1
00:00:01,500 --> 00:00:04,770
Good day and welcome to
Mission Control Houston

2
00:00:04,770 --> 00:00:07,406
where flight controllers are
monitoring the activities

3
00:00:07,406 --> 00:00:12,211
of the Expedition 33 crew aboard
the International Space Station

4
00:00:12,211 --> 00:00:16,082
On board of course is the
commander Suni Williams along

5
00:00:16,082 --> 00:00:20,553
with her crew members since
July, Yuri Malenchenko

6
00:00:20,553 --> 00:00:24,557
of the Russian Federal Space
agency and Akihiko Hoshide

7
00:00:24,557 --> 00:00:27,893
of the Japan Aerospace
Exploration Agency.

8
00:00:27,893 --> 00:00:30,863
In addition recently
joining the crew

9
00:00:30,863 --> 00:00:35,067
in October are NASA
astronaut Kevin Ford as well

10
00:00:35,067 --> 00:00:40,906
as Russian cosmonauts Oleg
Novitskiy and Evgeny Tarelkin.

11
00:00:40,906 --> 00:00:44,009
They will be taking
over operations

12
00:00:44,009 --> 00:00:45,578
of the International
Space Station

13
00:00:45,578 --> 00:00:47,847
when the Expedition commander

14
00:00:47,847 --> 00:00:52,585
and her colleagues depart
coming up on November 18.

15
00:00:52,585 --> 00:00:56,989
Among the experiments being
used today are the Medaka

16
00:00:56,989 --> 00:00:59,058
Osteoclast experiment.

17
00:00:59,058 --> 00:01:02,228
The crew is scheduled to
be doing some photography

18
00:01:02,228 --> 00:01:07,233
of the Medaka fish in that newly
arrived aquarium The experiment

19
00:01:07,233 --> 00:01:11,103
is looking at bone resorption,
and that is the process

20
00:01:11,103 --> 00:01:15,975
by which osteoclast break
down bone and release mineral

21
00:01:15,975 --> 00:01:18,110

so that new bone can be built.

22
00:01:18,110 --> 00:01:22,047
Scientist believe that the
decrease in bone mineral density

23
00:01:22,047 --> 00:01:26,752
in space is related to this, and
the Medaka fish is a good model

24
00:01:26,752 --> 00:01:30,422
in the animal world
for life research,

25
00:01:30,422 --> 00:01:33,993
and the Japanese experiment
folks are studying the effects

26
00:01:33,993 --> 00:01:36,762
of microgravity on the
osteoclast activity

27
00:01:36,762 --> 00:01:40,266
and the gravity sensing
system of these fish,

28
00:01:40,266 --> 00:01:43,135
using them as a model
for the human body.

29
00:01:43,135 --> 00:01:44,503
The fish are doing well

30
00:01:44,503 --> 00:01:47,606
but there have been some
additional bubbles introduced

31
00:01:47,606 --> 00:01:50,409
into the aquarium module and
tomorrow the crew is going

32
00:01:50,409 --> 00:01:53,579
to conduct a procedure to
remove those extra bubbles,

33
00:01:53,579 --> 00:01:55,981
but otherwise the
fish are doing well.

34
00:01:55,981 --> 00:01:58,184
Both Williams and
Hoshide have been involved

35
00:01:58,184 --> 00:02:00,719
in continued troubleshooting
of the Waste

36
00:02:00,719 --> 00:02:02,288
and Hygiene Compartment.

37
00:02:02,288 --> 00:02:04,723
That's the Russian toilet unit

38
00:02:04,723 --> 00:02:07,493
in the US operating segment
onboard the space station.

39
00:02:07,493 --> 00:02:10,095
It hasn't been working
right since Friday.

40
00:02:10,095 --> 00:02:14,800
They had previously replaced a
pretreat injector pump on worked

41
00:02:14,800 --> 00:02:16,936
on several pieces of equipment

42
00:02:16,936 --> 00:02:20,372

but the alert lights were
continuing to show early today

43
00:02:20,372 --> 00:02:23,742
that the pretreat urine wasn't
in the right mixture to be fed

44
00:02:23,742 --> 00:02:25,444
into the water recycling system.

45
00:02:25,444 --> 00:02:28,581
Eventually that water ends
up being reused by the crew

46
00:02:28,581 --> 00:02:31,917
as drinking water and to
prepare food and other uses.

47
00:02:31,917 --> 00:02:34,086
Williams did a lot
of inspections

48
00:02:34,086 --> 00:02:37,256
and then they replaced a
pretreat tank and that seemed

49
00:02:37,256 --> 00:02:39,391
to do be the job
that did the trick.

50
00:02:39,391 --> 00:02:42,461
All the following
tests were nominal.

51
00:02:42,461 --> 00:02:44,897
The lights went off as
they were supposed to

52
00:02:44,897 --> 00:02:48,534
and now the crew has been

cleared to use that toilet.

53
00:02:48,534 --> 00:02:52,972
The crew members also are
using ultrasound equipment

54
00:02:52,972 --> 00:02:54,607
to image blood vessels as part

55
00:02:54,607 --> 00:02:57,109
of the Integrated
Cardiovascular experiment.

56
00:02:57,109 --> 00:02:59,912
That's looking at the human
heart and how it tends to shrink

57
00:02:59,912 --> 00:03:02,648
or atrophy during
long-duration spaceflight.

58
00:03:02,648 --> 00:03:05,584
They've also been taking
readings overnight as they sleep

59
00:03:05,584 --> 00:03:10,756
as part of the experiment and
using an electroencephalograph,

60
00:03:10,756 --> 00:03:13,292
and there have been some trouble
with the batteries that are used

61
00:03:13,292 --> 00:03:14,560
to power that device,

62
00:03:14,560 --> 00:03:16,895
so the crews also been
troubleshooting those batteries

63
00:03:16,895 --> 00:03:18,230
and chargers.

64
00:03:18,230 --> 00:03:20,699
Jury's still out
whether it's a problem

65
00:03:20,699 --> 00:03:22,034
with the batteries themselves

66
00:03:22,034 --> 00:03:23,636
or with the way the
batteries are seating

67
00:03:23,636 --> 00:03:26,138
in the specialized
chargers that are used

68
00:03:26,138 --> 00:03:28,641
to keep them ready for use.

69
00:03:28,641 --> 00:03:30,009
Kevin Ford also getting ready

70
00:03:30,009 --> 00:03:33,045
to do some intraocular
eye pressure tests as part

71
00:03:33,045 --> 00:03:35,247
of the routine medical
examinations

72
00:03:35,247 --> 00:03:36,448
and continuing studies

73
00:03:36,448 --> 00:03:38,984
of how long-duration
spaceflights can change

74
00:03:38,984 --> 00:03:41,253
astronaut's vision.

75
00:03:41,253 --> 00:03:44,123
And the Russian cosmonauts
moved up their,

76
00:03:44,123 --> 00:03:46,659
some of their routine
maintenance of the toilet

77
00:03:46,659 --> 00:03:48,927
on their end of the station
which is virtually the same

78
00:03:48,927 --> 00:03:51,330
as the one in the waste
and hygiene compartment,

79
00:03:51,330 --> 00:03:55,701
but now that the newer toilet
has been fixed they've shifted

80
00:03:55,701 --> 00:03:56,802
that a little bit
later during the day

81
00:03:56,802 --> 00:03:58,203
since it's not as critical.

82
00:03:58,203 --> 00:04:00,939
The idea is to make sure that at
least one working toilet aboard

83
00:04:00,939 --> 00:04:03,676
the space station at all
times but now we have two.

84
00:04:03,676 --> 00:04:06,478

The crew also continued
the departure preparations

85
00:04:06,478 --> 00:04:10,382
for Suni Williams, Aki
Hoshide and Yuri Malenchenko,

86
00:04:10,382 --> 00:04:11,483
who are scheduled again

87
00:04:11,483 --> 00:04:13,385
to depart the International
Space Station

88
00:04:13,385 --> 00:04:16,121
on Sunday November 18.

89
00:04:16,121 --> 00:04:18,991
Here's a rundown of all of
the coverage we have planned

90
00:04:18,991 --> 00:04:22,861
for the change command
ceremony on Saturday the 17th,

91
00:04:22,861 --> 00:04:27,099
the farewells and undocking
and landing on November 18th

92
00:04:27,099 --> 00:04:29,635
and then the postflight
post-landing video file

93
00:04:29,635 --> 00:04:31,637
on Monday the 19th.

94
00:04:31,637 --> 00:04:36,408
And of course the newly arrived
crewmembers, Ford, Novitskiy

95
00:04:36,408 --> 00:04:39,178
and Tarelkin continue their
orientation aboard the space

96
00:04:39,178 --> 00:04:41,280
station getting used to
the new home in space

97
00:04:41,280 --> 00:04:43,315
and getting a full rundown

98
00:04:43,315 --> 00:04:45,451
by their off going
veteran crew members

99
00:04:45,451 --> 00:04:47,052
so they can continue operations

100
00:04:47,052 --> 00:04:49,888
until the next crew
members arrive.

101
00:04:49,888 --> 00:04:54,526
That'll be Tom Marshburn
of NASA, Roman Romanenko

102
00:04:54,526 --> 00:04:57,329
of the Russian Federal Space
agency and Chris Hadfield

103
00:04:57,329 --> 00:04:59,131
of the Canadian Space Agency,

104
00:04:59,131 --> 00:05:01,800
who eventually will become
the first Canadian commander

105
00:05:01,800 --> 00:05:03,869
of the International

Space Station.

106
00:05:03,869 --> 00:05:07,506
Those crewmembers are
continuing their training

107
00:05:07,506 --> 00:05:10,542
in star city, Russia today.

108
00:05:10,542 --> 00:05:13,379
They are at the Gagarin
Cosmonaut Training Facility

109
00:05:13,379 --> 00:05:15,981
conducting rendezvous
and docking simulations

110
00:05:15,981 --> 00:05:18,150
and Marshburn is getting
ready for his return