



# MISSION OPERATIONS

Flight Control (FC)

1

00:00:06,259 --> 00:00:13,540

>>> I WOULD LIKE TO CONGRATULATE  
THE NEW HORIZONS TEAM AND NASA

2

00:00:13,540 --> 00:00:20,060

ON THEIR PIONEERING DECADE-LONG  
MISSION TO EXPLORE THE PLUTO

3

00:00:20,060 --> 00:00:28,529

SYSTEM.  
THIS WILL SHOW US THE FIRST

4

00:00:28,529 --> 00:00:40,920

GLIMPSE OF MYSTERIOUS PLUTO, THE  
ICY WORLD ON THE VERY END OF OUR

5

00:00:40,920 --> 00:00:42,089

SOLAR SYSTEM.  
IT IS 50 YEARS SINCE THE FIRST

6

00:00:42,089 --> 00:00:43,670

SUCCESSFUL MISSION TO EARTH SENT  
BACK IMAGES OF THE RED PLANET.

7

00:00:43,670 --> 00:00:46,050

NOW THE SOLAR SYSTEM WILL BE  
OPENED UP TO US, REVEALING THE

8

00:00:46,050 --> 00:00:49,890

SECRETS OF DISTANT PLUTO.  
THE REVELATIONS OF NEW HORIZONS

9

00:00:49,890 --> 00:00:54,879

MAY HELP US TO UNDERSTAND BETTER  
HOW OUR SOLAR SYSTEM WAS FORMED.

10

00:00:54,879 --> 00:01:00,309

WE EXPLORE BECAUSE WE ARE HUMAN  
AND WE WANT TO KNOW.

11  
00:01:00,309 --> 00:01:04,330  
I HOPE THAT PLUTO WILL HELP US  
IN THAT JOURNEY.

12  
00:01:04,330 --> 00:01:28,780  
I WILL BE WATCHING CLOSELY, AND  
I HOPE YOU WILL TOO.

13  
00:01:28,780 --> 00:01:32,120  
\MM  
>> HOW DO YOU TOP AN OPENING

14  
00:01:32,120 --> 00:01:35,350  
MESSAGE FROM STEVEN HAWKINGS?  
BY CONFIRMING SAFE PASSAGE BY

15  
00:01:35,350 --> 00:01:41,680  
THE FIRST SPACECRAFT TO PLUTO,  
AND THAT'S WHAT WE PLAN TO DO

16  
00:01:41,680 --> 00:01:43,270  
TONIGHT.  
WE'RE LIVE IN MARYLAND FOR

17  
00:01:43,270 --> 00:01:46,750  
SPECIAL COVERAGE OF NASA'S NEW  
HORIZONS PLUTO FLY BY.

18  
00:01:46,750 --> 00:01:52,420  
I'M MIKE BUCKLEY, AND IN ABOUT  
7:49 THIS MORNING, AFTER 3

19  
00:01:52,420 --> 00:01:55,890  
BILLION MILES AND NINE AND A  
HALF YEARS, NASA'S NEW HORIZONS

20  
00:01:55,890 --> 00:02:05,231  
ZIPPED PAST PLUTO AND CAPPED THE  
INITIAL RECONNAISSANCE OF THE

21  
00:02:05,231 --> 00:02:08,030  
SOLAR SYSTEM.  
SPEEDING ALONG IN A FLY-BY MODE

22  
00:02:08,030 --> 00:02:11,330  
THAT HAD IT COLLECTING AS MUCH  
DATA AS IT CAN, AS QUICKLY AS IT

23  
00:02:11,330 --> 00:02:14,540  
CAN, BUT NOT ABLE TO CALL HOME  
AT THE SAME TIME.

24  
00:02:14,540 --> 00:02:17,959  
SO TONIGHT, AUDIENCES HERE AT  
A.P.L. AND AROUND THE WORLD ARE

25  
00:02:17,959 --> 00:02:21,510  
LISTENING FOR THAT CALL.  
HAVING LEFT NEW HORIZONS NEARLY

26  
00:02:21,510 --> 00:02:25,450  
FOUR AND A HALF HOURS AGO, RADIO  
SIGNALS TRAVELING AT LIGHT SPEED

27  
00:02:25,450 --> 00:02:28,709  
ARE EXPECTED TO ARRIVE AT THE  
A.P.L. MISSIONS OPERATION CENTER

28  
00:02:28,709 --> 00:02:32,409  
AROUND 8:53 EASTERN TIME, HAVING  
COME THROUGH NASA'S DEEP SPACE

29  
00:02:32,409 --> 00:02:34,310  
NETWORK ANTENNA STATION NEAR  
MADRID.

30  
00:02:34,310 --> 00:02:39,349  
WE'LL GO LIVE SO YOU CAN WATCH  
SOME OF THAT ACTIVITY, BUT LET'S

31  
00:02:39,349 --> 00:02:43,810  
START BY LOOKING BACK.  
IN DECEMBER, RECORDED A SPECIAL

32  
00:02:43,810 --> 00:02:47,010  
VERSION OF THE SONG "WHERE MY  
HEART WILL TAKE ME" TO WAKE NEW

33  
00:02:47,010 --> 00:02:50,260  
HORIZONS OUT OF ITS FINAL  
HIBERNATION PERIOD AND WE'D LIKE

34  
00:02:50,260 --> 00:02:58,379  
TO USE THAT SONG DOWN THE LONG  
ROAD TO THIS HISTORIC MOMENT.

35  
00:02:58,379 --> 00:03:02,993  
\\M\\M  
\\M IT'S BEEN A LONG ROAD†\\M

36  
00:03:02,993 --> 00:03:03,993  
\\M\\M  
\\M AND I CAN FEEL THE CHANGE IN

37  
00:03:03,993 --> 00:03:04,993  
THE WIND RIGHT NOW†\\M  
\\M NOTHING'S IN MY WAY†\\M

38  
00:03:04,993 --> 00:03:05,993  
\\M AND THEY'RE NOT GOING TO HOLD  
ME DOWN NO MORE†\\M

39  
00:03:05,993 --> 00:03:06,993  
\\M THEY ARE NOT GOING TO HOLD ME  
DOWN†\\M

40  
00:03:06,993 --> 00:03:10,969  
\\M CAUSE I HAVE FAITH OF THE  
HEART†\\M

41  
00:03:10,969 --> 00:03:12,959  
\\M I'M GOING WHERE MY HEART WILL  
TAKE ME†\\M

42  
00:03:12,959 --> 00:03:15,549  
\\M I'VE GOT FAITH TO BELIEVE I  
CAN DO ANYTHING†\\M

43  
00:03:15,549 --> 00:03:18,499  
\\M I'VE GOT STRENGTH OF THE  
SOUL†\\M

44  
00:03:18,499 --> 00:03:21,859  
\\M NO ONE'S GONNA BEND OR BREAK  
ME†\\M

45  
00:03:21,859 --> 00:03:24,279  
\\M I CAN REACH ANY STAR†\\M  
\\M I'VE GOT FAITH†\\M

46  
00:03:24,279 --> 00:03:33,810  
\\M I'VE GOT FAITH OF THE HEART†\\M  
\\M IT'S BEEN A LONG ROAD†\\M

47  
00:03:33,810 --> 00:03:35,400  
\\M GETTING FROM THERE TO HERE†\\M  
\\M IT'S BEEN A LONG TIME†\\M

48  
00:03:35,400 --> 00:03:39,950  
\\M BUT MY TIME IS FINALLY NEAR†\\M  
\\M I CAN FEEL THE CHANGE IN THE

49  
00:03:39,950 --> 00:03:48,120  
WIND RIGHT NOW†\\M  
\\M NOTHING'S IN MY WAY†\\M

50  
00:03:48,120 --> 00:03:58,790  
\\M AND THEY ARE NOT GONNA HOLD ME  
DOWN NO MORE†\\M

51  
00:03:58,790 --> 00:04:08,159  
\\M NO THEY'RE NOT GONNA HOLD ME  
DOWN†\\M

52  
00:04:08,159 --> 00:04:16,329  
\\M CAUSE I'VE GOT FAITH OF THE  
HEART†\\M

53  
00:04:16,329 --> 00:04:26,510  
\\M I'M GOING WHERE MY HEART WILL  
TAKE ME†\\M

54  
00:04:26,510 --> 00:04:35,390  
\\M I'VE GOT FAITH TO BELIEVE†\\M  
\\M I CAN DO ANYTHING†\\M

55  
00:04:35,390 --> 00:04:38,800  
\\M I'VE GOT STRENGTH OF THE  
SOUL†\\M

56  
00:04:38,800 --> 00:04:50,500  
\\M AND NO ONE'S GONNA BEND OR  
BREAK ME†\\M

57  
00:04:50,500 --> 00:05:10,110  
\\M I CAN REACH ANY STAR†\\M  
\\M I'VE GOT FAITH†\\M

58  
00:05:10,110 --> 00:05:28,781  
\\M I'VE GOT FAITH OF THE HEART†\\M  
>> I'M JOINED BY MARK, NEW

59  
00:05:28,781 --> 00:05:32,470  
HORIZONS AND COUNTERMISSION  
MANAGER WHO WILL SERVE AS

60  
00:05:32,470 --> 00:05:35,250  
CO-HOST FOR THE EVENING.  
MARK, THANK YOU FOR LENDING YOUR

61  
00:05:35,250 --> 00:05:37,740  
INSIGHTS TO THE PROGRAM.  
>> THANKS, MIKE, IT'S AWESOME TO

62  
00:05:37,740 --> 00:05:39,420  
BE HERE.  
>> LET'S TAKE A QUICK LOOK INTO

63  
00:05:39,420 --> 00:05:42,600  
THE MISSIONS OPERATION CENTER  
HERE AT A.P.L.

64  
00:05:42,600 --> 00:05:45,800  
KIND OF DESCRIBE WHAT'S  
HAPPENING IN THERE.

65  
00:05:45,800 --> 00:05:48,230  
WHO'S SITTING WHERE AND WHAT'S  
GOING ON IN THAT ROOM?

66  
00:05:48,230 --> 00:05:50,770  
>> WELL, RIGHT NOW THE  
ENGINEERING TEAM'S ASSEMBLING.

67  
00:05:50,770 --> 00:05:54,330  
LOOKS LIKE THEY ARE PRETTY WELL  
ASSEMBLED.

68  
00:05:54,330 --> 00:05:57,490  
THE FLIGHT CONTROL TEAM IS GOING  
TO BE CHECKING IN WITH MADRID

69  
00:05:57,490 --> 00:06:00,330  
STATION AT THE DEEP SPACE  
NETWORK, THAT'S WHERE THE DATA

70  
00:06:00,330 --> 00:06:03,920  
IS GOING TO BE COMING IN FROM  
TONIGHT, SO THEY'LL BE DOING COM

71  
00:06:03,920 --> 00:06:07,610  
CHECKS, BOTH VOICE AND DATA, TO  
MAKE SURE EVERYTHING'S

72  
00:06:07,610 --> 00:06:09,060  
CONFIGURED RIGHT FOR TONIGHT'S  
CONTACT.

73  
00:06:09,060 --> 00:06:11,740  
>> IT'S THE KIND OF THING YOU  
HAVE TO DO AHEAD OF TIME, ALMOST

74  
00:06:11,740 --> 00:06:13,410  
LIKE CALLING TO MAKE SURE THEY  
ARE HOME, RIGHT, TO MAKE SURE

75  
00:06:13,410 --> 00:06:17,180  
YOU HAVE THE RIGHT CONNECTION?  
>> THAT'S RIGHT.

76  
00:06:17,180 --> 00:06:22,390  
>> WE'LL START WITH SOMETHING  
ELSE, HAL WEAVER, FAMILIAR FACE

77  
00:06:22,390 --> 00:06:24,730  
TO THOSE WATCHING OUR PROGRAMS.  
WELCOME.

78  
00:06:24,730 --> 00:06:29,530  
GLAD YOU COULD JOIN US.  
TELL YOU WHAT, MAY BE SOME FOLKS

79  
00:06:29,530 --> 00:06:31,670  
JUST PICKING UP THE NEW HORIZONS  
STORY.

80  
00:06:31,670 --> 00:06:35,879  
LET'S ANSWER THE ONE STORY, WHY  
NEW HORIZONS, WHY PLUTO?

81  
00:06:35,879 --> 00:06:40,720  
>> WELL, WE'RE HERE TONIGHT  
BECAUSE IT'S BEEN NINE AND A

82  
00:06:40,720 --> 00:06:43,250  
HALF YEARS.  
WE'VE FINALLY†-- THIS IS THE

83  
00:06:43,250 --> 00:06:47,970  
PAYDAY, FLYING JUST ABOUT 7,500  
MILES ABOVE THE SURFACE OF

84  
00:06:47,970 --> 00:06:50,260  
PLUTO.  
YOU KNOW, BEING 3 BILLION MILES

85  
00:06:50,260 --> 00:06:52,040  
AWAY FROM HOME, YOU KNOW, YOU'RE  
WORRIED.

86  
00:06:52,040 --> 00:06:57,070  
YOU KNOW, THIS IS DEEP SPACE.  
WE HAVE NOT CONTACTED THE

87  
00:06:57,070 --> 00:07:01,390  
SPACECRAFT IN ALMOST A WHOLE  
DAY.

88  
00:07:01,390 --> 00:07:04,200  
IT'S BEEN REALLY, REALLY BUSY.  
IF IT'S BEEN FALLING OUR

89  
00:07:04,200 --> 00:07:06,670  
DIRECTION, YOU KNOW, MAKING ALL  
THESE WONDERFUL MEASUREMENTS OF

90  
00:07:06,670 --> 00:07:12,640  
THE PLUTO SYSTEM, AND, YOU KNOW,  
WE WANT TO TAKE A†-- WE WANT TO

91  
00:07:12,640 --> 00:07:17,390  
TAKE A LITTLE BIT OF A†-- WE  
WANT TO GET THE SPACECRAFT TO

92  
00:07:17,390 --> 00:07:20,910  
TURN BACK TO THE EARTH AND GIVE  
US A LITTLE SNIPPET OF

93  
00:07:20,910 --> 00:07:22,760  
ENGINEERING DATA THAT WILL TELL  
US EVERYTHING IS OKAY BEFORE

94  
00:07:22,760 --> 00:07:26,320  
GOING BACK AND MAKING MORE  
WONDERFUL OBSERVATIONS OF PLUTO.

95  
00:07:26,320 --> 00:07:29,630  
SO, YOU KNOW, AFTER THE  
DISCOVERY OF ALL THOSE MOONS OF

96  
00:07:29,630 --> 00:07:32,890  
PLUTO, WHAT WE CALL DEBRIS  
GENERATORS, THE SPACECRAFT IS

97  
00:07:32,890 --> 00:07:37,840  
MOVING SO FAST THROUGH THE  
SYSTEM, 32,000 MILES PER HOUR.

98  
00:07:37,840 --> 00:07:41,920  
YOU KNOW, EVEN HITTING A LITTLE  
RICE PELLET, PIECE OF DUST,

99  
00:07:41,920 --> 00:07:43,570  
COULD BLOW A HOLE IN THE  
SPACECRAFT.

100  
00:07:43,570 --> 00:07:46,290  
WE SPENT A COUPLE OF YEARS  
WORRYING ABOUT THAT.

101

00:07:46,290 --> 00:07:50,211

WE FINALLY GOT TO THE POINT  
WHERE WE REALIZED THAT, YOU

102

00:07:50,211 --> 00:07:53,300

KNOW, WE ARE FLYING THROUGH THE  
SAFEST PART OF THE PLUTO SYSTEM,

103

00:07:53,300 --> 00:07:59,230

THE PART CLEARED OUT BY SHARING,  
EXTREMELY UNLIKELY THAT ANYTHING

104

00:07:59,230 --> 00:08:03,200

BAD WILL HAPPEN TO THE  
SPACECRAFT, BUT, YOU KNOW, WE

105

00:08:03,200 --> 00:08:05,389

WON'T KNOW FOR SURE UNTIL WE GET  
THE WORD TONIGHT.

106

00:08:05,389 --> 00:08:08,259

>> THAT'S WHAT HAPPENS, YOU'RE  
FLYING INTO THE UNKNOWN.

107

00:08:08,259 --> 00:08:10,650

>> YEAH.  
>> PART OF THE EXPLORATION, WE

108

00:08:10,650 --> 00:08:14,480

DON'T KNOW ANYTHING ABOUT,  
YOU'RE GOING TO SOME PLACE YOU

109

00:08:14,480 --> 00:08:16,770

DON'T KNOW.  
I THINK MAYBE SOME OF THE

110

00:08:16,770 --> 00:08:20,410

ANXIETY HAS SOME PEOPLE ON EDGE.  
>> THAT'S EXACTLY RIGHT.

111

00:08:20,410 --> 00:08:24,190

>> YOU KNOW, YOU'VE ALWAYS SAID  
FROM THE BEGINNING HOW YOU

112

00:08:24,190 --> 00:08:27,730

COULDN'T WAIT TO WATCH PLUTO,  
WATCH IT TURN FROM A SPECK, FROM

113

00:08:27,730 --> 00:08:30,889

A DOT, INTO A REAL WORLD.  
I THINK YOU'VE HAD A CHANCE TO

114

00:08:30,889 --> 00:08:32,380

DO THAT OVER THE PAST SEVERAL  
MONTHS.

115

00:08:32,380 --> 00:08:35,240

TELL US WHAT THAT'S BEEN LIKE.  
>> MAYBE WE COULD TAKE EVERYONE

116

00:08:35,240 --> 00:08:38,300

HERE ON THAT JOURNEY.  
WE'VE ACTUALLY BEEN OBSERVING

117

00:08:38,300 --> 00:08:41,820

PLUTO SINCE JANUARY.  
THIS IS REALLY A SIX-MONTH PLUTO

118

00:08:41,820 --> 00:08:44,760

TOUR.  
IF WE CAN BRING UP THE SLIDES

119

00:08:44,760 --> 00:08:50,500

AND SHOW YOU WHERE WE STARTED  
FROM, YOU KNOW, THIS IS, YOU

120

00:08:50,500 --> 00:08:53,740

KNOW, THIS IS THE BEST WE COULD  
DO IN JANUARY.

121  
00:08:53,740 --> 00:08:56,180  
KEEP GOING.  
GET TO THE NEXT ONE, IT'S JUST

122  
00:08:56,180 --> 00:08:59,490  
GETTING BETTER.  
NEXT ONE.

123  
00:08:59,490 --> 00:09:01,680  
BETTER.  
IT'S BECOMING A REAL WORLD.

124  
00:09:01,680 --> 00:09:04,560  
YOU KNOW, NOT THESE LITTLE PIN  
POINTS.

125  
00:09:04,560 --> 00:09:06,420  
LOOK AT ALL THE STRUCTURES ON  
THIS THING.

126  
00:09:06,420 --> 00:09:10,250  
LOOKS LIKE THEY ARE CRATERS, YOU  
KNOW, THESE†-- ALL THIS

127  
00:09:10,250 --> 00:09:13,340  
INCREDIBLE STRUCTURE.  
AND, YOU KNOW, POINTING OUT WITH

128  
00:09:13,340 --> 00:09:20,340  
THE POSSIBLE CLIFFS, WE HAD THE  
HEART, THE WHALES, YOU KNOW, ALL

129  
00:09:20,340 --> 00:09:23,800  
OF THESE FEATURES ON PLUTO'S  
SURFACE THAT WE'VE BEEN NAMING.

130  
00:09:23,800 --> 00:09:30,080  
TOTING IT WITH BEAUTIFUL COLORS.  
AND FINALLY THE IMAGE THAT WE

131

00:09:30,080 --> 00:09:36,250

HAD TODAY, THE BEST DETAIL YET,  
AND NOW IN FALSE COLOR, THIS

132

00:09:36,250 --> 00:09:38,670

ISN'T WHAT THE EYE WOULD SEE,  
THIS ISN'T A CHEAT.

133

00:09:38,670 --> 00:09:43,340

THEY ARE REAL COLORS WE'VE TAKEN  
WITH OUR COLOR CAMERA AND

134

00:09:43,340 --> 00:09:46,691

LOOKING AT THE DIFFERENCES AND  
STRETCHING THE IMAGES SO YOU CAN

135

00:09:46,691 --> 00:09:50,860

SEE THE CONTRAST BETWEEN ONE  
PIECE OF THE, YOU KNOW, ONE

136

00:09:50,860 --> 00:09:54,060

PORTION OF THE PLANET AND THE  
OTHER.

137

00:09:54,060 --> 00:09:57,130

AND IT'S JUST REMARKABLE HOW  
MUCH DIVERSITY THERE IS ON

138

00:09:57,130 --> 00:09:58,710

PLUTO.  
YOU SEE THE HEART THERE ACTUALLY

139

00:09:58,710 --> 00:10:05,850

GETS BROKEN INTO TWO PARTS, TWO  
VENTRICLES, YOU KNOW, AND TO

140

00:10:05,850 --> 00:10:10,810

THINK THAT THE DATA, THE IMAGES  
WE GET TOMORROW ARE GOING TO BE

141

00:10:10,810 --> 00:10:14,910

TEN TIMES RESOLUTION THAN THE  
IMAGES WE WERE JUST NOW SHOWING

142

00:10:14,910 --> 00:10:18,720

FROM EARLIER TODAY.

>> SO MUCH TO LOOK FORWARD TO.

143

00:10:18,720 --> 00:10:19,720

>> YEAH.

>>.

144

00:10:19,720 --> 00:10:24,190

>> TAKE US TO STEP TWO, THERE'S  
A LOT OF EXCITEMENT TO HAPPEN,

145

00:10:24,190 --> 00:10:27,720

EVEN TODAY YOU SEE THAT.

REQUIRE A LITTLE BIT OF

146

00:10:27,720 --> 00:10:30,360

PATIENCE, ISN'T IT?

>> THAT'S TRUE.

147

00:10:30,360 --> 00:10:35,370

WE'VE PICKED OUT SOME OF THE  
CHOICES, OBSERVATIONS, YOU KNOW,

148

00:10:35,370 --> 00:10:39,740

BEST IMAGING.

SOME REPRESENTATIVE DATA FROM

149

00:10:39,740 --> 00:10:42,940

EACH OF THE INSTRUMENTS ON NEW  
HORIZONS TO SEND BACK OVER THE

150

00:10:42,940 --> 00:10:46,610

NEXT COUPLE OF DAYS.

WE TAKE A LOT MORE THAN WHAT

151

00:10:46,610 --> 00:10:48,350

WE'RE GOING TO BE SENDING BACK  
RIGHT NOW.

152

00:10:48,350 --> 00:10:51,820

WE'RE TAKING THOUSANDS OF  
IMAGES, AND IT'S GOING TO TAKE

153

00:10:51,820 --> 00:10:55,010

QUITE A WHILE FOR US TO GET ALL  
OF THE DATA DOWN.

154

00:10:55,010 --> 00:10:58,110

IT WILL, IN FACT, TAKE MORE THAN  
A YEAR TO GET ALL OF THE DATA

155

00:10:58,110 --> 00:11:02,460

DOWN, BUT I THINK THAT FROM WHAT  
WE GET IN THE NEXT WEEK, WE GET

156

00:11:02,460 --> 00:11:07,450

A GOOD, YOU KNOW, A GREAT IDEA  
OF EXACTLY HOW COMPLEX THE PLUTO

157

00:11:07,450 --> 00:11:10,360

SYSTEM IS AND WHAT'S IN STORE  
FOR US.

158

00:11:10,360 --> 00:11:13,810

AS WE SIT THERE ON OUR COMPUTERS  
DURING THE NEXT YEAR AND WATCH

159

00:11:13,810 --> 00:11:16,840

THOSE IMAGES COME IN AND THE  
SPECTRA COME IN, WE'RE GETTING

160

00:11:16,840 --> 00:11:19,430

THE COMPOSITION, WE'RE MEASURING  
THE PROPERTIES OF THE

161

00:11:19,430 --> 00:11:22,981

ATMOSPHERE, ALL OF THESE THINGS  
THAT WE'LL BE DOING IS JUST, YOU

162

00:11:22,981 --> 00:11:25,490

KNOW, GOING TO BE A  
TREASURE-TROVE OF SCIENTIFIC

163

00:11:25,490 --> 00:11:28,630

RESULTS.  
>> YESTERDAY NIGHT, BOY DO WE

164

00:11:28,630 --> 00:11:30,720

HAVE A LOT TO LOOK FORWARD TO,  
RIGHT?

165

00:11:30,720 --> 00:11:33,010

>> ABSOLUTELY, YES.  
>> HAL, THANKS FOR JOINING US.

166

00:11:33,010 --> 00:11:35,940

APPRECIATE THAT.  
OKAY, LET'S GO BACK INTO MISSION

167

00:11:35,940 --> 00:11:38,450

OPERATIONS.  
YOU KNOW, MARK, YOU'VE BEEN A

168

00:11:38,450 --> 00:11:45,339

MISSION OPERATIONS MANAGER ON  
SEVERAL PROJECTS.

169

00:11:45,339 --> 00:11:49,290

HOW DO YOU PREPARE FOR A MOMENT?  
OPERATIONS TEAMS ALL THE TIME,

170

00:11:49,290 --> 00:11:52,090

YOU'RE GETTING SIGNALS BACK FROM  
THE SPACECRAFT, BUT ON A NIGHT

171

00:11:52,090 --> 00:11:55,300

LIKE TONIGHT WHEN YOU KNOW IT'S  
A BIG ONE.

172

00:11:55,300 --> 00:11:57,960

>> THIS IS A VERY SPECIAL NIGHT.  
THEY ARE GOING TO BRING UP ALL

173

00:11:57,960 --> 00:12:00,790

THEIR FAVORITE DISPLAYS TO LOOK  
AT TELEMETRY THEY ARE USED TO

174

00:12:00,790 --> 00:12:05,710

LOOKING AT, THEY KNOW THEY HAVE  
ABOUT 15 MINUTES TO DO THEIR

175

00:12:05,710 --> 00:12:08,700

ASSESSMENT BEFORE THEY ARE  
PULLED.

176

00:12:08,700 --> 00:12:10,790

AND THEN, YOU KNOW, I'M SURE  
THEY ARE ALL SET UP AND READY TO

177

00:12:10,790 --> 00:12:11,990

GO.  
SO THERE'S SORT OF LIKE THIS

178

00:12:11,990 --> 00:12:15,620

LONG QUIET PERIOD WHERE THEY  
SORT OF REFLECT BACK ON THE

179

00:12:15,620 --> 00:12:19,480

MISSION, LIKE A LOT OF US ARE  
TONIGHT, AND THEY START TELLING

180

00:12:19,480 --> 00:12:21,761

STORIES.  
AND SO REFLECTING ON SOME OF THE

181

00:12:21,761 --> 00:12:24,620

GOOD TIMES AND SOME OF THE NOT  
SO GOOD TIMES.

182

00:12:24,620 --> 00:12:28,120

>> WHAT ARE THEY LISTENING FOR  
IN MISSION OPERATIONS TONIGHT?

183

00:12:28,120 --> 00:12:31,370

>> WELL, INITIALLY THEY ARE  
GOING TO BE LISTENING FOR AND

184

00:12:31,370 --> 00:12:36,220

LOOKING FOR LOCK ON THE CARRIER,  
THE SIGNAL FROM THE SPACECRAFT,

185

00:12:36,220 --> 00:12:39,440

AND THEN IT TAKES A LITTLE WHILE  
BEFORE THE RECEIVERS LOCK UP AND

186

00:12:39,440 --> 00:12:42,610

WE GET DATA LOCK.  
AT THAT POINT†--

187

00:12:42,610 --> 00:12:46,270

>> TALKING NEW NEW HORIZONS AND  
THE GROUND SPACE ARE TALKING?

188

00:12:46,270 --> 00:12:49,460

>> AT THAT POINT WE'LL KNOW THAT  
THE SPACECRAFT'S ALIVE AND

189

00:12:49,460 --> 00:12:53,030

HEALTHY AND MORE THAN LIKELY  
CONFIGURED PROPERLY, OTHERWISE

190

00:12:53,030 --> 00:12:56,650

IT WOULDN'T BE TRANSMITTING AT  
THE DATA RATE WE'RE LOOKING FOR.

191

00:12:56,650 --> 00:12:59,250

AND IT WILL TAKE A LITTLE WHILE,  
THOUGH, FOR THE PACKETS TO COME

192

00:12:59,250 --> 00:13:03,010

IN THE ENGINEERS NEED TO LOOK AT  
TO MAKE THEIR ASSESSMENT.

193

00:13:03,010 --> 00:13:06,300

THEN SOME TIME WILL PASS.  
INITIALLY YOU'RE GOING TO HEAR A

194

00:13:06,300 --> 00:13:09,640

BIT OF AN UPROAR COMING FROM THE  
OPS CENTER ONCE WE GET TO THAT

195

00:13:09,640 --> 00:13:13,089

POINT.  
>> ONCE YOU KNOW THE DATA IS

196

00:13:13,089 --> 00:13:18,170

CONNECTED, NEXT AFTER THAT, MAKE  
SURE IT'S HEALTHY.

197

00:13:18,170 --> 00:13:20,940

>> THE MISSION OPS MANAGER WILL  
HAVE TO SORT OF CALL TO ORDER

198

00:13:20,940 --> 00:13:25,430

AND ASK PEOPLE TO START DOING  
WHAT THEY ARE THERE TO DO, YOU

199

00:13:25,430 --> 00:13:29,550

KNOW, PERFORM THEIR ASSESSMENT  
AND REPORT STATUS.

200

00:13:29,550 --> 00:13:34,690

>> YOU KNOW, WHEN YOUR  
SPACECRAFT IS 3 BILLION MILES

201

00:13:34,690 --> 00:13:36,930

AWAY, THERE'S NO SUCH THING AS  
REALTIME OPERATIONS.

202

00:13:36,930 --> 00:13:40,779

I MEAN, THE SIGNAL NEW HORIZONS  
SENT HOME TONIGHT ACTUALLY LEFT

203

00:13:40,779 --> 00:13:43,240

THE SPACECRAFT SOME FOUR AND A  
HALF HOURS AGO.

204

00:13:43,240 --> 00:13:47,430

IF WE TAKE A LOOK AT NEW  
HORIZONS NOW FROM NASA'S EYES ON

205

00:13:47,430 --> 00:13:51,370

THE PROGRAM, WE CAN SEE THE  
SPACECRAFT SOME 400,000 MILES

206

00:13:51,370 --> 00:13:55,320

PAST PLUTO, GOING THROUGH ITS  
POST FLY BY OPERATIONS OF THE

207

00:13:55,320 --> 00:13:57,900

SYSTEM.  
STILL HAS WORK TO DO, YOU CAN

208

00:13:57,900 --> 00:14:00,250

SEE THIS ON THERE.  
YOU CAN RIDE ALONG WITH NEW

209

00:14:00,250 --> 00:14:05,560

HORIZONS ON I.NASA.GOV.  
IN JUST A FEW MINUTES, WE'LL BE

210

00:14:05,560 --> 00:14:08,040

WAITING TO SEE IF NEW HORIZONS  
WILL BE DELIVERING THE GOODS

211  
00:14:08,040 --> 00:14:10,910  
THAT LEAD TO A HOST OF  
DISCOVERIES ABOUT THIS UNKNOWN

212  
00:14:10,910 --> 00:14:14,630  
REGION OF DEEP SPACE.  
THE ENTIRE MISSION CAN TRACE ITS

213  
00:14:14,630 --> 00:14:20,810  
ROOTS BACK TO A SINGLE DISCOVERY  
IN 1930 WHEN A KANSAS FARM BOY

214  
00:14:20,810 --> 00:14:24,990  
DILIGENTLY SCANNING PHOTOGRAPHIC  
PLATES AT LOW OBSERVATORY FOUND

215  
00:14:24,990 --> 00:14:27,060  
PLUTO.  
HERE'S A LOOK AT THE DISCOVERER

216  
00:14:27,060 --> 00:14:33,470  
FROM TWO PEOPLE WHO KNEW HIM  
WELL.

217  
00:14:33,470 --> 00:14:38,110  
\MM  
>> MY NAME IS ANNETTE, AND I AM

218  
00:14:38,110 --> 00:14:42,660  
CLIVE'S OLDEST CHILD.  
>> I'M OLDEN, I'M HIS SON.

219  
00:14:42,660 --> 00:14:45,800  
A LOT OF THE DETAILS OF THE  
DISCOVERY OF PLUTO ACTUALLY

220  
00:14:45,800 --> 00:14:51,880  
STARTED WITH MY FATHER TELLING  
MY SISTER AND I ABOUT HOW HE GOT

221

00:14:51,880 --> 00:14:57,010

THE OPPORTUNITY TO BE IN THE  
DISCOVERY PROCESS AT THE

222

00:14:57,010 --> 00:14:59,410

OBSERVATORY.

>> IT STARTED OUT IN FARMING.

223

00:14:59,410 --> 00:15:02,279

HE WORKED WITH THE SOIL.

WHEN HE MOVED TO KANSAS, THERE

224

00:15:02,279 --> 00:15:09,050

WERE A LOT OF FOSSILS THERE, AND

HE WONDERED ABOUT LIFE ON OTHER

225

00:15:09,050 --> 00:15:12,000

WORLDS, OTHER PLANETS.

>> HE DIDN'T HAVE THE

226

00:15:12,000 --> 00:15:14,580

OPPORTUNITY AT THAT TIME TO GO

TO COLLEGE.

227

00:15:14,580 --> 00:15:19,311

THEY HAD HAD SEVERAL BAD YEARS

OF CROP BECAUSE OF THE WEATHER

228

00:15:19,311 --> 00:15:20,410

CONDITIONS.

THEY BARELY HAD ENOUGH MONEY TO

229

00:15:20,410 --> 00:15:24,390

RECEDE THEIR NEXT YEAR'S CROPS.

>> HE STARTED OUT BUILDING

230

00:15:24,390 --> 00:15:28,140

TELESCOPES AND HE ENJOYED

WORKING WITH GLASS.

231

00:15:28,140 --> 00:15:34,740

HE LIKES THE PROCESS OF GRINDING  
THE MIRRORS AND PUTTING THE

232

00:15:34,740 --> 00:15:39,520

OPTICS TOGETHER AND ASSEMBLING  
IT ALL AND USING LEFTOVERS FROM

233

00:15:39,520 --> 00:15:43,899

THE FARM EQUIPMENT TO MAKE THEM.  
HE CAME OUT OF THE DEPRESSION

234

00:15:43,899 --> 00:15:47,470

AND HE USED EVERYTHING HE COULD.  
>> FIRST ONE WAS PRETTY

235

00:15:47,470 --> 00:15:51,310

MISERABLE FAILURE IN HIS WORDS.  
THEN THE THIRD ONE HE BUILT WAS

236

00:15:51,310 --> 00:15:55,700

THE NINE INCH.  
AND THAT TURNED OUT TO BE A VERY

237

00:15:55,700 --> 00:15:59,600

GOOD TELESCOPE.  
AND IT ENABLED HIM TO BE ABLE TO

238

00:15:59,600 --> 00:16:02,869

DRAW PICTURES OF HIS MARS  
OBSERVATIONS.

239

00:16:02,869 --> 00:16:10,720

>> WHEN HE FIRST WROTE TO THE  
OBSERVATORY, HE WANTED THEM TO

240

00:16:10,720 --> 00:16:14,339

GIVE HIM SUGGESTIONS TO BUILD  
BETTER TELESCOPES.

241

00:16:14,339 --> 00:16:19,300

AND SO HE SENT THEM SOME OF HIS  
DRAWINGS OF MARS AND JUPITER,

242

00:16:19,300 --> 00:16:23,620

AND THEY WROTE BACK THAT THEY  
WOULD LIKE TO HIRE HIM TO WORK

243

00:16:23,620 --> 00:16:27,990

THERE.  
HE HAD TO POUR THE EMULSIONS FOR

244

00:16:27,990 --> 00:16:31,960

THE PHOTOGRAPHIC PLATES, BECAUSE  
IN THOSE DAYS YOU POURED YOUR

245

00:16:31,960 --> 00:16:34,430

OWN EMULSIONS.  
SO THE SURFACE OF THE PLATES HAD

246

00:16:34,430 --> 00:16:37,720

TO BE SLIGHTLY CURVED, THEY  
WOULD BREAK.

247

00:16:37,720 --> 00:16:42,399

SO HE REDESIGNED THE PLATE  
HOLDER SO THAT THEY WOULDN'T

248

00:16:42,399 --> 00:16:46,820

HAVE THAT PROBLEM.  
>> THEN IS WHEN HE HAD TO REALLY

249

00:16:46,820 --> 00:16:53,290

BUCKLE DOWN TO THE DRUDGERY OF  
LOOKING FOR A PLANET.

250

00:16:53,290 --> 00:16:59,670

>> HE DID IT, IT TAKES TIME.  
YOU DO THOSE EXPOSURES, THEN

251

00:16:59,670 --> 00:17:04,839

MAYBE A WEEK LATER OR EVEN  
LONGER YOU BLINK THE PLATES BACK

252

00:17:04,839 --> 00:17:09,220

AND FORTH AND THEN YOU WOULD  
VERIFY AND PREDICT WHERE IT

253

00:17:09,220 --> 00:17:11,589

WOULD BE AND ANOTHER PARTICULAR  
NIGHT.

254

00:17:11,589 --> 00:17:14,810

>> WE GOT A PRETTY CLEAR  
INDICATION AT THAT POINT IN TIME

255

00:17:14,810 --> 00:17:18,230

OF HOW MUCH WORK IT REALLY DID  
TAKE, BECAUSE JUST A MASSIVE

256

00:17:18,230 --> 00:17:20,539

NUMBER OF OBJECTS HE HAD TO  
SCAN.

257

00:17:20,539 --> 00:17:24,370

>> NEED THOSE LITTLE TINY SPECKS  
OF LIGHT, THEY ARE LIKE FLY

258

00:17:24,370 --> 00:17:28,920

SPECKS ON A PIECE OF GRASS.  
HE THOUGHT HE HAD FOUND

259

00:17:28,920 --> 00:17:35,420

SOMETHING, SO HE GOT UP AND WENT  
INTO THE DOCTOR'S OFFICE AND

260

00:17:35,420 --> 00:17:38,080

SAID, DOCTOR, I BELIEVE I FOUND  
YOUR PLANET "X."

261

00:17:38,080 --> 00:17:42,840

FOR A MINUTE, HE WAS THE ONLY,  
ONLY ONE WHO KNEW THAT THERE WAS

262

00:17:42,840 --> 00:17:47,410

ANOTHER OBJECT OUT THERE,  
ANOTHER PLANET.

263

00:17:47,410 --> 00:17:52,890

AND THAT MADE HIM FEEL ELATED,  
UNUSUAL.

264

00:17:52,890 --> 00:17:58,230

THEN HE LATER ON MOVED TO NEW  
MEXICO, HE WORKED FOR WHITE SAND

265

00:17:58,230 --> 00:18:02,830

ON THE ROCKETS, TRACKING THEM  
AND DESIGNING PATTERNS THAT

266

00:18:02,830 --> 00:18:05,630

WOULD MAKE IT EASIER TO TRACK  
THEM.

267

00:18:05,630 --> 00:18:09,190

AS HE GOT OLDER, IT GOT HARDER  
AND HARDER FOR HIM TO MOVE HIS

268

00:18:09,190 --> 00:18:12,920

TELESCOPES AROUND TO INSPIRE  
OTHER PEOPLE TO TEACH THEM TO

269

00:18:12,920 --> 00:18:15,810

TAKE IT OUT TO THE SCHOOLS.  
>> HE MOUNTED IT ON AN OLD LAWN

270

00:18:15,810 --> 00:18:20,420

MOWER BASE IN ORDER TO MAKE IT  
EASILY TRANSPORTABLE.

271

00:18:20,420 --> 00:18:23,240

>> IT WORKED OUT BEAUTIFULLY AND  
HE JUST PUT IT IN A LITTLE SHED,

272

00:18:23,240 --> 00:18:25,230

SOMEBODY WOULD COME OVER, HE'D  
PULL IT OUT.

273

00:18:25,230 --> 00:18:32,160

WE CALLED IT THE CRAZER GAZER,  
AS IN GRAZING, MOWING THE LAWN,

274

00:18:32,160 --> 00:18:36,620

AND GAZING AT THE STARS.  
I THINK MY DAD WOULD BE THRILLED

275

00:18:36,620 --> 00:18:39,390

WITH THE NEW HORIZONS.  
I MEAN, WHO WOULDN'T BE?

276

00:18:39,390 --> 00:18:42,640

WHEN HE LOOKED AT PLUTO, IT WAS  
JUST A SPECK OF LIGHT.

277

00:18:42,640 --> 00:18:46,540

>> SOME OF MY FATHER'S ASHES ARE  
ON THAT SPACECRAFT, AND PART OF

278

00:18:46,540 --> 00:18:52,010

HIM GOT TO VISIT THE SPECK ON  
THE PLATES THAT HE DISCOVERED IN

279

00:18:52,010 --> 00:18:54,799

1930.  
IT'S GOING TO BE SOMETHING THAT

280

00:18:54,799 --> 00:18:59,880

HAS BECOME AN INTEGRAL PART OF  
OUR LIVES, AND OUR FAMILY'S

281  
00:18:59,880 --> 00:19:02,540  
LIVES.  
>> HE WOULD HAVE BEEN ASTOUNDED,

282  
00:19:02,540 --> 00:19:07,730  
AND I'M SURE THAT TO HAVE THE  
PLANET THAT YOU DISCOVERED

283  
00:19:07,730 --> 00:19:11,049  
BETTER DEFINED, BETTER  
UNDERSTOOD, IT WOULD HAVE MEANT

284  
00:19:11,049 --> 00:19:18,320  
SO MUCH TO HIM.  
>> A LOT OF HISTORY ON A.P.L.

285  
00:19:18,320 --> 00:19:21,370  
THIS WEEK AS WE CELEBRATE, YOU  
KNOW, NEW HORIZONS HISTORIC

286  
00:19:21,370 --> 00:19:24,220  
ACHIEVEMENT.  
TODAY MARKS THE 50th ANNIVERSARY

287  
00:19:24,220 --> 00:19:27,480  
OF FORD'S FLIGHT TO MARS, YOU  
KNOW, WHICH GAVE US OUR FIRST

288  
00:19:27,480 --> 00:19:32,450  
CLOSE-UP LOOK AT THE RED PLANET.  
OF COURSE, THEY ARE HERE IN THE

289  
00:19:32,450 --> 00:19:35,610  
AUDIENCE TONIGHT, THEIR FAMILY,  
AS WELL AS JIM CHRISTIE, WHO

290  
00:19:35,610 --> 00:19:47,279  
DISCOVERED PLUTO IN 1978 AND HIS  
DAUGHTER SHARON.

291

00:19:47,279 --> 00:19:50,480

[ APPLAUSE ]

ONLY ONE DISCOVERY OF PLUTO, JIM

292

00:19:50,480 --> 00:19:53,060

CHRISTIE DISCOVERED SHARON IN  
1978.

293

00:19:53,060 --> 00:19:57,250

ALSO SYLVIA DAY THOMAS, DAUGHTER  
OF GERARD KUIPER, NAME SAKE OF

294

00:19:57,250 --> 00:20:01,970

THE KUIPER BELT WHERE PLUTO  
RESIDES, ALSO OUR PLUTO PALS,

295

00:20:01,970 --> 00:20:05,580

KIDS BORN ON THE DAY NEW  
HORIZONS LAUNCHED OR TURN TEN ON

296

00:20:05,580 --> 00:20:10,930

THAT DAY ON JANUARY 19th, 2006.  
AND, OF COURSE, FOR THOSE AROUND

297

00:20:10,930 --> 00:20:15,160

THE WORLD, THERE'S OPPORTUNITY  
TO JOIN IN THIS CONVERSATION ON

298

00:20:15,160 --> 00:20:17,340

NASA SOCIAL THROUGH VARIOUS  
MEANS.

299

00:20:17,340 --> 00:20:20,840

THERE'S THE NASA WEBSITE  
[WWW.NASA.GOV/NEWHORIZONS](http://WWW.NASA.GOV/NEWHORIZONS).

300

00:20:20,840 --> 00:20:27,220

ON TWITTER, WITH  
THE ~~+~~#PLUTOFLYBY.

301

00:20:27,220 --> 00:20:33,240

SO MANY OPTIONS ON SOCIAL MEDIA.  
THERE HAS BEEN SO MUCH ACTIVITY

302

00:20:33,240 --> 00:20:36,980

ON SOCIAL MEDIA TODAY, STARTING  
WITH BEFORE THAT PICTURE CAME

303

00:20:36,980 --> 00:20:40,169

OUT THIS MORNING, BUT AFTER  
THAT, THINGS JUST BLEW UP.

304

00:20:40,169 --> 00:20:42,190

WHAT'S GOING ON, JASON?  
>> ALL RIGHT.

305

00:20:42,190 --> 00:20:45,100

NEW HORIZONS HAS HAD AN  
ABSOLUTELY INCREDIBLE DAY

306

00:20:45,100 --> 00:20:47,040

ONLINE.  
I MEAN, THE MISSION AND PLUTO'S

307

00:20:47,040 --> 00:20:50,080

FLY BY, IT'S BEEN TRENDING ALL  
DAY LONG, REMAINING THE TOP

308

00:20:50,080 --> 00:20:53,460

STORY BASICALLY ON FACEBOOK AND  
TWITTER TODAY.

309

00:20:53,460 --> 00:20:56,790

WE'VE HAD SEVERAL HOURS OF  
ENGAGEMENT WHERE OUR EXPERTS

310

00:20:56,790 --> 00:20:59,850

HAVE BEEN OUT FROM THE MISSION  
OUT ANSWERING YOUR QUESTIONS,

311

00:20:59,850 --> 00:21:03,820

ANSWERED HUNDREDS OF THEM  
THROUGH THINGS LIKE REDDIT†AMA,

312

00:21:03,820 --> 00:21:09,600

ASK ME ANYTHING, WHERE YOU  
LITERALLY ASK THOUSANDS OF

313

00:21:09,600 --> 00:21:14,280

QUESTIONS FROM OUR EXPERTS AND  
ALSO A SPEED CHAT WHERE WE WERE

314

00:21:14,280 --> 00:21:16,850

ABLE TO ANSWER A LOT OF YOUR  
QUESTIONS ON TWITTER.

315

00:21:16,850 --> 00:21:19,900

WE'VE ALSO HAD A LOT OF BRANDS,  
CELEBRITY, AND SOCIAL MEDIA

316

00:21:19,900 --> 00:21:22,330

INFLUENCERS OUT THERE WHO HAVE  
BEEN ENGAGING WITH US ON THIS

317

00:21:22,330 --> 00:21:24,770

HISTORIC EVENT, AND ALTHOUGH  
WE'RE STILL CRUNCHING THE

318

00:21:24,770 --> 00:21:28,800

NUMBERS, TODAY MIGHT BE NASA'S  
BIGGEST DAY EVER ON SOCIAL MEDIA

319

00:21:28,800 --> 00:21:31,530

WITH REGARD TO ENGAGEMENT AND  
REACH.

320

00:21:31,530 --> 00:21:34,640

SO THIS MORNING'S SNEAK PEEK  
IMAGE ON INSTAGRAM HAS BEEN THE

321

00:21:34,640 --> 00:21:40,480

MOST POPULAR IMAGE NASA HAS EVER  
POSTED TO INSTAGRAM, WITH OVER

322

00:21:40,480 --> 00:21:45,160

295,000 LIKES AND GROWING.  
WE'VE HAD OVER 49,000 FOLKS WHO

323

00:21:45,160 --> 00:21:50,990

RETWEETED THIS MORNING'S NEW  
HORIZONS TWEET, AND THE BEST

324

00:21:50,990 --> 00:21:53,290

PART REALLY THROUGHOUT THE  
ENTIRE DAY HAS BEEN THE

325

00:21:53,290 --> 00:21:55,820

EXCITEMENT WHILE FOLLOWING THIS  
CONVERSATION ONLINE.

326

00:21:55,820 --> 00:21:59,220

IT'S TRULY BEEN ENERGETIC AND  
ABSOLUTELY INSPIRING, SO KEEP

327

00:21:59,220 --> 00:22:03,190

FOLLOWING ALONG WITH NASA AND  
NEW HORIZONS AT †@NASA, OUR

328

00:22:03,190 --> 00:22:07,080

FACEBOOK PAGES, INSTAGRAM  
ACCOUNT, AND GOOGLE PLUS

329

00:22:07,080 --> 00:22:08,760

ACCOUNT.  
SO KEEP FOLLOWING ALONG.

330

00:22:08,760 --> 00:22:12,940

>> GREAT, JASON, THANK YOU.  
YOU KNOW, WE'RE GETTING CLOSE,

331

00:22:12,940 --> 00:22:13,940

MARK.

>> VERY CLOSE.

332

00:22:13,940 --> 00:22:16,700

>> WHEN YOU WERE AT THE CONSOLE  
ABOUT THIS TIME, WAITING FOR

333

00:22:16,700 --> 00:22:18,880

SOMETHING, WAITING FOR THE  
SIGNAL FOR SOMETHING TO HAPPEN,

334

00:22:18,880 --> 00:22:22,340

WHAT DID IT FEEL LIKE?

>> EXTREMELY ANXIOUS.

335

00:22:22,340 --> 00:22:27,750

>> WHETHER IT WAS SOMETHING AS  
SIMPLE AS†-- WOULD YOU EVER

336

00:22:27,750 --> 00:22:30,210

STRESS SO MUCH JUST FOR A  
SIGNAL?

337

00:22:30,210 --> 00:22:32,280

>> NO.

YOU HAVE TO SIT THERE AND WAIT,

338

00:22:32,280 --> 00:22:34,070

BE PATIENT.

ON THIS MISSION YOU LEARN

339

00:22:34,070 --> 00:22:37,809

PATIENCE IS A VIRTUE.

>> NINE AND A HALF YEARS,

340

00:22:37,809 --> 00:22:39,222

MINUTES AWAY FROM SOMETHING  
ELSE.

341

00:22:39,222 --> 00:22:42,419

>> JUST A COUPLE OF MINUTES.

>> I THINK WE CAN GO TO MISSION

342

00:22:42,419 --> 00:22:47,270

OPERATIONS RIGHT NOW.

LET'S TAKE A LOOK INSIDE.

343

00:22:47,270 --> 00:23:07,490

>> OKAY, WE'RE IN LOCK WITH

CARRIER.

344

00:23:07,490 --> 00:23:20,970

STAND BY FOR TELEMETRY.

345

00:23:20,970 --> 00:23:31,080

>> CARL WHITTENBURG, MISSIONS

346

00:23:31,080 --> 00:23:41,300

OPERATIONS TEAM.

DEEP SPACE NETWORK.

347

00:23:41,300 --> 00:23:53,559

>> IN LOCK ON SYMBOLS.

>> THAT'S THE FIRST STEP.

348

00:23:53,559 --> 00:23:58,150

GETTING DATA?

>> OKAY.

349

00:23:58,150 --> 00:24:12,840

COPY THAT, WE'RE IN LUCK WITH

TELEMETRY WITH THE SPACECRAFT.

350

00:24:12,840 --> 00:24:27,420

[ CHEERS AND APPLAUSE ]

[ CHEERS AND APPLAUSE ]

351

00:24:27,420 --> 00:24:32,280

>> OKAY.

>> WOW.

352

00:24:32,280 --> 00:24:56,590

SYSTEMS, PLEASE REPORT YOUR  
STATUS AS YOU GET ENOUGH DATA.

353

00:24:56,590 --> 00:25:02,820

>> SYSTEMS REPORTING THEIR  
STATUS.

354

00:25:02,820 --> 00:25:12,169

>> MOM, THIS IS RF ON PLUTO 1.  
>> GO AHEAD, RF.

355

00:25:12,169 --> 00:25:16,500

>> RF IS REPORTING NOMINAL  
CARRIER POWER, NOMINAL RATIO FOR

356

00:25:16,500 --> 00:25:22,400

THE TELEMETRY.  
RF IS NOMINAL.

357

00:25:22,400 --> 00:25:28,120

>> COPY THAT.  
RF NOMINAL.

358

00:25:28,120 --> 00:25:34,360

>> AUTONOMY ON PLUTO 1.  
>> GO AHEAD.

359

00:25:34,360 --> 00:25:38,720

>> HAPPY TO REPORT NOMINAL  
STATUS, NO RULES HAVE FIRED.

360

00:25:38,720 --> 00:25:50,720

[ CHEERS AND APPLAUSE ]  
>> GO AHEAD, CBH.

361

00:25:50,720 --> 00:25:55,270  
>> CBH REPORTS NOMINAL STATUS.  
SSR POINTERS ARE WHERE WE EXPECT

362  
00:25:55,270 --> 00:26:00,370  
THEM TO BE, WHICH MEANS WE  
RECORDED THE EXPECTED AMOUNT OF

363  
00:26:00,370 --> 00:26:02,500  
DATA.  
>> COPY THAT.

364  
00:26:02,500 --> 00:26:08,179  
LOOKS LIKE WE HAVE A GOOD DATA  
REPORT.

365  
00:26:08,179 --> 00:26:11,549  
[ CHEERS AND APPLAUSE ]  
>> THIS IS GMC ON PLUTO 1.

366  
00:26:11,549 --> 00:26:12,549  
>> GO AHEAD GNC.  
>> NOMINAL, ALL HARDWARE IS

367  
00:26:12,549 --> 00:26:15,170  
HEALTHY AND WE HAVE A GOOD  
NUMBER OF THRUSTER COUNTS.

368  
00:26:15,170 --> 00:26:20,049  
>> COPY THAT, GNC IS HEALTHY.  
[ APPLAUSE ]

369  
00:26:20,049 --> 00:26:25,410  
>> MOM, THIS IS PROPULSION ON  
PLUTO 1.

370  
00:26:25,410 --> 00:26:28,520  
>> GO AHEAD, POP.  
>> PROPULSION IS NOMINAL.

371

00:26:28,520 --> 00:26:34,020

PRESSURE IS 176.8.

>> COPY THAT.

372

00:26:34,020 --> 00:26:45,500

PROPULSION SYSTEM IS NOMINAL.

[ APPLAUSE ]

373

00:26:45,500 --> 00:26:49,880

>> MOM, THIS IS POWER ON PLUTO

1.

374

00:26:49,880 --> 00:26:53,760

>> GO AHEAD, POWER.

>> POWER SYSTEM ALL TELEMETRY IS

375

00:26:53,760 --> 00:26:55,470

NOMINAL.

HARDWARE HEALTHY.

376

00:26:55,470 --> 00:27:02,059

>> COPY THAT, NOMINAL FOR POWER.

>> MOM?

377

00:27:02,059 --> 00:27:05,800

[ APPLAUSE ]

>> MOM, THIS IS THERMAL ON PLUTO

378

00:27:05,800 --> 00:27:08,880

1.

>> GO AHEAD, THERMAL.

379

00:27:08,880 --> 00:27:10,419

>> THERMAL REPORTS NOMINAL.

ALL TEMPERATURES GREEN.

380

00:27:10,419 --> 00:27:11,460

>> COPY THAT.

THERMAL IS NOMINAL.

381

00:27:11,460 --> 00:27:13,059  
ALL TEMPERATURES GREEN.  
[ APPLAUSE ]

382  
00:27:13,059 --> 00:27:16,660  
OKAY.  
PI, MOM ON PLUTO 1, WE HAVE A

383  
00:27:16,660 --> 00:27:35,400  
HEALTHY SPACECRAFT.  
WE'VE RECORDED DATA OF THE PLUTO

384  
00:27:35,400 --> 00:28:02,580  
SYSTEM, AND WE'RE OUTBOUND FOR  
PLUTO.

385  
00:28:02,580 --> 00:28:29,770  
[ CHEERS AND APPLAUSE ]  
[ CHEERS AND APPLAUSE ]

386  
00:28:29,770 --> 00:28:56,950  
>> WE DID IT.

387  
00:28:56,950 --> 00:29:10,540  
IT'S GREAT.  
[ APPLAUSE ]

388  
00:29:10,540 --> 00:29:13,360  
>> I GUESS FOR ANYONE, FOR JUST  
A FEW PEOPLE WHO DIDN'T KNOW WHO

389  
00:29:13,360 --> 00:29:15,520  
THAT WAS THAT CAME BARGING IN  
THE ROOM WHEN THAT HAPPENED,

390  
00:29:15,520 --> 00:29:20,700  
THAT WAS A SLIGHTLY HAPPY  
MISSION PRINCIPLE INVESTIGATOR

391  
00:29:20,700 --> 00:29:25,559

ALLEN STERN, WHO HAS JUST POURED  
SO MUCH TIME, INVESTMENT, HEART,

392

00:29:25,559 --> 00:29:28,740

SOUL, LIKE SO MANY PEOPLE ON THE  
NEW HORIZONS TEAM TO GET TO THIS

393

00:29:28,740 --> 00:29:31,720

POINT.

MARK, KIND OF HARD TO BE

394

00:29:31,720 --> 00:29:35,639

IMPARTIAL SITTING HERE WATCHING  
THIS, BUT YOUR THOUGHTS ON THIS?

395

00:29:35,639 --> 00:29:38,670

>> WELL, I CAN'T SAY, YOU KNOW,  
HOW PROUD I AM TO BE PART OF THE

396

00:29:38,670 --> 00:29:43,150

TEAM AND OF THE TEAM FOR ALL THE  
EFFORTS THEY'VE MADE BUILDING

397

00:29:43,150 --> 00:29:46,470

THE SPACECRAFT AND TESTING IT  
AND FLYING IT FOR OVER NINE

398

00:29:46,470 --> 00:29:49,590

YEARS TO GET TO THIS POINT.  
IT'S REALLY AN AMAZING

399

00:29:49,590 --> 00:29:52,510

ACCOMPLISHMENT.  
HOW OFTEN DO WE UNLOCK THE

400

00:29:52,510 --> 00:29:55,080

SECRETS, YOU KNOW, OF A NEW  
WORLD?

401

00:29:55,080 --> 00:30:05,240

WE DID THAT TODAY.  
HOW COOL IS THAT?

402

00:30:05,240 --> 00:30:15,160

[ APPLAUSE ]

>> NASA ADMINISTRATOR, ASSOCIATE

403

00:30:15,160 --> 00:30:20,530

ADMINISTRATOR, AND JOHN RUMSFELD  
IN MISSIONS OPERATIONS WITH ALEX

404

00:30:20,530 --> 00:30:24,700

BOWMAN, TERRIFIC DAY FOR THE NEW  
HORIZONS MISSION.

405

00:30:24,700 --> 00:30:29,539

SO WE'RE BACK HERE, A LITTLE  
MORE OF THE ATMOSPHERE IN THERE,

406

00:30:29,539 --> 00:30:33,600

BUT WE'RE GOING TO RESET HERE AT  
A.P.L. FOR A MEDIA BRIEFING

407

00:30:33,600 --> 00:30:37,450

APPROXIMATELY AROUND 9:30.  
WE WANT TO GIVE THE PARTICIPANTS

408

00:30:37,450 --> 00:30:41,980

TIME TO GET HERE FROM MISSION  
OPERATIONS, AND TOMORROW WE

409

00:30:41,980 --> 00:30:46,059

EXPECT OUR FIRST POST FLY BY  
LOOK AT THE PLUTO SYSTEM SENT

410

00:30:46,059 --> 00:30:49,850

BACK FROM A HEALTHY AND VERY  
MUCH ALIVE NEW HORIZONS

411

00:30:49,850 --> 00:30:58,930

SPACECRAFT.  
[ APPLAUSE ]

412

00:30:58,930 --> 00:31:05,130

SO THAT'S OUR PROGRAM FOR  
TONIGHT.

413

00:31:05,130 --> 00:31:09,220

STAY TUNED FOR NASA FLY BY MEDIA  
BRIEFING LIVE FROM A.P.L.