all the science and transfer

83
00:03:07,270 --> 00:03:05,840
items are back across the hatch and

84
00:03:09,670 --> 00:03:07,280
ready for return

85
00:03:12,070 --> 00:03:09,680
around midday they'll close hatches

86
00:03:14,070 --> 00:03:12,080
perform some leak checks and then if all

87
00:03:15,589 --> 00:03:14,080
goes as planned we'll undock atlantis

88
00:03:18,710 --> 00:03:15,599

from the international space station at

89
00:03:20,949 --> 00:03:18,720
around 10 22 central tomorrow following

90
00:03:23,830 --> 00:03:20,959
undock the pilot tony antonelli will

91
00:03:24,630 --> 00:03:23,840
perform a one lap fly around a full 360

92
00:03:26,229 --> 00:03:24,640
degree

93
00:03:28,070 --> 00:03:26,239
rotation around the exterior the

94
00:03:30,390 --> 00:03:28,080
international space station

95
00:03:32,710 --> 00:03:30,400
at a range of four to six hundred feet

96
00:03:34,550 --> 00:03:32,720
and we should get some outstanding views

97
00:03:37,509 --> 00:03:34,560
of the international space station for

98
00:03:39,589 --> 00:03:37,519
engineering data as well as a good view

99
00:03:41,430 --> 00:03:39,599
of the rossvet module that was recently

100
00:03:43,430 --> 00:03:41,440
installed

101
00:03:45,589 --> 00:03:43,440
today the crew also spent some time

102
00:03:47,509 --> 00:03:45,599
performing a variety of science

103
00:03:49,509 --> 00:03:47,519
experiments they did some measurements

104
00:03:51,910 --> 00:03:49,519
uh with an experiment called spinal

105
00:03:53,990 --> 00:03:51,920
where they measured their spinal growth

106
00:03:54,949 --> 00:03:54,000
over the course of the mission

107
00:03:57,030 --> 00:03:54,959
and just

108
00:03:58,149 --> 00:03:57,040
did that in a seating in a standing

109
00:04:00,070 --> 00:03:58,159
position

110
00:04:01,990 --> 00:04:00,080
both the all the six crew members from

111
00:04:02,869 --> 00:04:02,000
atlantis as well as the crew members

112
00:04:04,949 --> 00:04:02,879
from the

113
00:04:07,350 --> 00:04:04,959

u.s segment on the international space

114
00:04:09,270 --> 00:04:07,360
station provided measurement data that

115
00:04:10,630 --> 00:04:09,280
will be used to help design future

116
00:04:11,910 --> 00:04:10,640
spacecraft

117
00:04:13,589 --> 00:04:11,920
there were also a couple of other

118
00:04:14,390 --> 00:04:13,599
experiments that were performed today

119
00:04:16,629 --> 00:04:14,400
and

120
00:04:17,830 --> 00:04:16,639
some of the cold stowage that was taken

121
00:04:19,590 --> 00:04:17,840
from the freezer on board the

122
00:04:23,110 --> 00:04:19,600
international space station was put into

123
00:04:24,629 --> 00:04:23,120
a freezer on the mid-deck of atlantis

124
00:04:27,430 --> 00:04:24,639
tomorrow

125
00:04:29,510 --> 00:04:27,440
again we'll undock and then following

126
00:04:31,189 --> 00:04:29,520
the flight day 10 activities we'll press

127
00:04:33,990 --> 00:04:31,199
into a normal

128
00:04:35,189 --> 00:04:34,000
orbital debris inspection a

129
00:04:37,590 --> 00:04:35,199
series of

130
00:04:39,030 --> 00:04:37,600
sweeps with the orbiter boom on the 11th

131
00:04:40,790 --> 00:04:39,040
day of the mission and then we'll put

132
00:04:42,629 --> 00:04:40,800
away the shuttle's robotic arm and the

133
00:04:45,030 --> 00:04:42,639
boom for a final time and that will wrap

134
00:04:47,110 --> 00:04:45,040
up all the robotics on the mission

135
00:04:49,350 --> 00:04:47,120
the international space station is much

136
00:04:51,430 --> 00:04:49,360
better off at this point for the crew of

137
00:04:52,950 --> 00:04:51,440
atlantis for having been there

138
00:04:55,350 --> 00:04:52,960

right now they're in the process of

139
00:04:57,590 --> 00:04:55,360
transferring some 70 pounds of oxygen

140
00:04:59,430 --> 00:04:57,600
for metabolic use by the crew of the

141
00:05:02,310 --> 00:04:59,440
international space station

142
00:05:03,670 --> 00:05:02,320
we've run into a small hurdle associated

143
00:05:06,150 --> 00:05:03,680
with transferring some of that into the

144
00:05:09,110 --> 00:05:06,160
high pressure gas tanks the

145
00:05:10,629 --> 00:05:09,120
oxygen transfer system has a small

146
00:05:12,550 --> 00:05:10,639
hiccup in it that the engineering team

147
00:05:14,230 --> 00:05:12,560
is off working

148
00:05:17,189 --> 00:05:14,240
we've also transferred 10 pounds of

149
00:05:18,550 --> 00:05:17,199
nitrogen from the shuttle into the high

150
00:05:21,670 --> 00:05:18,560
pressure tanks on the international

151
00:05:23,909 --> 00:05:21,680
space station and 1200 of 1300 pounds of

152
00:05:25,830 --> 00:05:23,919
water from atlantis are now on the

153
00:05:27,270 --> 00:05:25,840
international space station the final

154
00:05:28,710 --> 00:05:27,280
hundred pounds will be transferred

155
00:05:31,189 --> 00:05:28,720
tomorrow

156
00:05:32,950 --> 00:05:31,199
prior to undocking again a lot of cargo

157
00:05:34,629 --> 00:05:32,960
has gone across the hatches and folks

158
00:05:35,749 --> 00:05:34,639
will just wrap that up tomorrow the the

159
00:05:36,950 --> 00:05:35,759
crew of atlantis will wrap it up

160
00:05:38,629 --> 00:05:36,960
tomorrow

161
00:05:41,110 --> 00:05:38,639
on board the international space station

162
00:05:43,430 --> 00:05:41,120
the rossvet module they're in the

163
00:05:45,990 --> 00:05:43,440

process of integrating that with the

164
00:05:49,990 --> 00:05:47,749
systems onboard the international space

165
00:05:52,070 --> 00:05:50,000
station working with the mission control

166
00:05:53,670 --> 00:05:52,080
center in moscow the hatches have been

167
00:05:54,790 --> 00:05:53,680
open for about a day and a half now

168
00:05:56,230 --> 00:05:54,800
there was

169
00:05:59,590 --> 00:05:56,240
some report of

170
00:06:01,270 --> 00:05:59,600
metal shavings and some other debris

171
00:06:03,270 --> 00:06:01,280
from when the module was put together

172
00:06:05,670 --> 00:06:03,280
and manufactured and some of the the

173
00:06:07,189 --> 00:06:05,680
cargo stowage was added to it the crew

174
00:06:09,350 --> 00:06:07,199
has been

175
00:06:11,510 --> 00:06:09,360
basically cleaning the air inside the

176
00:06:12,950 --> 00:06:11,520
module by running some fans and allowing

177
00:06:14,629 --> 00:06:12,960
that uh

178
00:06:16,870 --> 00:06:14,639
particulate material to get caught and

179
00:06:18,390 --> 00:06:16,880
some filters in the in the rossvet

180
00:06:19,590 --> 00:06:18,400
module and

181
00:06:21,830 --> 00:06:19,600
once they've

182
00:06:23,590 --> 00:06:21,840
made sure that the the vast majority of

183
00:06:25,510 --> 00:06:23,600
those particulates are cleaned out of

184
00:06:27,990 --> 00:06:25,520
the atmosphere we plan to hook up some

185
00:06:30,230 --> 00:06:28,000
ducting either later today or tomorrow

186
00:06:32,070 --> 00:06:30,240
uh with the rest of the uh the

187
00:06:33,749 --> 00:06:32,080
international space station particularly

188
00:06:36,150 --> 00:06:33,759

the zarya module to

189
00:06:37,830 --> 00:06:36,160
exchange air between those two modules

190
00:06:40,070 --> 00:06:37,840
and that'll

191
00:06:41,510 --> 00:06:40,080
lead to some final stages of integrating

192
00:06:43,749 --> 00:06:41,520
rossvat with the international space

193
00:06:46,230 --> 00:06:43,759
station so with that the mission is

194
00:06:48,230 --> 00:06:46,240
proceeding very well both the crews are

195
00:06:50,870 --> 00:06:48,240
are happy and healthy and looking

196
00:06:52,790 --> 00:06:50,880
forward to a final closure of this joint

197
00:06:55,350 --> 00:06:52,800
mission tomorrow and i'd be happy to

198
00:06:56,710 --> 00:06:55,360
take any questions

199
00:06:57,670 --> 00:06:56,720
okay we'll start with questions here in

200
00:06:59,189 --> 00:06:57,680
the room and then i think we have a

201
00:07:00,469 --> 00:06:59,199
couple of reporters on the phone bridge

202
00:07:01,909 --> 00:07:00,479
as well you can state your name and

203
00:07:03,510 --> 00:07:01,919
affiliation before your question that'd

204
00:07:06,309 --> 00:07:03,520
be great thanks

205
00:07:08,150 --> 00:07:06,319
hi robert perlman with space.com and

206
00:07:10,710 --> 00:07:08,160
collectspace.com

207
00:07:12,390 --> 00:07:10,720
you mentioned normal late inspections is

208
00:07:14,390 --> 00:07:12,400
the plan to follow the regular

209
00:07:16,309 --> 00:07:14,400
streamline procedure or will there be

210
00:07:18,550 --> 00:07:16,319
any additional imagery collected based

211
00:07:20,870 --> 00:07:18,560
on missing areas

212
00:07:23,510 --> 00:07:20,880
on the early inspections

213
00:07:26,309 --> 00:07:23,520

we spent some time over the last week

214
00:07:28,950 --> 00:07:26,319
reviewing all the inspection imagery and

215
00:07:30,710 --> 00:07:28,960
our plan is to perform the normal

216
00:07:33,430 --> 00:07:30,720
abbreviated late inspection procedure

217
00:07:35,430 --> 00:07:33,440
there are some areas that

218
00:07:36,950 --> 00:07:35,440
the procedure is the same procedure that

219
00:07:38,790 --> 00:07:36,960
we normally run on the second day of the

220
00:07:41,110 --> 00:07:38,800
mission and then there are basically

221
00:07:43,189 --> 00:07:41,120
some cutouts in there where we skip a

222
00:07:45,749 --> 00:07:43,199
series of the tile

223
00:07:47,990 --> 00:07:45,759
but do all of the reinforced carbon

224
00:07:50,150 --> 00:07:48,000
on the on atlantis and we're going to

225
00:07:52,150 --> 00:07:50,160
skip the tile surveys and just do the

226
00:07:53,589 --> 00:07:52,160
reinforced carbon surveys as we would on

227
00:07:55,830 --> 00:07:53,599
any other mission

228
00:07:59,270 --> 00:07:55,840
we've convinced

229
00:08:01,110 --> 00:07:59,280
ourselves as a team through all of the

230
00:08:02,950 --> 00:08:01,120
launch imagery

231
00:08:04,950 --> 00:08:02,960
that we've recovered via the solid

232
00:08:07,510 --> 00:08:04,960
rocket boosters and

233
00:08:09,670 --> 00:08:07,520
recently as well as the standard launch

234
00:08:11,830 --> 00:08:09,680
imagery the wing leading edge sensors

235
00:08:13,749 --> 00:08:11,840
the standard flight day 2 inspection

236
00:08:15,749 --> 00:08:13,759
that we or the delta flight day 2

237
00:08:17,749 --> 00:08:15,759
inspection that we got via the digital

238
00:08:19,830 --> 00:08:17,759

camera on the orbiter boom sensor system

239
00:08:21,350 --> 00:08:19,840
the round to be pitch maneuver images

240
00:08:23,510 --> 00:08:21,360
and then the images obtained during the

241
00:08:25,670 --> 00:08:23,520
first spacewalk that atlantis and its

242
00:08:27,589 --> 00:08:25,680
tile are ready to go and we just need to

243
00:08:29,589 --> 00:08:27,599
do the standard orbital debris

244
00:08:33,029 --> 00:08:29,599
inspection on on the 11th day of the

245
00:08:35,509 --> 00:08:33,039
mission using the the boom and the the

246
00:08:37,909 --> 00:08:35,519
pan and tilt sensors out there the laser

247
00:08:39,589 --> 00:08:37,919
dynamic range imager so again we're just

248
00:08:40,469 --> 00:08:39,599
going to go ahead and proceed with the

249
00:08:42,550 --> 00:08:40,479
normal

250
00:08:44,550 --> 00:08:42,560
inspection for orbital debris after we

251
00:08:45,829 --> 00:08:44,560
undock

252
00:08:48,870 --> 00:08:45,839
thanks and

253
00:08:50,550 --> 00:08:48,880
and you mentioned the fly around

254
00:08:52,150 --> 00:08:50,560
that does collect imagery of the of the

255
00:08:54,310 --> 00:08:52,160
international space station but given

256
00:08:56,389 --> 00:08:54,320
that this is possibly atlanta's last

257
00:08:58,310 --> 00:08:56,399
flight have the station crew members

258
00:09:01,269 --> 00:08:58,320
been given any instruction to try to

259
00:09:04,230 --> 00:09:01,279
capture atlantis um as well just for

260
00:09:05,430 --> 00:09:04,240
aesthetic reasons and historical reasons

261
00:09:07,509 --> 00:09:05,440
thanks

262
00:09:08,949 --> 00:09:07,519
we always capture

263
00:09:10,630 --> 00:09:08,959

the shuttle departing from the

264
00:09:12,870 --> 00:09:10,640
international space station and we

265
00:09:14,230 --> 00:09:12,880
haven't been providing any her we

266
00:09:16,310 --> 00:09:14,240
haven't

267
00:09:18,870 --> 00:09:16,320
found a need to provide any special

268
00:09:21,910 --> 00:09:18,880
images of atlantis we'll capture

269
00:09:24,070 --> 00:09:21,920
atlantis via cameras from the windows as

270
00:09:25,750 --> 00:09:24,080
well as the external cameras on the

271
00:09:27,430 --> 00:09:25,760
international space station and i'm sure

272
00:09:29,910 --> 00:09:27,440
we'll have some great footage of that

273
00:09:31,509 --> 00:09:29,920
and we look forward to that after

274
00:09:34,710 --> 00:09:31,519
after undocking during the fly around

275
00:09:38,710 --> 00:09:36,030
hi phillips loss with

276
00:09:41,110 --> 00:09:38,720
nasaspaceflight.com um on the

277
00:09:43,430 --> 00:09:41,120
on the oxygen transfer uh to the high

278
00:09:45,030 --> 00:09:43,440
pressure gas tanks um how much uh how

279
00:09:46,550 --> 00:09:45,040
much has been transferred so far out of

280
00:09:48,949 --> 00:09:46,560
the 70 pounds that you were talking

281
00:09:49,430 --> 00:09:48,959
about and

282
00:09:51,670 --> 00:09:49,440
uh um

283
00:09:54,150 --> 00:09:51,680
how does that transfer affect your

284
00:09:56,550 --> 00:09:54,160
consumables margins for the orbiter

285
00:09:58,710 --> 00:09:56,560
after undock

286
00:09:59,829 --> 00:09:58,720
any consumables that were unable to

287
00:10:01,670 --> 00:09:59,839
transfer

288
00:10:03,750 --> 00:10:01,680

to the international space station would

289
00:10:05,590 --> 00:10:03,760
just augment the consumables margin that

290
00:10:08,310 --> 00:10:05,600
we already have on board atlantis so

291
00:10:10,870 --> 00:10:08,320
right now we've got uh roughly a day of

292
00:10:12,710 --> 00:10:10,880
margin above the the two

293
00:10:14,230 --> 00:10:12,720
extension dates that we normally protect

294
00:10:17,110 --> 00:10:14,240
after undock so we actually have three

295
00:10:18,630 --> 00:10:17,120
extension days worth of capability so

296
00:10:20,230 --> 00:10:18,640
anything that we're unable to transfer

297
00:10:22,470 --> 00:10:20,240
to the international space station would

298
00:10:24,630 --> 00:10:22,480
be above the three days and it would we

299
00:10:27,350 --> 00:10:24,640
would have to make up a lot of margin in

300
00:10:29,829 --> 00:10:27,360
order to get a fourth day

301
00:10:31,430 --> 00:10:29,839
right now we've transferred just shy of

302
00:10:33,350 --> 00:10:31,440
20 pounds

303
00:10:35,990 --> 00:10:33,360
of the 70 that we planned to transfer

304
00:10:38,870 --> 00:10:36,000
the international space station and a

305
00:10:41,190 --> 00:10:38,880
group of engineers and and

306
00:10:43,350 --> 00:10:41,200
specialists are off reviewing the

307
00:10:45,670 --> 00:10:43,360
problem with the oxygen transfer system

308
00:10:47,430 --> 00:10:45,680
and and we expect them to uh

309
00:10:49,750 --> 00:10:47,440
to either have a plan for us this

310
00:10:51,750 --> 00:10:49,760
afternoon or basically just say that

311
00:10:53,590 --> 00:10:51,760
we won't be able to resolve the problem

312
00:10:56,389 --> 00:10:53,600
here in the next day before we close

313
00:10:57,910 --> 00:10:56,399

hatches and and atlantis needs to depart

314
00:11:00,550 --> 00:10:57,920
in which case we'll be able to get about

315
00:11:03,509 --> 00:11:00,560
half of the planned amount transferred

316
00:11:06,230 --> 00:11:03,519
to the international space station

317
00:11:09,590 --> 00:11:08,310
okay i think that's all in the room so

318
00:11:10,550 --> 00:11:09,600
we'll start now with the phone bridge

319
00:11:13,430 --> 00:11:10,560
questions

320
00:11:14,990 --> 00:11:13,440
up first is charles atkinson

321
00:11:17,509 --> 00:11:15,000
good morning carl jackson with

322
00:11:19,350 --> 00:11:17,519
facebooknews.com did you cover why there

323
00:11:23,829 --> 00:11:19,360
are three days between undocking and

324
00:11:29,190 --> 00:11:26,550
on this particular mission

325
00:11:31,750 --> 00:11:29,200
prior to launch we worked with the crew

326
00:11:35,590 --> 00:11:31,760
of atlantis and uh

327
00:11:37,910 --> 00:11:35,600
we as a team agreed that the best plan

328
00:11:39,990 --> 00:11:37,920
for the mission given how heavily uh

329
00:11:41,910 --> 00:11:40,000
choreographed and populated the mission

330
00:11:44,870 --> 00:11:41,920
was with three spacewalks and all the

331
00:11:45,590 --> 00:11:44,880
robotics that we knew we had ahead of us

332
00:11:47,590 --> 00:11:45,600
that

333
00:11:48,870 --> 00:11:47,600
ideally what we would do was undock at

334
00:11:49,829 --> 00:11:48,880
the end of a day

335
00:11:53,990 --> 00:11:49,839
and then

336
00:11:56,230 --> 00:11:54,000
pick up the next day with the standard

337
00:11:57,990 --> 00:11:56,240
inspection activities the following day

338
00:12:00,470 --> 00:11:58,000

pick up with the standard

339
00:12:02,310 --> 00:12:00,480
pre-entry checkouts the flight control

340
00:12:04,230 --> 00:12:02,320
system checkout and the communication

341
00:12:06,470 --> 00:12:04,240
systems checkout and cabin stowage and

342
00:12:08,790 --> 00:12:06,480
then land the day after that

343
00:12:12,230 --> 00:12:08,800
in the past we have

344
00:12:14,069 --> 00:12:12,240
closed hatches undocked and

345
00:12:16,870 --> 00:12:14,079
done late inspection on one day or

346
00:12:18,949 --> 00:12:16,880
closed hatches gone into the crew sleep

347
00:12:21,430 --> 00:12:18,959
cycle and then undocked and then done

348
00:12:23,590 --> 00:12:21,440
the inspection and what that does is it

349
00:12:25,269 --> 00:12:23,600
creates a very long intensive day for

350
00:12:27,269 --> 00:12:25,279
the crew

351
00:12:28,949 --> 00:12:27,279
for the late inspection day and there

352
00:12:30,470 --> 00:12:28,959
are a lot of critical activities that go

353
00:12:33,670 --> 00:12:30,480
on and and

354
00:12:35,590 --> 00:12:33,680
again just due to the amount of work

355
00:12:38,470 --> 00:12:35,600
leading up to those events on this

356
00:12:40,389 --> 00:12:38,480
mission the the team felt the best and

357
00:12:42,470 --> 00:12:40,399
most appropriate course of action was to

358
00:12:44,550 --> 00:12:42,480
undock um

359
00:12:46,550 --> 00:12:44,560
basically three days before we land and

360
00:12:48,230 --> 00:12:46,560
and we've been able to maintain that

361
00:12:49,910 --> 00:12:48,240
plan that we haven't had any major

362
00:12:51,430 --> 00:12:49,920
contingencies come along during the

363
00:12:53,750 --> 00:12:51,440

mission it would cause us to want to

364
00:12:55,430 --> 00:12:53,760
compress the the undocking to landing

365
00:12:57,670 --> 00:12:55,440
time frame so we've got a little bit

366
00:13:00,069 --> 00:12:57,680
more timeline available and a little bit

367
00:13:02,150 --> 00:13:00,079
more margin in the mission available to

368
00:13:05,110 --> 00:13:02,160
to off load or

369
00:13:06,949 --> 00:13:05,120
load level the work after undocking so

370
00:13:08,790 --> 00:13:06,959
that was a welcome change that we made

371
00:13:12,389 --> 00:13:08,800
to the mission

372
00:13:14,470 --> 00:13:12,399
okay thank you and one final one uh

373
00:13:16,870 --> 00:13:14,480
have the six volt batteries on the icc

374
00:13:20,389 --> 00:13:16,880
were there any other cargo that was the

375
00:13:22,629 --> 00:13:20,399
type turned on

376
00:13:24,629 --> 00:13:22,639
your question was uh kind of broken but

377
00:13:25,990 --> 00:13:24,639
i think you asked was there any

378
00:13:28,150 --> 00:13:26,000
additional cargo returned on the

379
00:13:31,190 --> 00:13:28,160
integrated cargo carrier and the answer

380
00:13:33,829 --> 00:13:31,200
is no we're just returning the six

381
00:13:35,030 --> 00:13:33,839
old batteries off of the port six truss

382
00:13:36,310 --> 00:13:35,040
and

383
00:13:38,790 --> 00:13:36,320
that's the only thing that is on the

384
00:13:41,030 --> 00:13:38,800
cargo carrier at this time

385
00:13:43,990 --> 00:13:41,040
okay thanks so much

386
00:13:46,150 --> 00:13:44,000
okay next up we have irene klotz

387
00:13:47,990 --> 00:13:46,160
thanks very much um i was wondering if

388
00:13:50,870 --> 00:13:48,000

you had any more information about

389
00:13:53,110 --> 00:13:50,880
anything being transferred back

390
00:13:55,590 --> 00:13:53,120
to the from the station to the shuttle

391
00:13:58,069 --> 00:13:55,600
in the mid deck

392
00:14:00,870 --> 00:13:58,079
yeah regarding a mid-deck transfer we

393
00:14:03,110 --> 00:14:00,880
have all of the spacesuits that we used

394
00:14:05,750 --> 00:14:03,120
on board the international space station

395
00:14:07,910 --> 00:14:05,760
from its airlock there's some

396
00:14:09,430 --> 00:14:07,920
peripheral equipment that goes with the

397
00:14:12,230 --> 00:14:09,440
suits

398
00:14:13,829 --> 00:14:12,240
there's a large number of

399
00:14:16,069 --> 00:14:13,839
stowage items that

400
00:14:18,790 --> 00:14:16,079
the international space station program

401
00:14:20,790 --> 00:14:18,800
wants us to return including some

402
00:14:23,269 --> 00:14:20,800
water processing and urine processing

403
00:14:26,470 --> 00:14:23,279
equipment some samples

404
00:14:28,550 --> 00:14:26,480
of both pre-processed and post-processed

405
00:14:30,550 --> 00:14:28,560
water to just maintain baseline

406
00:14:32,389 --> 00:14:30,560
information here on the ground

407
00:14:34,470 --> 00:14:32,399
there's a lot of just

408
00:14:37,590 --> 00:14:34,480
various trash items that the shuttle is

409
00:14:39,269 --> 00:14:37,600
able to return some old discarded foam

410
00:14:42,230 --> 00:14:39,279
some old clothing

411
00:14:43,910 --> 00:14:42,240
dry trash and a number of other items

412
00:14:46,949 --> 00:14:43,920
we're also returning a large number of

413
00:14:49,030 --> 00:14:46,959

experiments uh and uh all the uh

414
00:14:51,269 --> 00:14:49,040
all the co cold stowage that we're able

415
00:14:53,189 --> 00:14:51,279
to out of the uh out of the freezers on

416
00:14:56,870 --> 00:14:53,199
board the international space station to

417
00:14:58,550 --> 00:14:56,880
uh support the uh the laboratory uh that

418
00:15:00,710 --> 00:14:58,560
the international space station is and

419
00:15:03,269 --> 00:15:00,720
make the best use of it

420
00:15:05,670 --> 00:15:03,279
thanks and what does the station use the

421
00:15:07,590 --> 00:15:05,680
pressurized oxygen and nitrogen for

422
00:15:10,230 --> 00:15:07,600
please

423
00:15:13,590 --> 00:15:10,240
the international space station uses the

424
00:15:14,470 --> 00:15:13,600
oxygen and nitrogen that we transfer

425
00:15:15,829 --> 00:15:14,480
for

426
00:15:17,509 --> 00:15:15,839
management of the atmosphere that you

427
00:15:20,550 --> 00:15:17,519
know the space station

428
00:15:22,629 --> 00:15:20,560
pressurized modules uh provide a shirt

429
00:15:24,550 --> 00:15:22,639
sleeve living environment for the

430
00:15:26,150 --> 00:15:24,560
the astronauts and cosmonauts that live

431
00:15:28,230 --> 00:15:26,160
on board

432
00:15:30,790 --> 00:15:28,240
any oxygen or nitrogen that we send

433
00:15:33,350 --> 00:15:30,800
across either through the hatches via

434
00:15:35,749 --> 00:15:33,360
what we call a stack repress which just

435
00:15:37,910 --> 00:15:35,759
over time the the pressurized volume

436
00:15:39,430 --> 00:15:37,920
tends to tends to bleed down because

437
00:15:41,350 --> 00:15:39,440
you're either doing space walks and

438
00:15:43,430 --> 00:15:41,360

opening the hatch and just a small

439
00:15:44,949 --> 00:15:43,440
amount of the atmosphere bleeds out into

440
00:15:45,670 --> 00:15:44,959
the vacuum of space

441
00:15:48,150 --> 00:15:45,680
or

442
00:15:49,670 --> 00:15:48,160
you use it just through

443
00:15:51,430 --> 00:15:49,680
the crew members just breathing it in

444
00:15:53,189 --> 00:15:51,440
and then

445
00:15:55,829 --> 00:15:53,199
pulling it out of the atmosphere via

446
00:15:57,269 --> 00:15:55,839
your carbon dioxide removal assembly or

447
00:16:00,230 --> 00:15:57,279
other systems

448
00:16:01,189 --> 00:16:00,240
so it basically replaces some of that

449
00:16:05,030 --> 00:16:01,199
or

450
00:16:07,430 --> 00:16:05,040
while the shuttle is not present and

451
00:16:09,030 --> 00:16:07,440
there are high pressure oxygen tanks

452
00:16:10,949 --> 00:16:09,040
onboard the international space station

453
00:16:13,350 --> 00:16:10,959
when the crew members are in their suits

454
00:16:15,430 --> 00:16:13,360
they br they breathe pure oxygen in a in

455
00:16:17,269 --> 00:16:15,440
a reduced pressure environment so that

456
00:16:19,430 --> 00:16:17,279
oxygen goes from the high pressure tanks

457
00:16:21,749 --> 00:16:19,440
through an umbilical into the suits

458
00:16:23,749 --> 00:16:21,759
to provide the the oxygen necessary to

459
00:16:25,910 --> 00:16:23,759
do a spacewalk

460
00:16:27,910 --> 00:16:25,920
thank you

461
00:16:29,350 --> 00:16:27,920
okay i think that was it on the

462
00:16:31,590 --> 00:16:29,360
phone bridge and we have more one more

463
00:16:33,350 --> 00:16:31,600

question here in the room

464
00:16:34,949 --> 00:16:33,360
hello uh peter ellwood sudden fm in

465
00:16:36,470 --> 00:16:34,959
australia um

466
00:16:39,430 --> 00:16:36,480
could you just talk a little bit about

467
00:16:41,110 --> 00:16:39,440
how well uh atlantis has has performed

468
00:16:43,670 --> 00:16:41,120
thus far on it on what's likely to be

469
00:16:45,749 --> 00:16:43,680
its uh final mission and also a kind of

470
00:16:47,990 --> 00:16:45,759
a personal question as a

471
00:16:51,030 --> 00:16:48,000
lead flight director for the shuttle do

472
00:16:53,030 --> 00:16:51,040
you get an opportunity to watch launches

473
00:16:57,670 --> 00:16:53,040
and landings at ksc and are you planning

474
00:17:01,430 --> 00:17:00,389
atlantis has been a remarkable vehicle

475
00:17:03,189 --> 00:17:01,440
and and

476
00:17:04,789 --> 00:17:03,199
is a remarkable vehicle that we have on

477
00:17:07,750 --> 00:17:04,799
orbit right now we had a few minor

478
00:17:09,429 --> 00:17:07,760
glitches earlier in the mission but

479
00:17:11,429 --> 00:17:09,439
those glitches weren't anything that the

480
00:17:12,870 --> 00:17:11,439
team here on the ground or the

481
00:17:14,230 --> 00:17:12,880
astronauts

482
00:17:15,750 --> 00:17:14,240
on board the atlantis and the

483
00:17:17,590 --> 00:17:15,760
international space station haven't been

484
00:17:19,110 --> 00:17:17,600
able to recover from if you recall

485
00:17:21,270 --> 00:17:19,120
earlier in the mission we had a problem

486
00:17:23,270 --> 00:17:21,280
with the the boom sensor and the ability

487
00:17:24,789 --> 00:17:23,280
to pan and tilt a camera and some

488
00:17:26,630 --> 00:17:24,799

sensors on the end of it

489
00:17:29,590 --> 00:17:26,640
the team basically went out and and did

490
00:17:31,190 --> 00:17:29,600
a quick and easy task via spacewalk and

491
00:17:33,190 --> 00:17:31,200
you know there are a few others

492
00:17:36,789 --> 00:17:33,200
smaller glitches that have occurred

493
00:17:38,390 --> 00:17:36,799
throughout this mission but atlantis

494
00:17:41,029 --> 00:17:38,400
being a well-designed and a

495
00:17:42,470 --> 00:17:41,039
well-engineered vehicle and just having

496
00:17:44,710 --> 00:17:42,480
outstanding maintenance at the kennedy

497
00:17:46,390 --> 00:17:44,720
space center continues to perform

498
00:17:47,110 --> 00:17:46,400
extremely well

499
00:17:49,830 --> 00:17:47,120
and

500
00:17:51,510 --> 00:17:49,840
we just are grateful for that

501
00:17:53,510 --> 00:17:51,520
and and know that we have the right

502
00:17:55,510 --> 00:17:53,520
folks working prior to launch and during

503
00:17:57,350 --> 00:17:55,520
the mission on on

504
00:18:00,070 --> 00:17:57,360
her maintenance

505
00:18:02,630 --> 00:18:00,080
in terms of the ability to to watch the

506
00:18:04,549 --> 00:18:02,640
launches and landings um i i did not

507
00:18:06,070 --> 00:18:04,559
have an opportunity to watch the launch

508
00:18:08,230 --> 00:18:06,080
in person

509
00:18:10,630 --> 00:18:08,240
my shift as a lead flight director

510
00:18:12,390 --> 00:18:10,640
typically starts some 14 to 16 hours

511
00:18:14,070 --> 00:18:12,400
after launch and you know the launch

512
00:18:17,110 --> 00:18:14,080
site is at the kennedy space center in

513
00:18:18,870 --> 00:18:17,120

florida and my uh my job managing the

514
00:18:21,029 --> 00:18:18,880
mission control team here in houston

515
00:18:23,110 --> 00:18:21,039
houston just doesn't afford much of an

516
00:18:25,270 --> 00:18:23,120
opportunity to to go watch a launch fly

517
00:18:28,070 --> 00:18:25,280
back be rested and ready to go

518
00:18:29,750 --> 00:18:28,080
for uh for the job and tasks that i have

519
00:18:32,390 --> 00:18:29,760
to do

520
00:18:34,870 --> 00:18:32,400
on the second day of the mission

521
00:18:37,029 --> 00:18:34,880
my job as a lead flight director is done

522
00:18:38,230 --> 00:18:37,039
on late inspection day which is the 11th

523
00:18:40,710 --> 00:18:38,240
day of the mission we're going to land

524
00:18:42,870 --> 00:18:40,720
on the 13th day and i do have an

525
00:18:45,190 --> 00:18:42,880
opportunity to go to the landing and i

526
00:18:46,950 --> 00:18:45,200
very much look forward to seeing

527
00:18:49,029 --> 00:18:46,960
atlantis come home

528
00:18:50,390 --> 00:18:49,039
hopefully mid next week to the kennedy

529
00:18:51,590 --> 00:18:50,400
space center

530
00:18:54,230 --> 00:18:51,600
i uh

531
00:18:56,310 --> 00:18:54,240
had a talk with the flow director angie

532
00:18:58,310 --> 00:18:56,320
brewer prior to uh prior to the launch

533
00:18:59,190 --> 00:18:58,320
of atlantis and i promised i'd give her

534
00:19:00,789 --> 00:18:59,200
back

535
00:19:02,870 --> 00:19:00,799
in the same condition that we got her

536
00:19:04,870 --> 00:19:02,880
and and we've come very close to that

537
00:19:06,230 --> 00:19:04,880
and i look forward to to greeting her

538
00:19:09,510 --> 00:19:06,240

and her team out at the kennedy space

539
00:19:11,430 --> 00:19:09,520
center and fulfilling that promise

540
00:19:13,110 --> 00:19:11,440
i also look forward to greeting the crew

541
00:19:15,029 --> 00:19:13,120
of atlantis when they get off the ship

542
00:19:18,150 --> 00:19:15,039
and just just being there to watch that

543
00:19:21,590 --> 00:19:19,909
okay i think that was the last of the

544
00:19:23,270 --> 00:19:21,600
questions so we'll go back now to live

545
00:19:24,789 --> 00:19:23,280
mission coverage

546
00:19:27,110 --> 00:19:24,799
atlanta's crew of course is in their

547
00:19:29,430 --> 00:19:27,120
off-duty period at this point they'll be

548
00:19:30,789 --> 00:19:29,440
going to sleep at 3 50 p.m central time

549
00:19:32,310 --> 00:19:30,799
and then we'll begin playing the flight

550
00:19:34,549 --> 00:19:32,320
day highlights for the day at the top of

551
00:19:37,430 --> 00:19:34,559
every hour from then until crew wake up

552
00:19:38,950 --> 00:19:37,440
at 11 50 p.m tonight

553
00:19:41,110 --> 00:19:38,960
they'll be getting ready for undocking

554
00:19:42,789 --> 00:19:41,120
tomorrow which is scheduled for 10 22

555
00:19:45,430 --> 00:19:42,799
a.m which will be after the joint crew

556
00:19:47,830 --> 00:19:45,440
news conference at 5 25 a.m

557
00:19:49,750 --> 00:19:47,840
and after their farewell ceremony at 7

558
00:19:52,950 --> 00:19:49,760
10 a.m of course you can keep up with