



1
00:00:01,316 --> 00:00:02,566
>> Joan Sted: Thanks
again we're back

2
00:00:02,566 --> 00:00:06,076
in Building 220 I'm Joan Sted at
Thomas Mission Operations test

3
00:00:06,196 --> 00:00:08,916
and this time we're talking with
Alvin Drew who is the commander

4
00:00:08,956 --> 00:00:10,726
for today's run of the test.

5
00:00:11,206 --> 00:00:12,256
[Background noise] Thanks
so much for coming back.

6
00:00:12,256 --> 00:00:14,666
I know we talked with you last
time we were had these tests

7
00:00:14,666 --> 00:00:15,596
going on back in May so.

8
00:00:15,596 --> 00:00:15,736
..

9
00:00:15,736 --> 00:00:15,976
>> Alvin Drew: Yes.

10
00:00:16,246 --> 00:00:17,186
>> Joan Sted: . . .this
is a little different

11
00:00:17,186 --> 00:00:20,156
than I think last time ya'll
were using just basic what we

12

00:00:20,156 --> 00:00:21,706
already know to deal
with the time.

13

00:00:21,706 --> 00:00:21,773
..

14

00:00:21,773 --> 00:00:21,840
>> Alvin Drew: Yes.

15

00:00:21,840 --> 00:00:21,936
>> Joan Sted: . . .delay.

16

00:00:21,936 --> 00:00:23,486
And this time you're
trying out some new tools

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00:00:23,486 --> 00:00:24,206
and procedures, right?

18

00:00:24,206 --> 00:00:24,686
>> Alvin Drew: Absolutely.

19

00:00:24,886 --> 00:00:25,026
>> Joan Sted: Okay.

20

00:00:25,026 --> 00:00:25,596
How's it going?

21

00:00:25,876 --> 00:00:26,386
>> Alvin Drew: It's going well.

22

00:00:26,826 --> 00:00:27,946
It's like you talked
about before.

23

00:00:28,036 --> 00:00:31,206

The tools we were using last
time were the same 20th century

24

00:00:31,206 --> 00:00:33,706

tools we've been using
since the days of mercury.

25

00:00:33,826 --> 00:00:34,976

So they're 50 years old.

26

00:00:35,016 --> 00:00:37,116

It's like the walkie talkie
model of talking where,

27

00:00:37,466 --> 00:00:39,706

you know, you cue the mic and
you say something and let go

28

00:00:39,706 --> 00:00:40,846

of the mic and the
person's cue's the mic

29

00:00:40,846 --> 00:00:42,106

on the other end and
they talk to you.

30

00:00:42,576 --> 00:00:46,696

And they well if you are
doing something fairly simple

31

00:00:46,696 --> 00:00:48,516

and you're only a few hundred
miles away from the earth,

32

00:00:48,986 --> 00:00:52,256

but the distances we're
simulating right now it doesn't

33

00:00:52,256 --> 00:00:52,746

work as well.

34

00:00:52,926 --> 00:00:56,326

So with this today we've got all our 21st century tools that some

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00:00:56,326 --> 00:00:58,526

of the people recognize as being just normal stuff we use

36

00:00:58,526 --> 00:01:01,056

like texting and other things like that to see

37

00:01:01,056 --> 00:01:01,886

if that helps us out any.

38

00:01:02,286 --> 00:01:03,776

>> Joan Sted: You wouldn't think NASA needed any help getting

39

00:01:03,776 --> 00:01:05,646

into the 21st century, but I guess so.

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00:01:05,976 --> 00:01:08,546

We have stuff that has worked for a while, but it's time

41

00:01:08,546 --> 00:01:10,406

to move on to some new .

42

00:01:10,406 --> 00:01:10,516

..

43

00:01:10,516 --> 00:01:11,696

>> Alvin Drew: We've got new challenges in front

44

00:01:11,696 --> 00:01:12,986

of us and new things to do.

45

00:01:12,986 --> 00:01:16,536

So the tools that worked well
for the past 50 years why fool

46

00:01:16,536 --> 00:01:17,826

with them and they're
working fine.

47

00:01:18,746 --> 00:01:20,796

These are things that we
know that tools will not work

48

00:01:20,846 --> 00:01:23,316

when we are long distance away
from the [inaudible] speed

49

00:01:23,316 --> 00:01:25,256

of light, you know, that
may take you 20 minutes

50

00:01:25,256 --> 00:01:25,986

to get an answer back.

51

00:01:26,386 --> 00:01:28,926

And if that answer was can
you say all that again,

52

00:01:29,726 --> 00:01:30,916

well that gets to
be very frustrating.

53

00:01:30,916 --> 00:01:32,456

So it's nice to have
things that written records

54

00:01:32,456 --> 00:01:34,086

of what you wanted if you
could send a text message

55

00:01:34,086 --> 00:01:35,326

so they can just
re-read the message.

56

00:01:35,466 --> 00:01:37,106

>> Joan Sted: Well, how do
you think that's going so far?

57

00:01:37,316 --> 00:01:37,796

Do you like the choice?

58

00:01:37,796 --> 00:01:38,706

>> Alvin Drew: I think
it's going great.

59

00:01:38,706 --> 00:01:40,486

It's a little bit strange
because I'm used to lots

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00:01:40,486 --> 00:01:42,596

of chatter over the radios
when things are going on

61

00:01:42,596 --> 00:01:44,656

and we've spent the whole
morning I think we talked

62

00:01:44,656 --> 00:01:45,776

to them three times.

63

00:01:46,096 --> 00:01:47,866

[Laughter] So we think
we're mad at each other

64

00:01:47,866 --> 00:01:48,636

or something and we're not.

65

00:01:48,636 --> 00:01:49,986

[Laughter] It's just
-- there's just a lot

66
00:01:50,186 --> 00:01:51,856
of typing and chattering away.

67
00:01:51,856 --> 00:01:53,376
So if you're a teenager

68
00:01:53,376 --> 00:01:55,246
with a phone it would seem
perfectly normal to you,

69
00:01:55,586 --> 00:01:57,876
but to somebody like me
who's just a few months away

70
00:01:57,876 --> 00:01:59,646
from AARP card it's
a little bit weird

71
00:01:59,676 --> 00:02:02,046
to not hear any chatter
over the radio lines.

72
00:02:02,246 --> 00:02:02,826
>> Joan Sted: So how many --

73
00:02:02,866 --> 00:02:04,586
are there runs in all
the [inaudible] today

74
00:02:04,716 --> 00:02:06,316
at three different time delays?

75
00:02:06,496 --> 00:02:06,626
>> Alvin Drew: Yes.

76
00:02:06,766 --> 00:02:07,336

>> Joan Sted: Five seconds .

77

00:02:07,336 --> 00:02:07,736

..

78

00:02:07,736 --> 00:02:08,196

>> Alvin Drew: Five seconds .

79

00:02:10,046 --> 00:02:08,263

..

80

00:02:10,086 --> 00:02:10,876

which is five minutes.

81

00:02:10,876 --> 00:02:11,056

>> Joan Sted: Right.

82

00:02:11,136 --> 00:02:12,156

So which ones have
you done so far?

83

00:02:12,316 --> 00:02:13,556

>> Alvin Drew: So far

we've done 50 seconds

84

00:02:13,716 --> 00:02:16,226

and we'll look five minutes

85

00:02:16,316 --> 00:02:18,826

and then we'll do another run
actually with 50 seconds again.

86

00:02:18,826 --> 00:02:19,966

We won't do the five
second delay.

87

00:02:20,356 --> 00:02:21,306

>> Joan Sted: What kind
of things have you had

88

00:02:21,306 --> 00:02:22,846
to do under those delays?

89

00:02:22,886 --> 00:02:26,076
What kind of tasks
and activities?

90

00:02:26,126 --> 00:02:28,476
>> Alvin Drew: Basically
I caught this old --

91

00:02:28,476 --> 00:02:30,146
things that are broken I
guess we're on our way home.

92

00:02:30,146 --> 00:02:34,186
So we've got computers that are
hard drives that are failing.

93

00:02:34,186 --> 00:02:37,506
We've got inspections and we've
got some dings on our spacecraft

94

00:02:37,506 --> 00:02:39,946
from micro-meteoroid strikes.

95

00:02:40,276 --> 00:02:43,816
We've got an exercise
device that's got worn

96

00:02:43,816 --> 00:02:45,496
out from I guess we've been
doing too much exercise.

97

00:02:45,496 --> 00:02:46,566
That's a good thing I take it.

98

00:02:46,566 --> 00:02:46,806

>> Joan Sted: Good job.

99

00:02:46,886 --> 00:02:49,196

>> Alvin Drew: So things
we're just tidying things up

100

00:02:49,196 --> 00:02:50,486

and getting ready for
the trip back home.

101

00:02:50,696 --> 00:02:53,566

>> Joan Sted: And is it hard
to do it without being able

102

00:02:53,566 --> 00:02:54,866

to talk instantly to the ground,

103

00:02:54,866 --> 00:02:56,956

or do you think you're
able to handle it?

104

00:02:56,956 --> 00:02:58,756

>> Alvin Drew: As long as things
run normally there's not a lot

105

00:02:58,756 --> 00:03:00,416

of reason to talk granted
it's just coordination.

106

00:03:00,416 --> 00:03:02,016

It's letting them know we're
starting this procedure

107

00:03:02,016 --> 00:03:04,506

on this times and they want
to know that and how things go

108

00:03:04,506 --> 00:03:05,306

when you get done with it.

109

00:03:05,356 --> 00:03:06,506

You know we found
this particular

110

00:03:06,506 --> 00:03:08,386

and we put this away over here.

111

00:03:08,386 --> 00:03:10,936

We testing this thing, we
got this piece of data back.

112

00:03:10,966 --> 00:03:13,056

And so none of it's really
urgent and there doesn't need

113

00:03:13,056 --> 00:03:14,026

to be a whole lot
of interaction.

114

00:03:14,206 --> 00:03:15,976

We send them information.

115

00:03:15,976 --> 00:03:16,396

They get it.

116

00:03:16,396 --> 00:03:17,826

They acknowledge if they have
any questions they bring it

117

00:03:17,826 --> 00:03:18,186

back up.

118

00:03:18,186 --> 00:03:20,896

So I haven't really
noticed any big to do's.

119

00:03:20,926 --> 00:03:22,266

I think when things get dynamic

120

00:03:22,326 --> 00:03:24,466

when you know maybe
something goes wrong,

121

00:03:24,526 --> 00:03:27,146

which stuff will happen here
in the next couple of runs.

122

00:03:27,146 --> 00:03:29,156

That's when the adrenaline
starts to pick up a bit

123

00:03:29,156 --> 00:03:30,906

because there's time
delays on both ends now.

124

00:03:31,096 --> 00:03:31,296

>> Joan Sted: Right.

125

00:03:31,366 --> 00:03:34,336

Okay. Well, so, you know,
going through this now,

126

00:03:34,336 --> 00:03:35,796

do you think this is
going to get us ready

127

00:03:35,856 --> 00:03:37,686

for when it is time
to go to [inaudible]?

128

00:03:37,846 --> 00:03:39,106

You know, we've got the Ryan

129

00:03:39,316 --> 00:03:42,516

and the space launch
system being built now.

130

00:03:42,516 --> 00:03:45,766

So that's help get us in that direction, but are we going

131
00:03:45,766 --> 00:03:46,636
to be ready once we get there?

132
00:03:46,916 --> 00:03:47,256
>> Alvin Drew: I think so.

133
00:03:47,256 --> 00:03:48,536
We're making big
strides right now.

134
00:03:48,686 --> 00:03:51,816
And what I'm seeing a lot of
feedback from crew members is

135
00:03:51,816 --> 00:03:54,076
that these are tools we
can use right now working

136
00:03:54,076 --> 00:03:55,076
on the National Space Station,

137
00:03:55,076 --> 00:03:56,926
whereas the tools we
have right now work fine,

138
00:03:57,246 --> 00:03:59,826
these actually make our
life better up there.

139
00:04:00,036 --> 00:04:01,576
Having things like
text so we don't have

140
00:04:01,576 --> 00:04:02,676
to go could you please
say again,

141

00:04:02,906 --> 00:04:04,986

even though there's no
time delay they can go look

142

00:04:04,986 --> 00:04:05,436

at the message.

143

00:04:05,436 --> 00:04:06,206

So why not?

144

00:04:06,426 --> 00:04:09,596

That's not a big leap
with these technologies.

145

00:04:09,696 --> 00:04:11,756

There are things that work
on the same computers that we

146

00:04:11,756 --> 00:04:12,856

in the space station right now.

147

00:04:13,256 --> 00:04:15,486

So we're actually looking
at implementing some

148

00:04:15,486 --> 00:04:17,376

of these things here and now.

149

00:04:17,376 --> 00:04:18,376

Some of the displays we have

150

00:04:18,376 --> 00:04:19,486

over [inaudible]
look at our iPads.

151

00:04:19,486 --> 00:04:21,916

This is how we interact
with this particular model

152

00:04:21,916 --> 00:04:25,826

of a space craft that wouldn't
be a big deal to make that work

153

00:04:25,826 --> 00:04:26,766

on board our space station.

154

00:04:26,766 --> 00:04:28,426

So if you're looking at a
procedure, you want to look

155

00:04:28,426 --> 00:04:31,046

at a systems, you don't have
to float over to a workstation,

156

00:04:31,046 --> 00:04:32,906

look at it and then float
back over to your worksite.

157

00:04:33,286 --> 00:04:35,556

You can take everything with you
and use it right then and there.

158

00:04:35,716 --> 00:04:38,976

Well, now we've got iPads
or Tablets available

159

00:04:38,976 --> 00:04:39,926

on board the space station.

160

00:04:40,386 --> 00:04:42,476

We can put the software on
those particular Tablets

161

00:04:42,476 --> 00:04:43,506

and have that capability.

162

00:04:43,506 --> 00:04:45,566

So there are things that

can enhance our lives

163

00:04:45,566 --> 00:04:48,226
on the space station now
and of course get us ready

164

00:04:48,586 --> 00:04:50,406
for going further and
further either way right

165

00:04:50,406 --> 00:04:53,506
into out beyond the
moon and even further

166

00:04:53,506 --> 00:04:55,686
out in our planetary space
in the near coming years.

167

00:04:55,956 --> 00:04:57,536
>> Joan Sted: Getting
easier to imagine then?

168

00:04:58,166 --> 00:04:58,656
>> Alvin Drew: Yes, it is.

169

00:04:58,786 --> 00:04:58,906
>> Joan Sted: Yeah.

170

00:04:59,076 --> 00:04:59,256
>> Alvin Drew: Yes.

171

00:04:59,456 --> 00:04:59,826
>> Joan Sted: All right.

172

00:04:59,826 --> 00:05:01,506
Well, thank you so much
for talking with us again.

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00:05:01,506 --> 00:05:02,296

We really appreciate.

174

00:05:02,296 --> 00:05:03,286

It sounds like you've got a lot

175

00:05:03,286 --> 00:05:04,606

of interesting stuff

going on here.