1
00:00:09,669 --> 00:00:07,590
good afternoon everyone these are the

2
00:00:13,910 --> 00:00:09,679
pre-launch briefings for

3
00:00:15,669 --> 00:00:13,920
our taurus xl glory and alana missions

4
00:00:17,750 --> 00:00:15,679
and we'll be having three briefings

5
00:00:19,510 --> 00:00:17,760
today our first briefing will be the

6
00:00:21,670 --> 00:00:19,520
pre-launch news conference

7
00:00:23,349 --> 00:00:21,680
we'll follow that with a glory mission

8
00:00:24,470 --> 00:00:23,359
science briefing

9
00:00:27,670 --> 00:00:24,480
and then

10
00:00:29,509 --> 00:00:27,680
we'll conclude with a briefing on alana

11
00:00:32,470 --> 00:00:29,519
so we'll start now with our pre-launch

12
00:00:35,190 --> 00:00:32,480
news briefing on the taurus xl glory

13
00:00:38,150 --> 00:00:35,200

launch coming up on wednesday morning

14
00:00:40,709 --> 00:00:38,160
we'll begin first with joy brett hauer

15
00:00:44,150 --> 00:00:40,719
the glory program executive

16
00:00:46,150 --> 00:00:44,160
from nasa headquarters in washington

17
00:00:49,830 --> 00:00:46,160
then we will hear from

18
00:00:51,270 --> 00:00:49,840
omar baez the nasa launch director for

19
00:00:53,750 --> 00:00:51,280
this mission from the kennedy space

20
00:00:58,069 --> 00:00:55,510
we'll hear next from

21
00:00:59,990 --> 00:00:58,079
john brentweiler the taurus program

22
00:01:03,349 --> 00:01:00,000
director from orbital sciences

23
00:01:10,390 --> 00:01:06,469
brian faffel the glory project manager

24
00:01:15,350 --> 00:01:13,270
and first lieutenant benjamin warr the

25
00:01:17,510 --> 00:01:15,360
launch weather officer from the 30th

26
00:01:18,950 --> 00:01:17,520
weather squadron at vandenberg air force

27
00:01:21,270 --> 00:01:18,960
base

28
00:01:23,109 --> 00:01:21,280
and we'll begin first with

29
00:01:25,670 --> 00:01:23,119
our program executive joy brett howard

30
00:01:29,270 --> 00:01:25,680
joy thank you george um i'd like to have

31
00:01:31,270 --> 00:01:29,280
the first graphic posted please

32
00:01:33,190 --> 00:01:31,280
now i'll start by talking about why

33
00:01:34,550 --> 00:01:33,200
glory is important to us

34
00:01:35,590 --> 00:01:34,560
the graphic can be coming up as i'm

35
00:01:37,190 --> 00:01:35,600
speaking

36
00:01:38,950 --> 00:01:37,200
glory is the next launch in the

37
00:01:41,109 --> 00:01:38,960
president's climate initiative to

38
00:01:43,670 --> 00:01:41,119

address key climate problems and is

39
00:01:46,069 --> 00:01:43,680
nasa's next earth observing

40
00:01:48,310 --> 00:01:46,079
science research mission that will join

41
00:01:51,670 --> 00:01:48,320
13 other earth science missions that are

42
00:01:53,429 --> 00:01:51,680
currently orbiting and operating

43
00:01:54,550 --> 00:01:53,439
glory will improve our understanding of

44
00:01:57,270 --> 00:01:54,560
how the sun

45
00:01:59,670 --> 00:01:57,280
and tiny particles called aerosols

46
00:02:01,510 --> 00:01:59,680
affect earth's climate changes

47
00:02:03,830 --> 00:02:01,520
the scientific knowledge obtained from

48
00:02:06,149 --> 00:02:03,840
glory will enable researchers to better

49
00:02:08,630 --> 00:02:06,159
understand the effects of aerosols and

50
00:02:10,790 --> 00:02:08,640
solar radiance on climate and more

51
00:02:12,630 --> 00:02:10,800
accurately predict the future of earth's

52
00:02:15,270 --> 00:02:12,640
climate changes

53
00:02:18,229 --> 00:02:15,280
as global climate and weather affect our

54
00:02:20,550 --> 00:02:18,239
natural resources and impact our lives

55
00:02:22,790 --> 00:02:20,560
this understanding is also essential for

56
00:02:24,470 --> 00:02:22,800
making scientifically based policy

57
00:02:26,710 --> 00:02:24,480
decisions that are related to

58
00:02:29,510 --> 00:02:26,720
environmental change

59
00:02:31,990 --> 00:02:29,520
nasa's rigorous standards processes

60
00:02:34,550 --> 00:02:32,000
practices and testing have prepared both

61
00:02:36,949 --> 00:02:34,560
the observatory and the launch vehicle

62
00:02:39,509 --> 00:02:36,959
for the upcoming glory mission

63
00:02:41,589 --> 00:02:39,519

our panel here represents the combined

64
00:02:44,070 --> 00:02:41,599
efforts of people all across our nation

65
00:02:45,830 --> 00:02:44,080
supporting the glory mission

66
00:02:48,470 --> 00:02:45,840
through the dedicated teamwork of

67
00:02:51,430 --> 00:02:48,480
government industry and academia we are

68
00:02:53,270 --> 00:02:51,440
on track for launching glory

69
00:02:55,270 --> 00:02:53,280
as glory's program executive for the

70
00:02:57,190 --> 00:02:55,280
earth science division i am responsible

71
00:02:59,350 --> 00:02:57,200
for the overall technical

72
00:03:02,309 --> 00:02:59,360
cost schedule and program management of

73
00:03:04,149 --> 00:03:02,319
the glory mission for nasa headquarters

74
00:03:06,630 --> 00:03:04,159
project management for the gla for the

75
00:03:08,790 --> 00:03:06,640
glory mission is provided by nasa's

76
00:03:10,790 --> 00:03:08,800
goddard space flight center

77
00:03:12,869 --> 00:03:10,800
later today in a separate science

78
00:03:14,869 --> 00:03:12,879
briefing we'll have the glory mission

79
00:03:16,309 --> 00:03:14,879
scientists further explain the mission

80
00:03:18,229 --> 00:03:16,319
science

81
00:03:20,630 --> 00:03:18,239
the taurus xl launch vehicle was

82
00:03:23,350 --> 00:03:20,640
procured through nasa's launch services

83
00:03:25,830 --> 00:03:23,360
program at kennedy space center

84
00:03:28,869 --> 00:03:25,840
the orbital sciences corporation is both

85
00:03:31,350 --> 00:03:28,879
the spacecraft integrator and the launch

86
00:03:33,830 --> 00:03:31,360
services provider

87
00:03:35,910 --> 00:03:33,840
after the taurus xl rocket launches the

88
00:03:37,830 --> 00:03:35,920

glory observatory

89
00:03:40,149 --> 00:03:37,840
it's going to go into an earth observing

90
00:03:42,710 --> 00:03:40,159
orbit where it will then ascend into the

91
00:03:44,789 --> 00:03:42,720
afternoon constellation and become what

92
00:03:47,430 --> 00:03:44,799
has become the sixth satellite to join

93
00:03:50,229 --> 00:03:47,440
what is also known as the a train

94
00:03:53,429 --> 00:03:50,239
the glory observatory's design supports

95
00:03:55,270 --> 00:03:53,439
three years of on-orbit operations

96
00:03:57,429 --> 00:03:55,280
the low earth orbit a train

97
00:04:00,390 --> 00:03:57,439
constellation consists of multiple

98
00:04:02,710 --> 00:04:00,400
spacecraft flying in close proximity and

99
00:04:05,509 --> 00:04:02,720
is the first ever super observatory to

100
00:04:08,309 --> 00:04:05,519
provide near simultaneous observations

101
00:04:09,910 --> 00:04:08,319
of the earth including land atmosphere

102
00:04:12,149 --> 00:04:09,920
and ocean

103
00:04:15,350 --> 00:04:12,159
i'd like to have the next graphic posted

104
00:04:19,030 --> 00:04:16,949
that's coming up the glory mission

105
00:04:21,509 --> 00:04:19,040
responds to the intergovernmental panel

106
00:04:23,749 --> 00:04:21,519
on climate change by continuing and

107
00:04:25,430 --> 00:04:23,759
improving nasa's earth science research

108
00:04:27,430 --> 00:04:25,440
of climate change

109
00:04:28,469 --> 00:04:27,440
changes in the composition of earth's

110
00:04:30,950 --> 00:04:28,479
atmosphere

111
00:04:32,870 --> 00:04:30,960
or in solar radiance can lead to global

112
00:04:34,550 --> 00:04:32,880
climate change

113
00:04:36,070 --> 00:04:34,560

the glory mission has two science

114
00:04:38,310 --> 00:04:36,080
objectives

115
00:04:40,310 --> 00:04:38,320
one objective is to use glory's highly

116
00:04:42,310 --> 00:04:40,320
accurate and sun-pointing total

117
00:04:44,790 --> 00:04:42,320
irradiance monitor instrument to

118
00:04:46,230 --> 00:04:44,800
continue our critical 32-year record of

119
00:04:49,189 --> 00:04:46,240
measuring the sun's

120
00:04:51,110 --> 00:04:49,199
direct and indirect effects on climate

121
00:04:53,510 --> 00:04:51,120
by determining the sun's major effect on

122
00:04:55,189 --> 00:04:53,520
climate this will enable researchers to

123
00:04:56,390 --> 00:04:55,199
better understand the earth's energy

124
00:04:58,950 --> 00:04:56,400
budget

125
00:05:00,950 --> 00:04:58,960
the second objective is to use the first

126
00:05:03,189 --> 00:05:00,960
ever measurements of polarization from

127
00:05:05,270 --> 00:05:03,199
glory's aerosol polarimetry sensor

128
00:05:07,909 --> 00:05:05,280
instrument to increase our understanding

129
00:05:10,629 --> 00:05:07,919
of how natural and man-made aerosols

130
00:05:12,950 --> 00:05:10,639
impact the earth's climate

131
00:05:14,710 --> 00:05:12,960
glory is nasa's first satellite that

132
00:05:16,950 --> 00:05:14,720
will make unique highly accurate

133
00:05:19,670 --> 00:05:16,960
measurements of light properties

134
00:05:22,230 --> 00:05:19,680
as a means of identifying the size shape

135
00:05:25,110 --> 00:05:22,240
and composition of aerosols

136
00:05:26,310 --> 00:05:25,120
now as far as what are aerosols aerosols

137
00:05:28,870 --> 00:05:26,320
are tiny

138
00:05:31,430 --> 00:05:28,880

airborne solid or liquid particles size

139
00:05:34,790 --> 00:05:31,440
from nanometers to micrometers that may

140
00:05:38,950 --> 00:05:34,800
be either natural or man-made in origin

141
00:05:41,110 --> 00:05:38,960
and i'd like to have the next graphic

142
00:05:43,749 --> 00:05:41,120
examples of natural re of natural

143
00:05:45,590 --> 00:05:43,759
sources of aerosols include desert dust

144
00:05:49,270 --> 00:05:45,600
as is illustrated here

145
00:05:53,350 --> 00:05:51,270
and volcanoes

146
00:05:55,189 --> 00:05:53,360
while man-made sources of aerosols come

147
00:05:57,189 --> 00:05:55,199
from sources like air pollution and

148
00:05:58,870 --> 00:05:57,199
intentionally burning trees

149
00:06:00,870 --> 00:05:58,880
all of which depending upon their

150
00:06:03,510 --> 00:06:00,880
contribution contribute to either the

151
00:06:05,430 --> 00:06:03,520
warming or the cooling of the earth

152
00:06:07,430 --> 00:06:05,440
the largest uncertainty in our

153
00:06:09,749 --> 00:06:07,440
understanding of the earth's climate is

154
00:06:11,510 --> 00:06:09,759
the aerosol climate effect

155
00:06:14,309 --> 00:06:11,520
glory will help researchers better

156
00:06:17,670 --> 00:06:14,319
understand how aerosols influence solar

157
00:06:19,350 --> 00:06:17,680
energy in the earth's system

158
00:06:20,469 --> 00:06:19,360
there with along with these under

159
00:06:24,710 --> 00:06:20,479
certainties

160
00:06:26,790 --> 00:06:24,720
the formation of clouds

161
00:06:28,550 --> 00:06:26,800
as well as the properties associated

162
00:06:30,550 --> 00:06:28,560
with clouds

163
00:06:32,950 --> 00:06:30,560

glory will also help us to improve

164
00:06:34,469 --> 00:06:32,960
atmospheric models that predict aerosol

165
00:06:36,550 --> 00:06:34,479
transport

166
00:06:38,870 --> 00:06:36,560
while remaining airborne for at most a

167
00:06:41,029 --> 00:06:38,880
couple of weeks these tiny particles can

168
00:06:42,469 --> 00:06:41,039
be transported thousands of miles across

169
00:06:45,189 --> 00:06:42,479
the globe

170
00:06:47,029 --> 00:06:45,199
glory will aid in understanding will aid

171
00:06:48,790 --> 00:06:47,039
the researchers understanding the global

172
00:06:51,430 --> 00:06:48,800
distribution of both natural and

173
00:06:53,110 --> 00:06:51,440
man-made aerosols as well as how they

174
00:06:55,189 --> 00:06:53,120
interact with other components in the

175
00:06:58,070 --> 00:06:55,199
atmosphere as they are transported

176
00:07:00,390 --> 00:06:58,080
globally and affect earth's climate

177
00:07:03,589 --> 00:07:00,400
in summary the glory mission will

178
00:07:05,350 --> 00:07:03,599
provide the highly accurate aerosol and

179
00:07:07,909 --> 00:07:05,360
solar irradiance measurements that are

180
00:07:09,510 --> 00:07:07,919
vital to improving climate models and

181
00:07:11,110 --> 00:07:09,520
more accurately predicting earth's

182
00:07:13,350 --> 00:07:11,120
future climate

183
00:07:15,830 --> 00:07:13,360
all of which are essential resources for

184
00:07:18,390 --> 00:07:15,840
making scientifically based economic

185
00:07:20,150 --> 00:07:18,400
health and policy decisions related to

186
00:07:21,749 --> 00:07:20,160
environmental change

187
00:07:24,070 --> 00:07:21,759
and with that i'll turn it back over to

188
00:07:26,790 --> 00:07:24,080

george all right thank you joy and now

189
00:07:28,390 --> 00:07:26,800
we'll go to omar baez who is the nasa

190
00:07:30,150 --> 00:07:28,400
launch director from the kennedy space

191
00:07:31,110 --> 00:07:30,160
center to talk about our upcoming flight

192
00:07:32,469 --> 00:07:31,120
omar

193
00:07:34,230 --> 00:07:32,479
thank you george

194
00:07:36,230 --> 00:07:34,240
good afternoon everyone and thank you

195
00:07:37,749 --> 00:07:36,240
for attending today's brief

196
00:07:40,309 --> 00:07:37,759
i'm very fortunate to be here

197
00:07:41,510 --> 00:07:40,319
representing scores of men and women

198
00:07:43,430 --> 00:07:41,520
from nasa

199
00:07:45,270 --> 00:07:43,440
and a launch services program and

200
00:07:47,909 --> 00:07:45,280
orbital science

201
00:07:49,990 --> 00:07:47,919
and the launch systems group these folks

202
00:07:52,070 --> 00:07:50,000
have worked a lot of long difficult

203
00:07:53,990 --> 00:07:52,080
hours in the past two years

204
00:07:55,029 --> 00:07:54,000
getting through taurus return to flight

205
00:07:57,029 --> 00:07:55,039
activities

206
00:07:58,869 --> 00:07:57,039
and preparing glory

207
00:07:59,990 --> 00:07:58,879
and alana for launch this wednesday

208
00:08:02,150 --> 00:08:00,000
morning

209
00:08:05,510 --> 00:08:02,160
if you could please roll uh

210
00:08:07,430 --> 00:08:05,520
a little video we have for you

211
00:08:09,110 --> 00:08:07,440
the taurus

212
00:08:11,670 --> 00:08:09,120
shares a lot of commonality with the

213
00:08:14,150 --> 00:08:11,680

pegasus launch vehicle minus the wing

214
00:08:15,909 --> 00:08:14,160
and a stage zero which is the l-1011

215
00:08:17,749 --> 00:08:15,919
this is stage zero

216
00:08:19,430 --> 00:08:17,759
uh for the taurus you're seeing in this

217
00:08:22,070 --> 00:08:19,440
role here

218
00:08:25,029 --> 00:08:22,080
the stage zero is a caster 120 motor

219
00:08:27,430 --> 00:08:25,039
provides upward of 360 000 pounds of

220
00:08:29,670 --> 00:08:27,440
thrust

221
00:08:32,310 --> 00:08:29,680
it's being hoisted onto

222
00:08:33,909 --> 00:08:32,320
a pedestal at 576e

223
00:08:35,750 --> 00:08:33,919
and what you see here

224
00:08:37,670 --> 00:08:35,760
is the combined

225
00:08:39,670 --> 00:08:37,680
glory spacecraft

226
00:08:42,310 --> 00:08:39,680
the third stage

227
00:08:46,150 --> 00:08:42,320
the second stage and the first stage

228
00:08:46,160 --> 00:08:49,350
stage zero

229
00:08:51,509 --> 00:08:50,230
and

230
00:08:55,990 --> 00:08:51,519
as you can see

231
00:08:57,829 --> 00:08:56,000
we depend on a lot of mobile cranes

232
00:08:59,509 --> 00:08:57,839
bucket trucks

233
00:09:03,670 --> 00:08:59,519
and

234
00:09:07,030 --> 00:09:03,680
together

235
00:09:09,030 --> 00:09:07,040
it's a very austere operation

236
00:09:11,829 --> 00:09:09,040
i'd like to say it's it's

237
00:09:17,110 --> 00:09:11,839
in the minimalist style or feng shui

238
00:09:20,630 --> 00:09:18,550

this morning we held our launch

239
00:09:21,750 --> 00:09:20,640
readiness review we have absolutely no

240
00:09:24,550 --> 00:09:21,760
actions

241
00:09:27,110 --> 00:09:24,560
we're clean green and ready to go

242
00:09:29,190 --> 00:09:27,120
the operation tomorrow night

243
00:09:30,949 --> 00:09:29,200
takes about four hours

244
00:09:33,750 --> 00:09:30,959
we have two built-in holds during the

245
00:09:34,630 --> 00:09:33,760
countdown one that occurs at t minus 45

246
00:09:43,509 --> 00:09:34,640
minutes

247
00:09:46,230 --> 00:09:43,519
our launch management team will be on

248
00:09:47,670 --> 00:09:46,240
station at about 10 pm local

249
00:09:49,990 --> 00:09:47,680
the folks will then configure the

250
00:09:51,269 --> 00:09:50,000
facility and range we will power up the

251
00:09:53,269 --> 00:09:51,279
launch vehicle

252
00:09:55,269 --> 00:09:53,279
and go through the power systems checks

253
00:09:56,630 --> 00:09:55,279
and the flight termination systems

254
00:09:59,269 --> 00:09:56,640
checkout

255
00:10:01,910 --> 00:09:59,279
i will conduct conduct my first poll at

256
00:10:03,750 --> 00:10:01,920
l minus 56 minutes

257
00:10:06,389 --> 00:10:03,760
in anticipation of coming out of the

258
00:10:08,630 --> 00:10:06,399
hold at t minus 45 minutes

259
00:10:10,310 --> 00:10:08,640
i will perform my second pull

260
00:10:11,829 --> 00:10:10,320
prior to coming out of the hold at t

261
00:10:13,590 --> 00:10:11,839
minus 12 minutes

262
00:10:15,670 --> 00:10:13,600
the spacecraft will then transfer to

263
00:10:17,670 --> 00:10:15,680

internal power for its final flight

264
00:10:19,590 --> 00:10:17,680
configuration

265
00:10:21,910 --> 00:10:19,600
and at t minus five minutes i will give

266
00:10:24,069 --> 00:10:21,920
my concurrence to launch

267
00:10:25,750 --> 00:10:24,079
at t minus one minute and thirty seconds

268
00:10:27,509 --> 00:10:25,760
the auto sequencer

269
00:10:29,269 --> 00:10:27,519
is initiated and will configure the

270
00:10:31,190 --> 00:10:29,279
vehicle for launch

271
00:10:33,110 --> 00:10:31,200
we have a 47 second

272
00:10:35,269 --> 00:10:33,120
second window tomorrow and we are

273
00:10:37,910 --> 00:10:35,279
targeting the middle of that window

274
00:10:39,430 --> 00:10:37,920
which is 209 43

275
00:10:41,110 --> 00:10:39,440
local

276
00:10:42,230 --> 00:10:41,120
back to you george all right thank you

277
00:10:44,470 --> 00:10:42,240
omar

278
00:10:46,550 --> 00:10:44,480
and now to john brunchweiler the taurus

279
00:10:49,590 --> 00:10:46,560
program manager from orbital sciences

280
00:10:51,670 --> 00:10:49,600
corporation john thank you george first

281
00:10:52,470 --> 00:10:51,680
it's an honor to be here and i'd like to

282
00:10:55,110 --> 00:10:52,480
thank

283
00:10:58,389 --> 00:10:55,120
nasa for giving us the opportunity to to

284
00:11:00,470 --> 00:10:58,399
carry the glory spacecraft into orbit

285
00:11:02,069 --> 00:11:00,480
but i want to tell you a story uh and in

286
00:11:03,910 --> 00:11:02,079
fact i recognized some faces of the

287
00:11:05,110 --> 00:11:03,920
press out here two years ago almost to

288
00:11:07,350 --> 00:11:05,120

the day

289
00:11:09,990 --> 00:11:07,360
uh we were here with great enthusiasm of

290
00:11:11,750 --> 00:11:10,000
the oco mission um it didn't turn out

291
00:11:13,990 --> 00:11:11,760
very well um

292
00:11:16,870 --> 00:11:14,000
i mean it was quite a disappointment for

293
00:11:19,829 --> 00:11:16,880
all of us the science community uh nasa

294
00:11:21,430 --> 00:11:19,839
orbital and and many individuals that

295
00:11:23,030 --> 00:11:21,440
that worked on that mission

296
00:11:25,430 --> 00:11:23,040
so what's been happening over the last

297
00:11:29,430 --> 00:11:25,440
two years in fact immediately after the

298
00:11:31,110 --> 00:11:29,440
failure nasa and orbital and as a team

299
00:11:32,949 --> 00:11:31,120
uh formed

300
00:11:35,190 --> 00:11:32,959
an investigation team

301
00:11:36,230 --> 00:11:35,200
we went through uh the data from the

302
00:11:38,230 --> 00:11:36,240
flight

303
00:11:40,790 --> 00:11:38,240
determined what the problem was and and

304
00:11:41,509 --> 00:11:40,800
this this is a long process uh we ended

305
00:11:44,630 --> 00:11:41,519
up

306
00:11:46,870 --> 00:11:44,640
then uh coming to a

307
00:11:48,630 --> 00:11:46,880
pretty robust system uh for the fairing

308
00:11:50,470 --> 00:11:48,640
deployment and that was the that was the

309
00:11:52,470 --> 00:11:50,480
issue that that failed the mission for

310
00:11:54,710 --> 00:11:52,480
oco

311
00:11:55,509 --> 00:11:54,720
as a result of all the engineering work

312
00:11:58,230 --> 00:11:55,519
um

313
00:12:01,110 --> 00:11:58,240

retests testing

314
00:12:04,629 --> 00:12:01,120
every subsystem of this fairing

315
00:12:06,550 --> 00:12:04,639
we arrive here today with a a proven

316
00:12:07,990 --> 00:12:06,560
flight proven in fact the same system

317
00:12:10,389 --> 00:12:08,000
that we're flying

318
00:12:12,629 --> 00:12:10,399
in 37 hours

319
00:12:15,110 --> 00:12:12,639
has flown three times already on another

320
00:12:16,949 --> 00:12:15,120
orbital vehicle that's the minotaur iv

321
00:12:19,350 --> 00:12:16,959
so we know that the basic design works

322
00:12:21,030 --> 00:12:19,360
very well

323
00:12:23,110 --> 00:12:21,040
now that wasn't the only thing we ended

324
00:12:25,590 --> 00:12:23,120
up doing both kennedy and orbital not

325
00:12:27,509 --> 00:12:25,600
only looked at the fairing which was a

326
00:12:28,949 --> 00:12:27,519
problem but the entire vehicle

327
00:12:31,670 --> 00:12:28,959
we wanted to make sure we didn't miss

328
00:12:33,269 --> 00:12:31,680
anything else uh and looked stemmed to

329
00:12:35,590 --> 00:12:33,279
stern

330
00:12:38,470 --> 00:12:35,600
and and fixed all that we could

331
00:12:39,750 --> 00:12:38,480
uh it was quite an effort and um

332
00:12:42,230 --> 00:12:39,760
from that i think we have great

333
00:12:43,269 --> 00:12:42,240
confidence uh going into the launch uh

334
00:12:45,030 --> 00:12:43,279
event

335
00:12:46,870 --> 00:12:45,040
now if you want to if you could uh pull

336
00:12:49,030 --> 00:12:46,880
up the the first image and i'll tell you

337
00:12:50,470 --> 00:12:49,040
a little bit more about the taurus and

338
00:12:53,590 --> 00:12:50,480

you can kind of visualize some of these

339
00:12:56,069 --> 00:12:53,600
elements now omar he talked and showed

340
00:12:58,150 --> 00:12:56,079
you a video about how the assembly of

341
00:12:59,670 --> 00:12:58,160
the vehicle happens there's really three

342
00:13:02,949 --> 00:12:59,680
major components

343
00:13:04,949 --> 00:13:02,959
uh on your left there is the stage zero

344
00:13:07,509 --> 00:13:04,959
as omar indicated that's put on the

345
00:13:09,110 --> 00:13:07,519
stand first at the launch site

346
00:13:12,230 --> 00:13:09,120
and then the the picture in the center

347
00:13:14,550 --> 00:13:12,240
there is the the upper three stages

348
00:13:17,430 --> 00:13:14,560
which are put together and tested

349
00:13:19,030 --> 00:13:17,440
uh inside a building here on vandenberg

350
00:13:22,710 --> 00:13:19,040
uh by orbital

351
00:13:25,030 --> 00:13:22,720
and then probably the most uh

352
00:13:27,509 --> 00:13:25,040
well one of a lot of interest is is the

353
00:13:29,829 --> 00:13:27,519
image on the right that's the fairing so

354
00:13:32,470 --> 00:13:29,839
uh the fairing that you see there we

355
00:13:33,990 --> 00:13:32,480
deliver to a clean facility called the

356
00:13:35,910 --> 00:13:34,000
payload processing facility at

357
00:13:37,750 --> 00:13:35,920
vandenberg and what that does is it puts

358
00:13:40,150 --> 00:13:37,760
it in a clean room

359
00:13:42,069 --> 00:13:40,160
and meets the spacecraft there

360
00:13:43,590 --> 00:13:42,079
so if you could put the next image up

361
00:13:46,470 --> 00:13:43,600
please

362
00:13:48,870 --> 00:13:46,480
on the right you can see where the glory

363
00:13:51,110 --> 00:13:48,880

spacecraft has been mated to the top of

364
00:13:53,670 --> 00:13:51,120
the uh taurus structure

365
00:13:54,949 --> 00:13:53,680
with the half of the fairing around it

366
00:13:56,629 --> 00:13:54,959
now what that does we'll add the other

367
00:13:58,550 --> 00:13:56,639
half of the fairing within that clean

368
00:14:00,389 --> 00:13:58,560
environment

369
00:14:02,550 --> 00:14:00,399
and that provides

370
00:14:05,430 --> 00:14:02,560
humidity temperature contamination

371
00:14:07,269 --> 00:14:05,440
control for the spacecraft

372
00:14:09,670 --> 00:14:07,279
and you do that in a clean area because

373
00:14:11,829 --> 00:14:09,680
as you've seen so far of this pad

374
00:14:14,550 --> 00:14:11,839
uh when it goes down to the site uh you

375
00:14:16,949 --> 00:14:14,560
get wind rain uh

376
00:14:18,710 --> 00:14:16,959
dry air wet air uh

377
00:14:20,790 --> 00:14:18,720
we've only had one rattlesnake

378
00:14:22,069 --> 00:14:20,800
rattlesnake sighting uh this time last

379
00:14:23,990 --> 00:14:22,079
time i think we had a couple of frogs

380
00:14:25,750 --> 00:14:24,000
and a rattlesnake so there are some

381
00:14:28,150 --> 00:14:25,760
things to avoid and and this by

382
00:14:31,509 --> 00:14:28,160
encapsulating the payload uh it keeps

383
00:14:34,310 --> 00:14:31,519
that safe now we have another uh

384
00:14:37,350 --> 00:14:34,320
passenger with us uh the alana and you

385
00:14:40,470 --> 00:14:37,360
can see that on the lower left

386
00:14:42,949 --> 00:14:40,480
uh it's it's sort of in a curious spot

387
00:14:45,910 --> 00:14:42,959
your typical satellite rides at the top

388
00:14:47,269 --> 00:14:45,920

of the rocket nose cap comes off and

389
00:14:48,870 --> 00:14:47,279
then the satellite's out front well

390
00:14:51,910 --> 00:14:48,880
that's the case for glory

391
00:14:53,430 --> 00:14:51,920
uh but the elana spacecraft

392
00:14:55,590 --> 00:14:53,440
assembly if you will it's actually a

393
00:14:57,269 --> 00:14:55,600
carrier called a pea pod with three

394
00:14:58,790 --> 00:14:57,279
small cubesats which you'll hear a lot

395
00:15:00,629 --> 00:14:58,800
more about

396
00:15:02,389 --> 00:15:00,639
at a later briefing following

397
00:15:04,310 --> 00:15:02,399
i think a couple more briefings here

398
00:15:07,110 --> 00:15:04,320
it's the last one today

399
00:15:10,069 --> 00:15:07,120
but it's behind it it actually faces aft

400
00:15:12,069 --> 00:15:10,079
during flight and it's next to our stage

401
00:15:13,990 --> 00:15:12,079
3 nozzle so you can kind of see that

402
00:15:15,670 --> 00:15:14,000
nozzle in the picture

403
00:15:17,030 --> 00:15:15,680
and

404
00:15:18,069 --> 00:15:17,040
well i'll just continue a little bit

405
00:15:20,310 --> 00:15:18,079
more it's kind of interesting we

406
00:15:22,790 --> 00:15:20,320
actually put a thermal protection system

407
00:15:23,910 --> 00:15:22,800
around this peapod canister for the

408
00:15:24,949 --> 00:15:23,920
ilana

409
00:15:27,350 --> 00:15:24,959
mission

410
00:15:30,310 --> 00:15:27,360
to protect against uh any heating that

411
00:15:32,629 --> 00:15:30,320
may occur from the stage three nozzle

412
00:15:35,350 --> 00:15:32,639
and all kinds of again lots of analysis

413
00:15:37,749 --> 00:15:35,360

we we have gone over every aspect of the

414
00:15:39,350 --> 00:15:37,759
vehicle every aspect of the mission

415
00:15:40,790 --> 00:15:39,360
uh if you get show up the next slide

416
00:15:43,110 --> 00:15:40,800
please

417
00:15:45,430 --> 00:15:43,120
so this is the way it's going to look uh

418
00:15:47,829 --> 00:15:45,440
probably later today and certainly

419
00:15:49,430 --> 00:15:47,839
tomorrow for day of launch

420
00:15:51,350 --> 00:15:49,440
nice clean pad

421
00:15:52,470 --> 00:15:51,360
we've taken off all the protective

422
00:15:53,590 --> 00:15:52,480
covers

423
00:15:57,030 --> 00:15:53,600
and

424
00:15:59,189 --> 00:15:57,040
omar described

425
00:16:00,389 --> 00:15:59,199
and once we get to t zero

426
00:16:01,910 --> 00:16:00,399
um

427
00:16:04,710 --> 00:16:01,920
be sure to listen there's there's a few

428
00:16:06,550 --> 00:16:04,720
key events you're gonna hear uh lift off

429
00:16:08,949 --> 00:16:06,560
and then uh depending on where you are

430
00:16:10,550 --> 00:16:08,959
if you're local here you'll actually

431
00:16:12,389 --> 00:16:10,560
there'll be quite a bit of a delay

432
00:16:14,310 --> 00:16:12,399
before you actually feel the rumble of

433
00:16:16,470 --> 00:16:14,320
the stage zero engine so don't be

434
00:16:18,310 --> 00:16:16,480
alarmed if you see the flame but it's

435
00:16:20,470 --> 00:16:18,320
you know where's the sound it's coming

436
00:16:21,829 --> 00:16:20,480
don't worry

437
00:16:25,350 --> 00:16:21,839
if you're listening to the countdown

438
00:16:28,230 --> 00:16:25,360

you'll also hear call outs of

439
00:16:31,749 --> 00:16:28,240
stage 0 burnout stage 1

440
00:16:33,670 --> 00:16:31,759
stage 0 1 separation stage 1 ignition as

441
00:16:35,269 --> 00:16:33,680
we drop these stages away because we

442
00:16:38,069 --> 00:16:35,279
burn the propellant get rid of the

443
00:16:39,829 --> 00:16:38,079
weight and then on to the next stage

444
00:16:41,670 --> 00:16:39,839
there's probably a key event that's

445
00:16:43,430 --> 00:16:41,680
happening that certainly i'm going to be

446
00:16:45,430 --> 00:16:43,440
listening for and that is about three

447
00:16:47,430 --> 00:16:45,440
minutes into the mission

448
00:16:50,150 --> 00:16:47,440
and you'll hear a confirmation of

449
00:16:51,269 --> 00:16:50,160
fairing separation so that's certainly

450
00:16:54,310 --> 00:16:51,279
i'm going to be listening for that i

451
00:16:55,910 --> 00:16:54,320
know a lot of others are too

452
00:16:58,629 --> 00:16:55,920
13 minutes later

453
00:17:01,189 --> 00:16:58,639
the glory spacecraft will reach orbit at

454
00:17:02,870 --> 00:17:01,199
the end of our rocket and we will

455
00:17:05,270 --> 00:17:02,880
gently push it away

456
00:17:08,069 --> 00:17:05,280
and then 10 seconds after that um the

457
00:17:10,470 --> 00:17:08,079
alana peapod canister will open and then

458
00:17:13,350 --> 00:17:10,480
the the three peapods come out and then

459
00:17:15,110 --> 00:17:13,360
our mission is done so uh you know we're

460
00:17:16,390 --> 00:17:15,120
we're about two days away from the end

461
00:17:18,630 --> 00:17:16,400
of this story

462
00:17:21,510 --> 00:17:18,640
at least my story and uh and then the

463
00:17:24,069 --> 00:17:21,520

beginning of of the spacecraft so

464
00:17:26,789 --> 00:17:24,079
back to you george all right thanks john

465
00:17:29,110 --> 00:17:26,799
and for that spacecraft story we go to

466
00:17:30,950 --> 00:17:29,120
brian feyfel the glory project manager

467
00:17:32,950 --> 00:17:30,960
from nasa's goddard space flight center

468
00:17:34,470 --> 00:17:32,960
brian thank you george i'd like to thank

469
00:17:36,870 --> 00:17:34,480
everybody for being here today and tell

470
00:17:38,549 --> 00:17:36,880
you how excited we are for the

471
00:17:40,630 --> 00:17:38,559
launch of glory

472
00:17:42,870 --> 00:17:40,640
i'm happy to report that we finished all

473
00:17:44,789 --> 00:17:42,880
our processing here at vandenberg and

474
00:17:47,430 --> 00:17:44,799
gloria is ready for its launch early

475
00:17:49,110 --> 00:17:47,440
wednesday morning if you could start the

476
00:17:51,750 --> 00:17:49,120
first animation i'd like to talk a

477
00:17:53,669 --> 00:17:51,760
little bit more about the mission itself

478
00:17:56,150 --> 00:17:53,679
as joy mentioned glory is a key part of

479
00:17:58,070 --> 00:17:56,160
nasa's climate research program

480
00:17:58,870 --> 00:17:58,080
and it will

481
00:18:00,870 --> 00:17:58,880
join

482
00:18:02,630 --> 00:18:00,880
other five other satellites in the

483
00:18:05,190 --> 00:18:02,640
afternoon constellation that are earth

484
00:18:06,710 --> 00:18:05,200
observing glory is a unique satellite

485
00:18:09,350 --> 00:18:06,720
and that is really two very different

486
00:18:12,230 --> 00:18:09,360
scientific missions in one

487
00:18:15,110 --> 00:18:12,240
it contains a sun pointing instrument

488
00:18:16,950 --> 00:18:15,120

that will continue a uh that will

489
00:18:19,110 --> 00:18:16,960
measure solar energy and an earth

490
00:18:20,630 --> 00:18:19,120
pointing instrument that will uh study

491
00:18:22,310 --> 00:18:20,640
aerosols

492
00:18:24,230 --> 00:18:22,320
the total radiance monitor was built by

493
00:18:25,909 --> 00:18:24,240
the university of colorado's laboratory

494
00:18:28,710 --> 00:18:25,919
for atmospheric and space physics in

495
00:18:31,750 --> 00:18:28,720
boulder colorado and it will continue an

496
00:18:32,710 --> 00:18:31,760
uninterrupted 32-year spaceborne data

497
00:18:35,990 --> 00:18:32,720
record

498
00:18:38,310 --> 00:18:36,000
of the total solar radiance measurement

499
00:18:40,230 --> 00:18:38,320
while the aerosol polarimetry sensor

500
00:18:42,390 --> 00:18:40,240
built by raytheon space and airborne

501
00:18:44,630 --> 00:18:42,400
systems in el segundo california

502
00:18:47,350 --> 00:18:44,640
will help scientists better understand

503
00:18:49,909 --> 00:18:47,360
the role of both man-made and naturally

504
00:18:52,870 --> 00:18:49,919
occurring aerosols in the atmosphere

505
00:18:54,950 --> 00:18:52,880
the aps instrument is also supported by

506
00:18:56,390 --> 00:18:54,960
two cloud cameras which were built by

507
00:18:58,630 --> 00:18:56,400
ball aerospace and technology

508
00:19:00,950 --> 00:18:58,640
corporation also in boulder colorado

509
00:19:03,350 --> 00:19:00,960
which will assist aps science in cloud

510
00:19:05,430 --> 00:19:03,360
clearing activities

511
00:19:07,430 --> 00:19:05,440
supporting the instrument suite is the

512
00:19:12,230 --> 00:19:07,440
glory spacecraft

513
00:19:14,710 --> 00:19:12,240

nasa program

514
00:19:16,549 --> 00:19:14,720
that was terminated many years ago

515
00:19:17,830 --> 00:19:16,559
it's been extensively modified and

516
00:19:19,590 --> 00:19:17,840
refurbished

517
00:19:22,470 --> 00:19:19,600
that work was completed by orbital

518
00:19:23,990 --> 00:19:22,480
sciences corporation in dulles virginia

519
00:19:27,110 --> 00:19:24,000
the same folks that will be flying

520
00:19:30,070 --> 00:19:27,120
orbital as we uh after we launch for the

521
00:19:32,230 --> 00:19:30,080
operations phase of this mission

522
00:19:33,830 --> 00:19:32,240
um if we could go to the next graph our

523
00:19:35,430 --> 00:19:33,840
next video

524
00:19:36,630 --> 00:19:35,440
i'd like to talk a little bit about the

525
00:19:39,110 --> 00:19:36,640
processing that we had here at

526
00:19:41,190 --> 00:19:39,120
vandenberg and tell you what to expect

527
00:19:43,430 --> 00:19:41,200
after we separate from the taurus

528
00:19:45,270 --> 00:19:43,440
vehicle itself we arrived at vandenberg

529
00:19:47,590 --> 00:19:45,280
on january 11th after a three-day

530
00:19:49,510 --> 00:19:47,600
journey across the country

531
00:19:50,870 --> 00:19:49,520
after a very quick inspection of the

532
00:19:52,950 --> 00:19:50,880
hardware and the ground support

533
00:19:55,510 --> 00:19:52,960
equipment we

534
00:19:58,390 --> 00:19:55,520
unpacked glory moved it to the its

535
00:20:00,310 --> 00:19:58,400
temporary home and began the process of

536
00:20:02,070 --> 00:20:00,320
configuring for launch

537
00:20:04,310 --> 00:20:02,080
over the next couple weeks

538
00:20:06,390 --> 00:20:04,320

we spent time

539
00:20:09,110 --> 00:20:06,400
visually inspecting the instruments the

540
00:20:11,510 --> 00:20:09,120
spacecraft the solar arrays we put the

541
00:20:13,029 --> 00:20:11,520
observatory through a full battery of

542
00:20:17,190 --> 00:20:13,039
electrical tests

543
00:20:21,190 --> 00:20:18,789
the fueling of the spacecraft marked a

544
00:20:22,390 --> 00:20:21,200
major milestone for me personally as it

545
00:20:24,789 --> 00:20:22,400
represented

546
00:20:25,909 --> 00:20:24,799
glory's last standalone activity by

547
00:20:27,430 --> 00:20:25,919
itself

548
00:20:29,190 --> 00:20:27,440
from that point on the program going

549
00:20:31,029 --> 00:20:29,200
forward we were going to meet up with

550
00:20:32,630 --> 00:20:31,039
the taurus and we'd work together to get

551
00:20:35,029 --> 00:20:32,640
us to the launch

552
00:20:36,710 --> 00:20:35,039
and i must say that the glory processing

553
00:20:39,029 --> 00:20:36,720
has gone and

554
00:20:41,270 --> 00:20:39,039
glory and the spacecraft and the launch

555
00:20:43,830 --> 00:20:41,280
vehicle processing has gone very well

556
00:20:45,669 --> 00:20:43,840
uh as john mentioned in his presentation

557
00:20:48,149 --> 00:20:45,679
gloria is buckled atop the taurus right

558
00:20:50,149 --> 00:20:48,159
now and we're ready for its ride to

559
00:20:53,029 --> 00:20:50,159
get the space

560
00:20:54,710 --> 00:20:53,039
once we separate from the launch vehicle

561
00:20:57,510 --> 00:20:54,720
the spacecraft will start a planned

562
00:20:59,830 --> 00:20:57,520
series of events that will ultimately

563
00:21:01,750 --> 00:20:59,840

result in solar array deployment

564
00:21:04,310 --> 00:21:01,760
depending upon the insertion orbits

565
00:21:06,470 --> 00:21:04,320
initial conditions

566
00:21:09,590 --> 00:21:06,480
solar ray deployment is expected about

567
00:21:11,590 --> 00:21:09,600
21 minutes after the separation event

568
00:21:13,510 --> 00:21:11,600
all the way out to about an hour and 15

569
00:21:15,669 --> 00:21:13,520
minutes after the event

570
00:21:17,909 --> 00:21:15,679
we'll be using nasa's tracking and data

571
00:21:20,070 --> 00:21:17,919
relay satellite to monitor space

572
00:21:21,990 --> 00:21:20,080
spacecraft activities for about 12 hours

573
00:21:23,669 --> 00:21:22,000
after we launch but we will be

574
00:21:26,149 --> 00:21:23,679
commanding the spacecraft through our

575
00:21:27,830 --> 00:21:26,159
ground station contacts

576
00:21:29,110 --> 00:21:27,840
during this first several ground station

577
00:21:30,549 --> 00:21:29,120
contacts

578
00:21:33,270 --> 00:21:30,559
we're going to be performing some key

579
00:21:35,350 --> 00:21:33,280
operations for the spacecraft

580
00:21:37,909 --> 00:21:35,360
we will verify its state of health we're

581
00:21:39,190 --> 00:21:37,919
going to open up a propulsion system

582
00:21:41,350 --> 00:21:39,200
latch valve

583
00:21:44,230 --> 00:21:41,360
we have to take the minus x solar array

584
00:21:46,549 --> 00:21:44,240
rotated 180 degrees towards the sun and

585
00:21:48,149 --> 00:21:46,559
then we'll adjust the beta angle offset

586
00:21:49,669 --> 00:21:48,159
of those arrays to maximize our

587
00:21:51,909 --> 00:21:49,679
electrical power

588
00:21:52,789 --> 00:21:51,919

over the next several days after that we

589
00:21:55,669 --> 00:21:52,799
will

590
00:21:58,470 --> 00:21:55,679
be bringing on other spacecraft systems

591
00:21:59,909 --> 00:21:58,480
and in about seven days after the launch

592
00:22:01,590 --> 00:21:59,919
the spacecraft should be completely

593
00:22:03,350 --> 00:22:01,600
checked out

594
00:22:05,110 --> 00:22:03,360
after that we're going to move into the

595
00:22:09,110 --> 00:22:05,120
next 20 days which are very critical

596
00:22:11,190 --> 00:22:09,120
days in that we will perform a series of

597
00:22:12,950 --> 00:22:11,200
propulsion maneuvers to raise our

598
00:22:14,549 --> 00:22:12,960
altitude and enter into the afternoon

599
00:22:17,029 --> 00:22:14,559
constellation

600
00:22:18,630 --> 00:22:17,039
that'll put us at about 29 days after

601
00:22:20,310 --> 00:22:18,640
after we launched

602
00:22:22,549 --> 00:22:20,320
and then we will spend

603
00:22:24,470 --> 00:22:22,559
the next days all the way out to 40 to

604
00:22:26,789 --> 00:22:24,480
the 45th day commissioning the

605
00:22:28,789 --> 00:22:26,799
instruments and once that's complete

606
00:22:31,190 --> 00:22:28,799
glory will be configured fully for

607
00:22:32,710 --> 00:22:31,200
science operations and then my job will

608
00:22:35,270 --> 00:22:32,720
be complete

609
00:22:37,029 --> 00:22:35,280
before we move on to hear the weather

610
00:22:39,350 --> 00:22:37,039
briefing which is very important for

611
00:22:41,990 --> 00:22:39,360
tomorrow night

612
00:22:44,390 --> 00:22:42,000
i want to just tell you once again how

613
00:22:46,549 --> 00:22:44,400

excited and pleased my team is to be at

614
00:22:48,630 --> 00:22:46,559
this point in the program um we've

615
00:22:50,789 --> 00:22:48,640
worked very hard to get glory configured

616
00:22:52,710 --> 00:22:50,799
for launch and i want to ensure you that

617
00:22:55,029 --> 00:22:52,720
gloria is ready to go to work

618
00:22:57,350 --> 00:22:55,039
and that's it thank you brian

619
00:22:59,590 --> 00:22:57,360
and now for the weather forecast first

620
00:23:01,110 --> 00:22:59,600
lieutenant benjamin jay wawer the launch

621
00:23:03,350 --> 00:23:01,120
weather officer for tomorrow night's

622
00:23:05,270 --> 00:23:03,360
launch from the 30th weather squadron

623
00:23:07,430 --> 00:23:05,280
here at vandenberg air force base

624
00:23:09,190 --> 00:23:07,440
lieutenant weir thank you george good

625
00:23:11,029 --> 00:23:09,200
afternoon ladies and gentlemen

626
00:23:13,430 --> 00:23:11,039
february is the most atmospherically

627
00:23:15,990 --> 00:23:13,440
dynamic month for the central california

628
00:23:17,510 --> 00:23:16,000
coast marked by alternate alternating

629
00:23:19,909 --> 00:23:17,520
patterns of high and low pressure

630
00:23:22,070 --> 00:23:19,919
systems moving through the area this

631
00:23:24,149 --> 00:23:22,080
past week we saw a rather intense low

632
00:23:25,750 --> 00:23:24,159
pressure system move through vandenberg

633
00:23:27,909 --> 00:23:25,760
which produced heavy rainfall

634
00:23:29,830 --> 00:23:27,919
thunderstorms and strong winds

635
00:23:31,830 --> 00:23:29,840
the pattern remains unsettled as a

636
00:23:33,510 --> 00:23:31,840
cutoff low will dive down from the

637
00:23:36,630 --> 00:23:33,520
pacific coast

638
00:23:38,310 --> 00:23:36,640

the gulf of alaska and linger off the

639
00:23:40,149 --> 00:23:38,320
california coast

640
00:23:43,269 --> 00:23:40,159
cutoff flows develop as low pressure

641
00:23:46,230 --> 00:23:43,279
systems loosen lose upper level jet

642
00:23:48,390 --> 00:23:46,240
support they are literally cut off from

643
00:23:52,149 --> 00:23:48,400
the flow and can remain stationary for

644
00:23:56,149 --> 00:23:53,750
this is our main forecast challenge

645
00:23:58,549 --> 00:23:56,159
because the nature of flow makes them

646
00:24:02,230 --> 00:23:58,559
difficult for weather models to predict

647
00:24:05,990 --> 00:24:04,630
currently skies are generally clear over

648
00:24:07,750 --> 00:24:06,000
vandenberg

649
00:24:10,070 --> 00:24:07,760
as the majority of the clouds associ

650
00:24:12,149 --> 00:24:10,080
associated with cutoff low are to the

651
00:24:14,230 --> 00:24:12,159
northwest off the north northern

652
00:24:15,830 --> 00:24:14,240
california coast

653
00:24:17,990 --> 00:24:15,840
the low is forecast to remain to the

654
00:24:20,390 --> 00:24:18,000
west of vandenberg air force base and

655
00:24:22,710 --> 00:24:20,400
move to the south of central california

656
00:24:24,950 --> 00:24:22,720
through today and tomorrow

657
00:24:27,190 --> 00:24:24,960
the main concern we have at this time is

658
00:24:29,350 --> 00:24:27,200
that the proximity of the cutoff low

659
00:24:30,630 --> 00:24:29,360
could produce cumulus clouds overhead of

660
00:24:33,750 --> 00:24:30,640
the launch pad

661
00:24:36,230 --> 00:24:33,760
or a vehicle flight path

662
00:24:39,909 --> 00:24:36,240
this would violate a range safety launch

663
00:24:41,990 --> 00:24:39,919

commitment criterion for cumulus clouds

664
00:24:44,230 --> 00:24:42,000
that being said the models and

665
00:24:45,350 --> 00:24:44,240
observations are beginning to agree

666
00:24:48,310 --> 00:24:45,360
that the weather conditions for the

667
00:24:50,390 --> 00:24:48,320
launch window will remain favorable

668
00:24:53,190 --> 00:24:50,400
the forecast for the launch window of

669
00:24:55,269 --> 00:24:53,200
208 to 211 local on february 23rd will

670
00:24:58,789 --> 00:24:55,279
be cumulus clouds

671
00:25:02,230 --> 00:24:58,799
of 1 8 coverage from 3 000 to 5000 feet

672
00:25:04,549 --> 00:25:02,240
cirrus clouds 3 8 coverage from 22 to 25

673
00:25:06,870 --> 00:25:04,559
000 feet unrestricted visibility with

674
00:25:07,750 --> 00:25:06,880
winds out of the southeast at 12 to 18

675
00:25:09,269 --> 00:25:07,760
knots

676
00:25:11,750 --> 00:25:09,279
temperatures will be in the mid to low

677
00:25:14,470 --> 00:25:11,760
40s with an overall probability of

678
00:25:16,470 --> 00:25:14,480
violating t0 of 10

679
00:25:19,350 --> 00:25:16,480
for those cumulus clouds

680
00:25:21,029 --> 00:25:19,360
and finally the 24-hour scrub forecast

681
00:25:23,110 --> 00:25:21,039
for february 24th will see an

682
00:25:25,430 --> 00:25:23,120
improvement in conditions as the cutoff

683
00:25:27,669 --> 00:25:25,440
low moves out of the area and high

684
00:25:29,029 --> 00:25:27,679
pressure begins to take hold we're still

685
00:25:31,430 --> 00:25:29,039
going to see some of those high level

686
00:25:33,909 --> 00:25:31,440
cirrus clouds linger around

687
00:25:36,549 --> 00:25:33,919
from 22 to 25 000 feet

688
00:25:38,549 --> 00:25:36,559

visib visibility will remain unpredicted

689
00:25:41,750 --> 00:25:38,559
winds will switch from the northwest at

690
00:25:43,510 --> 00:25:41,760
12 to 18 knots and temperatures will be

691
00:25:45,750 --> 00:25:43,520
in the mid-40s

692
00:25:48,710 --> 00:25:45,760
that gives us a probability of violation

693
00:25:50,630 --> 00:25:48,720
for our 24-hour scrub forecast

694
00:25:52,230 --> 00:25:50,640
of zero percent

695
00:25:54,630 --> 00:25:52,240
and that's all i have george back to you

696
00:25:56,789 --> 00:25:54,640
all right thank you lieutenant wow

697
00:25:58,950 --> 00:25:56,799
and now we'll take questions we'll start

698
00:26:00,870 --> 00:25:58,960
first here at vandenberg then we'll go

699
00:26:02,789 --> 00:26:00,880
to the kennedy space center where we

700
00:26:04,789 --> 00:26:02,799
understand there are some questions and

701
00:26:06,630 --> 00:26:04,799
then come back here for

702
00:26:09,350 --> 00:26:06,640
any final questions

703
00:26:11,190 --> 00:26:09,360
so we'll start here at vandenberg here

704
00:26:12,789 --> 00:26:11,200
with nora wallace please give your name

705
00:26:15,190 --> 00:26:12,799
and affiliation when mike comes to you

706
00:26:17,430 --> 00:26:15,200
hi nora wallace santa barbara news press

707
00:26:19,590 --> 00:26:17,440
um john you spoke a little bit about

708
00:26:21,590 --> 00:26:19,600
looking at the vehicle from us i think

709
00:26:23,190 --> 00:26:21,600
you said stem to stern and you said we

710
00:26:24,789 --> 00:26:23,200
fixed all that we could could you

711
00:26:27,190 --> 00:26:24,799
elaborate a little bit on that and tell

712
00:26:29,110 --> 00:26:27,200
us you know maybe what else might have

713
00:26:31,430 --> 00:26:29,120

been found on the rocket and um is it

714
00:26:34,149 --> 00:26:31,440
kind of the new improved doris sure sure

715
00:26:36,950 --> 00:26:34,159
right uh well obviously the the fairing

716
00:26:39,590 --> 00:26:36,960
was the focus and and we we put more

717
00:26:41,830 --> 00:26:39,600
energy into that because it did we were

718
00:26:44,310 --> 00:26:41,840
able to identify the cause

719
00:26:46,390 --> 00:26:44,320
probably within six to eight months it

720
00:26:48,149 --> 00:26:46,400
sort of these this discovery sort of

721
00:26:49,590 --> 00:26:48,159
comes out over time

722
00:26:52,630 --> 00:26:49,600
uh and then we started it on the

723
00:26:54,630 --> 00:26:52,640
redesign process for the fairing itself

724
00:26:55,590 --> 00:26:54,640
but we didn't want to stop there

725
00:26:56,870 --> 00:26:55,600
so we

726
00:26:58,390 --> 00:26:56,880
we held

727
00:27:00,470 --> 00:26:58,400
what we call um

728
00:27:03,430 --> 00:27:00,480
an independent review where we have

729
00:27:04,950 --> 00:27:03,440
engineering staff from both kennedy and

730
00:27:07,029 --> 00:27:04,960
orbital that aren't associated

731
00:27:08,789 --> 00:27:07,039
necessarily with taurus

732
00:27:10,870 --> 00:27:08,799
look at

733
00:27:11,830 --> 00:27:10,880
both the design aspect

734
00:27:13,590 --> 00:27:11,840
uh

735
00:27:15,350 --> 00:27:13,600
all the processes that we go through to

736
00:27:17,590 --> 00:27:15,360
make sure that that for example our

737
00:27:21,430 --> 00:27:17,600
analysis for

738
00:27:23,190 --> 00:27:21,440

pick an example structure strength say

739
00:27:24,470 --> 00:27:23,200
that had nothing to do with the fairing

740
00:27:26,470 --> 00:27:24,480
deployment

741
00:27:28,549 --> 00:27:26,480
uh that that analysis was performed

742
00:27:32,070 --> 00:27:28,559
correctly uh

743
00:27:33,909 --> 00:27:32,080
that the electrical systems uh were done

744
00:27:35,350 --> 00:27:33,919
the guidance navigation and control

745
00:27:37,029 --> 00:27:35,360
systems

746
00:27:38,630 --> 00:27:37,039
all of the assumptions were correct in

747
00:27:42,630 --> 00:27:38,640
the models i mean it just it's an

748
00:27:48,149 --> 00:27:45,350
but we left no stone unturned

749
00:27:50,389 --> 00:27:48,159
we did make some modest hardware

750
00:27:52,549 --> 00:27:50,399
improvements uh we changed uh for

751
00:27:54,630 --> 00:27:52,559
example to a later

752
00:27:57,269 --> 00:27:54,640
ordinance devices okay you can't test

753
00:27:58,549 --> 00:27:57,279
them because then then they're done so

754
00:28:01,990 --> 00:27:58,559
we we moved

755
00:28:03,510 --> 00:28:02,000
to some newer uh lots that had a better

756
00:28:05,510 --> 00:28:03,520
test history

757
00:28:07,269 --> 00:28:05,520
for example that again didn't have

758
00:28:09,669 --> 00:28:07,279
anything to do with the fairing

759
00:28:11,750 --> 00:28:09,679
deployment but nonetheless will will

760
00:28:13,269 --> 00:28:11,760
improve the overall reliability of the

761
00:28:17,029 --> 00:28:13,279
vehicle so those are some of the things

762
00:28:25,029 --> 00:28:20,389
janine

763
00:28:26,310 --> 00:28:25,039

times long poke record omar um from nasa

764
00:28:28,230 --> 00:28:26,320
standpoint what's your level of

765
00:28:30,470 --> 00:28:28,240
confidence in taurus

766
00:28:33,110 --> 00:28:30,480
going forward and wednesday

767
00:28:35,350 --> 00:28:33,120
sure um

768
00:28:37,430 --> 00:28:35,360
you know it's it's kind of like

769
00:28:39,110 --> 00:28:37,440
there's that cold pool and you gotta dip

770
00:28:42,230 --> 00:28:39,120
your toe in it

771
00:28:44,630 --> 00:28:42,240
um we've done everything we can

772
00:28:46,950 --> 00:28:44,640
we've looked at that vehicle

773
00:28:49,269 --> 00:28:46,960
from a systems level down to the piece

774
00:28:51,750 --> 00:28:49,279
parts level

775
00:28:53,269 --> 00:28:51,760
there's we've checked everything

776
00:28:55,190 --> 00:28:53,279
we're as comfortable as we're going to

777
00:28:58,950 --> 00:28:55,200
get

778
00:29:01,669 --> 00:28:58,960
be successful

779
00:29:03,590 --> 00:29:01,679
and i think the whole team

780
00:29:06,070 --> 00:29:03,600
has done some soul searching and looked

781
00:29:08,549 --> 00:29:06,080
deep at everything we've done i i don't

782
00:29:10,710 --> 00:29:08,559
think we can uncover anything else

783
00:29:12,710 --> 00:29:10,720
and with that that gives me a lot of

784
00:29:15,029 --> 00:29:12,720
comfort

785
00:29:16,630 --> 00:29:15,039
yeah i will be crossing my

786
00:29:20,070 --> 00:29:16,640
fingers

787
00:29:24,870 --> 00:29:20,080
but that's just my superstitious side

788
00:29:28,789 --> 00:29:26,710

all right we're going to go to kennedy

789
00:29:30,230 --> 00:29:28,799
and take a question or two from there

790
00:29:31,909 --> 00:29:30,240
and then we'll come back and take uh

791
00:29:34,789 --> 00:29:31,919
some follow-up and additional questions

792
00:29:37,430 --> 00:29:34,799
here at vandenberg so we could

793
00:29:39,269 --> 00:29:37,440
go to kennedy for the questions

794
00:29:41,190 --> 00:29:39,279
hi thanks for taking my question um

795
00:29:44,389 --> 00:29:41,200
denise childspace.com

796
00:29:45,909 --> 00:29:44,399
with the question for joy brettauer

797
00:29:48,310 --> 00:29:45,919
just wondering what the cost of the

798
00:29:51,110 --> 00:29:48,320
glory mission is and

799
00:29:54,310 --> 00:29:51,120
how if at all the glory mission and its

800
00:29:57,110 --> 00:29:54,320
future is affected by the proposed fy 12

801
00:30:00,470 --> 00:29:57,830
um

802
00:30:02,750 --> 00:30:00,480
starting off with the question of cost

803
00:30:05,269 --> 00:30:02,760
the glory mission costs about

804
00:30:06,870 --> 00:30:05,279
424.1 million dollars

805
00:30:09,830 --> 00:30:06,880
and that's the cost of the mission

806
00:30:11,990 --> 00:30:09,840
including beyond orbit operations

807
00:30:13,269 --> 00:30:12,000
um the second part of that question

808
00:30:15,990 --> 00:30:13,279
could you repeat that because i could

809
00:30:18,789 --> 00:30:16,000
barely hear you

810
00:30:19,830 --> 00:30:18,799
yeah sorry um just how the glory mission

811
00:30:21,750 --> 00:30:19,840
feature

812
00:30:24,230 --> 00:30:21,760
if at all is going to be affected by the

813
00:30:26,549 --> 00:30:24,240

proposed fy 12 budget

814
00:30:28,389 --> 00:30:26,559
the best of my knowledge right now

815
00:30:30,710 --> 00:30:28,399
the glory budget i mean there's been a

816
00:30:33,430 --> 00:30:30,720
commitment to support the glory mission

817
00:30:35,269 --> 00:30:33,440
and as far as i know we are confident

818
00:30:36,870 --> 00:30:35,279
that that is unaffected at this point in

819
00:30:38,549 --> 00:30:36,880
time

820
00:30:40,870 --> 00:30:38,559
again that's one of the most important

821
00:30:43,430 --> 00:30:40,880
initiatives in the earth science

822
00:30:45,029 --> 00:30:43,440
portfolio right now and unless that

823
00:30:46,630 --> 00:30:45,039
changes in the future of course we don't

824
00:30:49,430 --> 00:30:46,640
know what the future holds but right now

825
00:30:51,110 --> 00:30:49,440
the commitment is firm it's there and we

826
00:30:54,870 --> 00:30:51,120
will be going forward to support the

827
00:30:54,880 --> 00:31:00,470
further questions of kennedy

828
00:31:04,310 --> 00:31:02,310
all right that's all from kennedy so

829
00:31:05,909 --> 00:31:04,320
we'll come back here um

830
00:31:08,470 --> 00:31:05,919
we have any questions in in the back

831
00:31:09,750 --> 00:31:08,480
from anyone back here

832
00:31:11,590 --> 00:31:09,760
all right then we'll come back here to

833
00:31:13,430 --> 00:31:11,600
the front nora you can pick up again

834
00:31:15,750 --> 00:31:13,440
wallace again santa barbara news press

835
00:31:18,149 --> 00:31:15,760
um joy i can answer this one in terms of

836
00:31:20,630 --> 00:31:18,159
understanding uh global climate change

837
00:31:21,830 --> 00:31:20,640
can you rank gloria's importance in the

838
00:31:23,430 --> 00:31:21,840

a train

839
00:31:25,430 --> 00:31:23,440
to give us a better understanding of how

840
00:31:28,389 --> 00:31:25,440
important it is to have that particular

841
00:31:30,870 --> 00:31:28,399
spacecraft in the constellation

842
00:31:32,470 --> 00:31:30,880
well right now i'm going to say that you

843
00:31:33,830 --> 00:31:32,480
could hold your question for the next

844
00:31:36,630 --> 00:31:33,840
science briefing where you'll get the

845
00:31:39,350 --> 00:31:36,640
real experts for the science however um

846
00:31:40,950 --> 00:31:39,360
i will say that glory in combination

847
00:31:42,870 --> 00:31:40,960
with observations from the other

848
00:31:45,190 --> 00:31:42,880
spacecraft that are currently on orbit

849
00:31:47,830 --> 00:31:45,200
with the a train

850
00:31:49,909 --> 00:31:47,840
will provide a substantial amount of

851
00:31:52,149 --> 00:31:49,919
insight and clarity

852
00:31:56,070 --> 00:31:52,159
as i had spoken before about how

853
00:31:58,789 --> 00:31:56,080
aerosols impact our earth's atmosphere

854
00:32:01,110 --> 00:31:58,799
and and it'll also go into looking at

855
00:32:03,269 --> 00:32:01,120
how the atmosphere the aerosols and the

856
00:32:06,070 --> 00:32:03,279
atmosphere in combination

857
00:32:08,470 --> 00:32:06,080
with the changes in the solar energy

858
00:32:10,310 --> 00:32:08,480
will impact earth's climate so

859
00:32:12,310 --> 00:32:10,320
i'd recommend holding it for the true

860
00:32:14,230 --> 00:32:12,320
experts on the panel a little later but

861
00:32:15,830 --> 00:32:14,240
it's very important i mean obviously

862
00:32:17,430 --> 00:32:15,840
global warming

863
00:32:19,509 --> 00:32:17,440

we've heard a lot about global climate

864
00:32:21,190 --> 00:32:19,519
changes i mean this is our planet our

865
00:32:22,870 --> 00:32:21,200
earth i mean we really need to bring it

866
00:32:24,950 --> 00:32:22,880
down to brass tacks all you have to do

867
00:32:26,870 --> 00:32:24,960
is step outside and you either have a

868
00:32:29,830 --> 00:32:26,880
hazy day or you have a clear and sunny

869
00:32:32,070 --> 00:32:29,840
day we're looking at supporting the

870
00:32:33,430 --> 00:32:32,080
planet for future generations and we

871
00:32:34,789 --> 00:32:33,440
really need to get serious as a

872
00:32:36,389 --> 00:32:34,799
civilization

873
00:32:38,950 --> 00:32:36,399
about truly getting the data that we

874
00:32:41,750 --> 00:32:38,960
need to understand how

875
00:32:44,470 --> 00:32:41,760
in fact we as a community

876
00:32:47,190 --> 00:32:44,480
are impacting our own backyard and the

877
00:32:49,430 --> 00:32:47,200
air that we breathe so

878
00:32:54,149 --> 00:32:49,440
you're welcome

879
00:32:58,470 --> 00:32:55,990
how many days on the range do you have

880
00:33:02,549 --> 00:32:58,480
and are there any impediments in terms

881
00:33:03,669 --> 00:33:02,559
of satellite charging beyond 24 uh 48

882
00:33:05,269 --> 00:33:03,679
hours slip

883
00:33:07,110 --> 00:33:05,279
we have um

884
00:33:09,190 --> 00:33:07,120
the 23rd

885
00:33:12,149 --> 00:33:09,200
and the 24th as a backup

886
00:33:14,630 --> 00:33:12,159
there is some other testing on range but