
PAO

1
00:00:01,476 --> 00:00:02,006
>> Kelly Humphries: Hi,

2
00:00:02,006 --> 00:00:04,376
and welcome to Mission
Control Houston.

3
00:00:04,706 --> 00:00:07,686
Welcome with me today
Dina Contella,

4
00:00:07,686 --> 00:00:10,056
one of our flight
director team members

5
00:00:10,056 --> 00:00:11,986
for the International
Space Station.

6
00:00:12,246 --> 00:00:15,456
A veteran spacewalk
or EVA officer

7
00:00:15,456 --> 00:00:17,166
because she became
a flight director,

8
00:00:17,496 --> 00:00:18,946
and somebody who's been working

9
00:00:18,946 --> 00:00:21,726
with the troubleshooting
activities on the spacesuit

10
00:00:21,726 --> 00:00:25,516
that we had trouble with on July
16 when Luca Parmitano had a lot

11
00:00:25,516 --> 00:00:27,056

of water fill up in his helmet,

12
00:00:27,356 --> 00:00:29,016
and she's been working
very closely

13
00:00:29,016 --> 00:00:31,366
with the team that's pulling
together the troubleshooting

14
00:00:31,366 --> 00:00:34,516
activities, and trying to figure
out exactly what happened there.

15
00:00:34,956 --> 00:00:38,026
Dina, even though this
was a Labor Day weekend,

16
00:00:38,346 --> 00:00:42,376
the Space Station crew did do
quite a bit of work on Saturday.

17
00:00:42,836 --> 00:00:45,496
Primarily troubleshooting
the problem with the helmet

18
00:00:45,996 --> 00:00:48,266
and the water supplies that got

19
00:00:48,266 --> 00:00:50,336
into the helmet from
the spacesuit.

20
00:00:50,336 --> 00:00:54,236
The spacewalk was cut short,
but everybody got inside safe,

21
00:00:54,236 --> 00:00:56,496
and now we're trying to
figure out what happened.

22
00:00:56,576 --> 00:00:59,726
What did the crew do over
the weekend this weekend?

23
00:01:00,436 --> 00:01:00,686
>> Dina Contella: OK.

24
00:01:00,686 --> 00:01:03,836
Well, just to back up a
little, prior to this weekend,

25
00:01:03,836 --> 00:01:06,556
the whole team has been trying
to figure out what the source

26
00:01:06,556 --> 00:01:07,476
of the problem could be,

27
00:01:08,056 --> 00:01:12,666
and so the team developed
some procedures on the ground

28
00:01:12,826 --> 00:01:15,446
to change out some
components of the suit,

29
00:01:15,776 --> 00:01:17,726
and the idea would be change
some of the components out

30
00:01:17,726 --> 00:01:21,406
and then retest the suit out
to see if the water continues

31
00:01:21,406 --> 00:01:22,476
to go into the helmet.

32
00:01:23,016 --> 00:01:24,986

And so, and the team
worked very hard on that.

33
00:01:24,986 --> 00:01:28,676
There's, essentially the
problem is probably located

34
00:01:28,676 --> 00:01:31,146
in this one area of the
life support system,

35
00:01:31,146 --> 00:01:32,766
that's the backpack
of the spacesuit,

36
00:01:33,216 --> 00:01:35,626
and there are some
valves that are associated

37
00:01:35,816 --> 00:01:38,866
with both the water system
and the oxygen system kind

38
00:01:38,866 --> 00:01:43,476
of in an intimately close area
to each other in proximity

39
00:01:43,526 --> 00:01:46,486
such that water could get into
the oxygen vent loop system.

40
00:01:46,996 --> 00:01:50,476
And so the team identified
specifically one valve

41
00:01:50,476 --> 00:01:52,366
and also a filter that
could have been the cause

42
00:01:52,366 --> 00:01:56,016

of the issue, and additionally
there was another valve

43
00:01:56,016 --> 00:01:59,206
that is sort of easy to
change out there, not a valve

44
00:01:59,256 --> 00:02:01,936
but a component called
the gas trap.

45
00:02:01,936 --> 00:02:04,676
And so, you know, on the
ground, the technicians

46
00:02:04,676 --> 00:02:07,236
and the engineers and
ops team all got together

47
00:02:07,236 --> 00:02:08,786
and got the procedures ready,

48
00:02:09,176 --> 00:02:11,826
and what the crew did this
weekend was change out of

49
00:02:11,826 --> 00:02:14,066
that valve, which if
that valve is a problem,

50
00:02:14,066 --> 00:02:15,116
it could have caused
the flooding.

51
00:02:15,856 --> 00:02:18,196
Also, the filter,
which if it was clogged

52
00:02:18,196 --> 00:02:20,026
that could have caused

the flooding, and then,

53
00:02:20,026 --> 00:02:20,926
like I said, the gas trap.

54
00:02:21,216 --> 00:02:24,216
And after the first component
and filter were changed out,

55
00:02:24,216 --> 00:02:27,036
we did a screening where
we tested the suit out,

56
00:02:27,306 --> 00:02:30,606
buttoned it all up as if it
was preparing for going EVA,

57
00:02:30,916 --> 00:02:34,886
and then we checked to see
if what was still coming

58
00:02:34,886 --> 00:02:38,476
in the helmet, which it was, and
then we took the gas trap out

59
00:02:38,476 --> 00:02:39,996
and put a new one in,
and then we screened

60
00:02:39,996 --> 00:02:41,466
that also just to make sure.

61
00:02:41,466 --> 00:02:42,916
We didn't think that was
the cause of the issue,

62
00:02:42,916 --> 00:02:45,496
but we wanted the gas
trap on the ground anyway.

63
00:02:45,566 --> 00:02:48,516
So anyway we did all
that troubleshooting,

64
00:02:48,516 --> 00:02:50,956
and we got helmet, water
in the helmet both times.

65
00:02:51,066 --> 00:02:53,396
So we have not isolated the
exact component that failed

66
00:02:53,396 --> 00:02:56,936
yet on Luca's suit, but we did
a lot of good work this weekend

67
00:02:56,936 --> 00:02:58,596
by recovering those items.

68
00:02:58,706 --> 00:03:00,876
We bagged them all up
for return on the Soyuz,

69
00:03:00,876 --> 00:03:02,986
and so on the ground,
the team will be able

70
00:03:02,986 --> 00:03:06,076
to take really close
up photos and kind

71
00:03:06,076 --> 00:03:08,076
of pick apart the different
materials that might be

72
00:03:08,296 --> 00:03:10,566
in those components and
check for mechanical failure

73

00:03:10,566 --> 00:03:12,336
and those types of things.

74
00:03:12,336 --> 00:03:13,986
You know, for example,
the gas trap.

75
00:03:14,316 --> 00:03:16,266
We didn't think it was
the source of the problem,

76
00:03:16,266 --> 00:03:18,866
but it has a really
fine mesh screen on it.

77
00:03:18,926 --> 00:03:21,866
So if there was kind of anything
interesting in the water

78
00:03:21,976 --> 00:03:23,626
that was going through
the gas trap, it's water

79
00:03:23,626 --> 00:03:26,616
and gas combined, then that
might collect some evidence

80
00:03:26,696 --> 00:03:27,806
that would be on the screen.

81
00:03:28,136 --> 00:03:29,666
So we did a lot of
great work this weekend,

82
00:03:29,666 --> 00:03:32,366
although we haven't specifically
isolated that exact cause,

83
00:03:32,366 --> 00:03:33,686
and we're really

excited to get some

84
00:03:33,686 --> 00:03:34,906
of that hardware
back on the ground.

85
00:03:35,436 --> 00:03:35,796
>> Kelly Humphries: OK.

86
00:03:36,266 --> 00:03:39,936
So you're doing everything
it sounds like, but one thing

87
00:03:39,936 --> 00:03:42,816
at a time to try and
isolate what's going on.

88
00:03:42,816 --> 00:03:44,656
Has it been tough to
pinpoint this issue?

89
00:03:45,426 --> 00:03:47,396
>> Dina Contella: It is
actually pretty hard.

90
00:03:48,156 --> 00:03:50,786
There are a few items that
are in close proximity

91
00:03:50,786 --> 00:03:52,146
to each other, and
so trying to figure

92
00:03:52,146 --> 00:03:55,596
out which one those it could
be has been one of the issues,

93
00:03:56,186 --> 00:03:59,536
but it's also not, you
can't really drive your EMU

94
00:03:59,536 --> 00:04:03,006
over to the gas station and have
the mechanic take a look at it

95
00:04:03,336 --> 00:04:06,936
because really the
technicians are really experts

96
00:04:06,936 --> 00:04:09,286
at this very intricate type
work that it takes to work

97
00:04:09,286 --> 00:04:12,786
in the life support system, and
all of their work is done here

98
00:04:12,786 --> 00:04:16,636
on the ground without
zero g type of hindrance

99
00:04:16,726 --> 00:04:19,106
to having small little
screws and other things.

100
00:04:19,106 --> 00:04:21,186
They have a lot on the
ground that they can do

101
00:04:21,606 --> 00:04:25,186
that we don't necessarily
easily can translate basically

102
00:04:25,186 --> 00:04:26,366
onto on-orbit activities.

103
00:04:26,886 --> 00:04:29,966
So, for example, we have
one component of the suit.

104
00:04:30,136 --> 00:04:33,596
It's a combination of fan,
water separator, and pump,

105
00:04:33,976 --> 00:04:36,506
and that particular item, it
would be great if we could get

106
00:04:36,506 --> 00:04:38,436
that particular component
back on the ground, too,

107
00:04:38,436 --> 00:04:40,146
but it's much more
difficult to change out.

108
00:04:40,216 --> 00:04:43,106
So it's hard to pinpoint the
issue when you can't just go

109
00:04:43,106 --> 00:04:45,056
and grab items off the suit

110
00:04:45,056 --> 00:04:47,176
and then have your experts
take a look at them.

111
00:04:47,376 --> 00:04:49,786
It takes a lot of effort to get
some of those components out.

112
00:04:50,286 --> 00:04:51,666
>> Kelly Humphries: Well, and
the crew members have a lot

113
00:04:51,666 --> 00:04:54,326
of training in how to operate
their suits but maybe not

114

00:04:54,326 --> 00:04:58,096
so much [inaudible] how to
maintain them, but maybe not

115
00:04:58,096 --> 00:04:59,936
as much in troubleshooting,
and so you're trying

116
00:04:59,936 --> 00:05:02,896
to give them really good
procedures to get all this done,

117
00:05:02,896 --> 00:05:05,136
and everything's a
little bit harder to do

118
00:05:05,136 --> 00:05:06,356
in zero g, too, right.

119
00:05:06,626 --> 00:05:07,326
>> Dina Contella: Exactly.

120
00:05:07,326 --> 00:05:12,006
And so the, you know, as an
example, the work that we did

121
00:05:12,006 --> 00:05:14,636
over the weekend, there's some
very small tiny screws that,

122
00:05:14,716 --> 00:05:15,916
you know, we didn't
want to have get lost.

123
00:05:16,056 --> 00:05:20,256
So we set up some mesh over the
end of a vacuum cleaner to try

124
00:05:20,256 --> 00:05:22,636
to catch some of those

components, but the development

125
00:05:22,636 --> 00:05:24,616
of all of that type of stuff you
don't want the crew necessarily

126
00:05:24,616 --> 00:05:25,686
to try to do it themselves.

127
00:05:26,176 --> 00:05:28,956
We like to try to give them
the best techniques possible

128
00:05:28,996 --> 00:05:30,986
since they've never laid
eyes on the hardware.

129
00:05:31,376 --> 00:05:34,406
So trying to translate what
these expert technicians are

130
00:05:34,406 --> 00:05:36,376
doing on the ground into
something that can be done

131
00:05:36,376 --> 00:05:38,816
in zero g is just, I mean,
it takes quite a bit of work.

132
00:05:39,296 --> 00:05:39,406
>> Kelly Humphries: OK.

133
00:05:39,966 --> 00:05:42,686
Well, now, there's a formal
mishap investigation board

134
00:05:42,686 --> 00:05:44,686
that's been formed to
look at this issue.

135
00:05:45,116 --> 00:05:47,616
So why do we need the crew to
do all this troubleshooting now?

136
00:05:48,676 --> 00:05:48,896
>> Dina Contella: OK.

137
00:05:48,896 --> 00:05:51,476
Well, you know, the mishap
investigation board is kind

138
00:05:51,476 --> 00:05:53,086
of an independent review,

139
00:05:53,596 --> 00:05:56,276
but Space Station ops
continue every day.

140
00:05:56,356 --> 00:06:01,006
So the crew is doing science
every day, and there's vehicles

141
00:06:01,006 --> 00:06:02,916
that are coming and
going, and there's a lot

142
00:06:02,916 --> 00:06:06,446
of potential contingencies
or off-nominal situations

143
00:06:06,446 --> 00:06:08,666
that could crop up that
would require a spacewalk.

144
00:06:09,206 --> 00:06:12,016
And so should one of these crop
up, we would like to be ready

145
00:06:12,016 --> 00:06:14,246

to say that we understand
what the failure is

146
00:06:14,246 --> 00:06:17,466
and what we would do in case
the water was starting to come

147
00:06:17,466 --> 00:06:19,726
into the helmet again
such that we would be able

148
00:06:19,726 --> 00:06:21,786
to say we might be able to
go out and perform an EVA

149
00:06:21,786 --> 00:06:23,566
in an off-nominal situation.

150
00:06:23,946 --> 00:06:26,126
So while the mishap
investigation board is working

151
00:06:26,126 --> 00:06:27,596
that, at the same
time we're trying

152
00:06:27,596 --> 00:06:32,226
to understand how we
could get to the point

153
00:06:32,226 --> 00:06:35,256
where we could say we could go
and do it, perform another EVA,

154
00:06:35,256 --> 00:06:37,706
working on the operation
procedures for the crew

155
00:06:37,966 --> 00:06:38,816
in case it happened again.

156
00:06:38,816 --> 00:06:41,226
And additionally, we're working

157
00:06:41,226 --> 00:06:43,546
with the mishap investigation
board on the gathering

158
00:06:43,546 --> 00:06:45,896
of the evidence in
bringing it to the ground.

159
00:06:46,116 --> 00:06:50,116
This is good information that
they need as well as, you know,

160
00:06:50,466 --> 00:06:54,976
as the rest of us, I'd say
maybe the Space Station team

161
00:06:55,036 --> 00:06:57,246
in general is all trying to
collect the same evidence,

162
00:06:57,246 --> 00:06:59,596
and the mishap investigation
board is hand in hand wanting

163
00:06:59,596 --> 00:07:00,776
that same information.

164
00:07:00,826 --> 00:07:03,286
So working hand in hand,
but they're doing more

165
00:07:03,286 --> 00:07:04,236
of an independent review.

166
00:07:04,556 --> 00:07:04,856

>> Kelly Humphries: OK.

167
00:07:05,496 --> 00:07:08,906
To the layman, it seems a little
strange that you'd put the air

168
00:07:08,906 --> 00:07:10,986
and water systems
so close together

169
00:07:10,986 --> 00:07:12,646
that they could cross over.

170
00:07:12,646 --> 00:07:15,236
Can you explain a little, is
that just because you have

171
00:07:15,236 --> 00:07:18,696
to shrink things down so
small for use in space?

172
00:07:19,726 --> 00:07:20,596
>> Dina Contella:
Well, the, you know,

173
00:07:20,876 --> 00:07:25,876
they're intimately tied together
because the spacesuit is cooled

174
00:07:25,976 --> 00:07:29,496
by water, and the,
so we feed water

175
00:07:29,766 --> 00:07:31,836
into something called a
sublimator [phonetic],

176
00:07:32,156 --> 00:07:33,736
and the sublimator
forms a, you know,

177
00:07:33,736 --> 00:07:35,536
when the water hits the
sublimator in a vacuum,

178
00:07:35,536 --> 00:07:39,026
it forms a sheet of ice, and
then that ice sublimates off.

179
00:07:39,026 --> 00:07:41,146
It basically turns to
vapor and immediately

180
00:07:41,146 --> 00:07:43,456
in that whole process
gives the suit cooling.

181
00:07:43,876 --> 00:07:49,116
And in addition to cooling
the components of the suit,

182
00:07:49,546 --> 00:07:52,056
that's used to cool the
crew member's body off,

183
00:07:53,256 --> 00:07:56,686
and [inaudible] you can see here
there's water in the helmet.

184
00:07:56,686 --> 00:07:58,486
This is basically what
Luca was experiencing,

185
00:07:58,486 --> 00:08:00,816
but this is us inside the
cabin doing some testing here.

186
00:08:01,916 --> 00:08:03,406
But back on the sublimator.

187
00:08:03,406 --> 00:08:07,176
So that particular loop,
it cools off the oxygen

188
00:08:07,176 --> 00:08:10,406
that the crew member's breathing
as well, and it condenses,

189
00:08:10,596 --> 00:08:13,416
for example, your breath has
a little bit of moisture in it

190
00:08:13,416 --> 00:08:14,976
and your sweat, and
that's the kind of thing.

191
00:08:15,046 --> 00:08:17,976
So the sublimator helps
to condense that out

192
00:08:17,976 --> 00:08:19,266
like an air conditioner
a little bit.

193
00:08:19,566 --> 00:08:22,426
So you can see how the vent
loop and the oxygen loop have

194
00:08:22,426 --> 00:08:25,456
to be intimately tied together,
and also you can see bubbles

195
00:08:25,606 --> 00:08:28,706
that would occur potentially
in your cooling loop system,

196
00:08:28,706 --> 00:08:30,966
and you want to get the bubbles
out and, hence, the gas trap.

197
00:08:31,276 --> 00:08:34,286
So there's a few ways in
which they're tied together,

198
00:08:34,436 --> 00:08:36,976
and we have to use the
water to cool the oxygen,

199
00:08:37,376 --> 00:08:40,906
and we use a water separator
specifically to separate,

200
00:08:40,906 --> 00:08:43,806
because you keep those two
separate, water and oxygen.

201
00:08:44,186 --> 00:08:48,456
In this particular case,
though, the water separator,

202
00:08:48,896 --> 00:08:53,156
it's I guess theorized that the
water separator allowed flooding

203
00:08:53,156 --> 00:08:55,156
to go into the vent loop
in this particular case,

204
00:08:55,156 --> 00:08:57,626
but what the root cause is
we're, is still unknown.

205
00:08:58,886 --> 00:08:59,136
>> Kelly Humphries: OK.

206
00:08:59,466 --> 00:09:01,466
And we were looking at
that picture of the helmet,

207

00:09:01,466 --> 00:09:05,406
and basically the air that
circulates in the helmet comes

208
00:09:05,406 --> 00:09:06,396
over the back of the head,

209
00:09:06,396 --> 00:09:08,086
and that's what we
were looking at there.

210
00:09:08,426 --> 00:09:08,726
>> Dina Contella: Exactly -

211
00:09:08,726 --> 00:09:09,036
>> Kelly Humphries: So -

212
00:09:09,036 --> 00:09:11,106
>> Dina Contella: Because the
water actually was basically

213
00:09:11,106 --> 00:09:13,246
entering at that point
and coming up over the top

214
00:09:13,246 --> 00:09:14,406
of the head in this
particular case.

215
00:09:14,716 --> 00:09:16,926
It also comes around the
sides, and, you know,

216
00:09:17,196 --> 00:09:18,736
it [inaudible] the
geometry of the vent pad.

217
00:09:19,236 --> 00:09:19,466
>> Kelly Humphries: OK.

218
00:09:19,746 --> 00:09:23,096
So how big of a team
is working on this?

219
00:09:23,096 --> 00:09:25,636
Sounds like you guys didn't
get a full Labor Day weekend.

220
00:09:26,386 --> 00:09:27,366
>> Dina Contella:
Well, that's true.

221
00:09:27,366 --> 00:09:30,006
So we've been working on
this for quite some time

222
00:09:30,206 --> 00:09:31,386
over the course of
several weeks.

223
00:09:31,386 --> 00:09:35,426
I'd say the majority of the team
is really the spacesuit team.

224
00:09:35,776 --> 00:09:38,246
Of course, other
disciplines are affected

225
00:09:38,486 --> 00:09:40,986
like our life support system
officers and things like that,

226
00:09:41,036 --> 00:09:44,636
but our operations team
and our engineering team

227
00:09:44,696 --> 00:09:47,286
and all those expert
spacesuit technicians that,

228
00:09:47,286 --> 00:09:50,576
as I mentioned have been
working several weeks in a row,

229
00:09:50,576 --> 00:09:52,986
and we wanted to give everyone
Labor Day weekend off, but,

230
00:09:52,986 --> 00:09:55,176
unfortunately, the way the
crew's scheduling and all

231
00:09:55,176 --> 00:09:56,906
of our science worked
out, we really wanted

232
00:09:56,906 --> 00:09:58,606
to do those operations
on Saturday.

233
00:09:59,136 --> 00:10:01,216
So we did have a lot of
the key individuals here

234
00:10:01,216 --> 00:10:03,836
in the control center on
Saturday, and then we had

235
00:10:03,836 --> 00:10:06,786
to do a little bit of maybe I'd
call it telework or, you know,

236
00:10:06,786 --> 00:10:08,716
work from home on
Sunday, but we have tried,

237
00:10:08,716 --> 00:10:10,606
we did try to give
the folks Monday off.

238
00:10:11,046 --> 00:10:11,626
>> Kelly Humphries:
Well, that's good.

239
00:10:12,226 --> 00:10:15,546
Let's change gears here a little
bit, and I know you're not

240
00:10:15,546 --> 00:10:18,526
as in the middle
of the preparations

241
00:10:18,526 --> 00:10:21,386
for the cargo vehicle departure
that's coming up tomorrow,

242
00:10:21,386 --> 00:10:24,616
but can you just kind of give
us an overview while we got you

243
00:10:24,616 --> 00:10:27,496
here of what it's like
to get a cargo vehicle

244
00:10:27,496 --> 00:10:28,976
like HTV ready to go?

245
00:10:29,766 --> 00:10:29,986
>> Dina Contella: OK.

246
00:10:29,986 --> 00:10:32,196
Well, today is a good example.

247
00:10:32,196 --> 00:10:34,746
As I walked up, I heard
you talking about the fact

248
00:10:34,796 --> 00:10:36,936
that we have Luca right

now in the vestibule.

249
00:10:37,226 --> 00:10:39,436
Essentially, you need to get
everything prepped and ready

250
00:10:39,436 --> 00:10:41,786
to go between HTV and
the Space Station.

251
00:10:41,786 --> 00:10:44,816
You know, our Japanese cargo
vehicle and the Space Station.

252
00:10:44,816 --> 00:10:47,366
So there's this area called
the vestibule in between

253
00:10:47,366 --> 00:10:51,586
where you have jumpers and hoses
and things that would allow you

254
00:10:51,586 --> 00:10:56,116
to supply air and power and data
in between the two vehicles.

255
00:10:56,826 --> 00:10:58,866
So basically you need
to close all that out

256
00:10:59,146 --> 00:11:03,306
so the HTV can depart,
and additionally you have

257
00:11:03,306 --> 00:11:05,426
to install some boxes.

258
00:11:05,426 --> 00:11:08,356
I know they're doing that today
as well where these are boxes

259
00:11:08,386 --> 00:11:10,686
that would have interfered
with the translation and then

260
00:11:10,686 --> 00:11:13,506
in between the two vehicles
and putting in, taking cargo in

261
00:11:13,856 --> 00:11:16,926
and taking cargo out, but
we want to reinstall those.

262
00:11:16,926 --> 00:11:20,166
Those boxes will help control
the bolting, or the unbolting

263
00:11:20,266 --> 00:11:22,176
in this particular
case for the release.

264
00:11:22,736 --> 00:11:25,216
And so I know the crew's
doing that today as well.

265
00:11:25,646 --> 00:11:30,726
And then overnight the ground
will do some preparations

266
00:11:30,786 --> 00:11:34,016
for the [inaudible] as
well, and then, of course,

267
00:11:34,016 --> 00:11:34,956
tomorrow is the release.

268
00:11:35,536 --> 00:11:36,996
And the crew I know
has been practicing

269
00:11:36,996 --> 00:11:37,896
as well for the release.

270
00:11:38,076 --> 00:11:41,116
It's not as big an operation as
the rendezvous and the capture,

271
00:11:41,116 --> 00:11:46,736
but it still requires some
preparation work on their part.

272
00:11:46,736 --> 00:11:47,126
>> Kelly Humphries:
And, you know,

273
00:11:47,126 --> 00:11:49,346
while all this is
going on, we've all,

274
00:11:49,346 --> 00:11:51,196
we're also getting ready for
three of the crew members

275
00:11:51,196 --> 00:11:56,196
to come home, and so tell us
a little bit about what it's

276
00:11:56,196 --> 00:12:00,816
like on board with departure of
a cargo vehicle, getting ready

277
00:12:00,816 --> 00:12:04,306
to bring yourself home as well
for those three crew members.

278
00:12:04,506 --> 00:12:05,596
>> Dina Contella: Oh,
they've also been doing a lot

279

00:12:05,596 --> 00:12:09,336
of packing, and then they still
got some time to go, but they,

280
00:12:09,336 --> 00:12:10,656
I know they have
a drill tomorrow

281
00:12:10,986 --> 00:12:13,716
to practice their
descent essentially.

282
00:12:14,126 --> 00:12:18,026
And Chris I know has packed up
most of all, most of his stuff,

283
00:12:18,026 --> 00:12:20,456
but there's maybe a
couple last-minute items,

284
00:12:20,456 --> 00:12:23,456
and as I understand it talking
with [inaudible] director,

285
00:12:23,516 --> 00:12:26,056
there's sort of a,
you know, bittersweet.

286
00:12:26,056 --> 00:12:28,866
They're very happy to be
returning, but at the same time,

287
00:12:28,866 --> 00:12:30,406
they don't want to
leave Space Station.

288
00:12:30,476 --> 00:12:32,986
So I know they're in
excellent spirits, though,

289

00:12:32,986 --> 00:12:35,226
and they've been a
really awesome crew.

290
00:12:35,676 --> 00:12:38,206
So looking forward to the
next crew, but, you know,

291
00:12:38,406 --> 00:12:40,196
this crew has been
special for us, for sure.

292
00:12:40,196 --> 00:12:41,286
>> Kelly Humphries: Oh, great.

293
00:12:41,546 --> 00:12:45,166
Dina Contella, a flight director
and key member of the team

294
00:12:45,166 --> 00:12:47,296
that is troubleshooting
the spacesuit problem.

295
00:12:47,296 --> 00:12:49,996
Thanks again for joining
us today, and good luck

296
00:12:49,996 --> 00:12:51,676
with your continued
work on figuring

297
00:12:51,676 --> 00:12:52,536
out what's going on there.

298
00:12:52,716 --> 00:12:53,576
>> Dina Contella:
Thank you very much.

299
00:12:53,576 --> 00:12:54,786
Hope we solve the problem soon.