good morning everyone this is our launch

contingency news conference from

Vandenberg Air Force Base and here to

discuss what happened this morning with

our Taurus launch with the glory

spacecraft is Omar Baez the NASA launch

director from the Kennedy Space Center

Ron gray be the general manager for the

orbital sciences corporation launch

systems group rich Straka

the deputy general manager for

operations from the Orbital Sciences

corporations launch systems group and

Mike Luthor the deputy associate
00:00:42,960 --> 00:00:46,320
administrator for programs for the

00:00:44,729 --> 00:00:49,259
science Mission Directorate at NASA

00:00:46,320 --> 00:00:53,689
headquarters and we'll begin first with

00:00:49,259 --> 00:00:57,000
Omar Baez Omar thank you George

00:00:53,689 --> 00:00:59,218
it's a very difficult situation we're in

00:00:57,000 --> 00:01:04,109
here and I'm going to try to explain to

00:00:59,219 --> 00:01:06,019
you what happened last night and into

00:01:04,109 --> 00:01:09,510
this morning as far as the countdown and

00:01:06,019 --> 00:01:13,739
all the events as we got through them

00:01:09,510 --> 00:01:16,950
and what we know to this point the last

00:01:13,739 --> 00:01:19,919
night our team came in at 10 p.m. to

00:01:16,950 --> 00:01:24,719
open up the checklist for the Taurus t9

00:01:19,920 --> 00:01:27,540
glory mission we set up the facilities

00:01:24,719 --> 00:01:31,739
in a range powered up the Taurus launch
vehicle we checked out the FTS system we got through our polls we got into the hot count we encountered no anomalies with the spacecraft or the launch vehicle or the range in the hole count at t-minus five minutes we did our last poll and we lifted off at 209 43 this morning right on target state zero burn nominally for a minute and 25 seconds stage 1 then ignited in a millisecond later we separated from the stage zero and continued from flight we did that till 2 minutes and 45 seconds where we
had indication of burnout of the stage 1

and we had ignition of stage 2 about 6

seconds later after stage 2 ignition we

were expecting to see the fairing on the

t9 separate we didn't see the indication

of fairing separation there was other

indications such as performance loss

that we saw a little bit later on and

flight but we failed to make orbit and

and all indications are that the

satellite in rocket order is in the

Southern Pacific Ocean somewhere and

that's all I have for you all right

and now to ron gray be the general
manager for the orbital sciences

corporation loft Systems Group rod

thanks well let me just say this is a pretty tough night for all of us a

little over two years ago we had a similar tough night when we conducted a Taurus launch for the OC o mission that

mission suffered a failure the failure was a failure of the fairing to to separate we conducted an extensive investigation of that anomaly and we traced the most probable cause to a failure of the fairing separation initiation system we spent the last two
years doing the analysis on what went wrong the last redesigning the system and testing the components of the system we went so far as to completely change out the initiation system to a system that we use on one of our other vehicles the Minotaur for vehicle and in the intervening two years that that system has flown successfully three times so we really went into this flight feeling confident that we had nailed the fairing issue and then we came up with the result that Omar described this evening
let me just say that there's a great deal of emotional investment on the part of all the players on any spaceflight but that's probably doubly so on a return to flight effort like this one.

I'll just speak briefly to the you know this is the emotional state if you will of the of the team and I mean the broad team the launch team the spacecraft team.

on both the industry and the NASA side I would I think it's not an understatement to say that tonight we're all pretty devastated but we will recover well but the team will bounce back because
they're all professionals and orbital

101
00:05:32,550 --> 00:05:38,040
sciences will bounce back with the

102
00:05:34,050 --> 00:05:40,280
Taurus vehicle let me turn it over to

103
00:05:38,040 --> 00:05:42,689
rich Straka and rich will go through

104
00:05:40,279 --> 00:05:44,639
some of the differences between the

105
00:05:42,689 --> 00:05:46,800
system that we flew on Osio and what we

106
00:05:44,639 --> 00:05:48,899
flew here tonight all right thank you

107
00:05:46,800 --> 00:05:50,879
rod and which track has the deputy

108
00:05:48,899 --> 00:05:53,419
general manager for operations for

109
00:05:50,879 --> 00:05:56,399
orbital sciences long Systems Group rich

110
00:05:53,420 --> 00:05:58,050
okay to give you an idea of what we

111
00:05:56,399 --> 00:05:59,759
changed I'll just go through a brief

112
00:05:58,050 --> 00:06:02,579
description of how that what the fairing

113
00:05:59,759 --> 00:06:05,219
is and how it works the Taurus uses a

114
00:06:02,579 --> 00:06:07,050
clamshell fairing and the fairing is
held onto the vehicle we're constrained

the vehicle with what we call frangible

joints and those joints are meant to

explosively fracture when commanded to

do so when the joints explosively

the fairing is then in two halves and

there are piston pushers that push the

fairing off in the OCO vehicle and

previous tourist vehicles we use what

was called a hot gas system to do that

pushing job so there was a pyro

technically initiated combustion process

that generated hot gas and the pressure
of that hot gas pushing the Pistons
pushed the fairing halves apart
as Ron said in the investigation we
identified the most probable cause of
the OCO failure as a failure to initiate
that hot gas combustion process so what
we did in response to that is we swapped
out or we changed out redesigned the
deployment system to use a cold gas
system which is a pressurized bottle of
nitrogen that then when commanded
functions by pressurizing those same
Pistons and pushing the fairing halves
apart it uses a completely different a
Nisshin system and a completely different pressurization methodology than the OCO system and as Ron said we really felt like we had the problem nailed and that particular system has flown three times last year a very similar system almost identical system flew and our Minotaur four product lines successfully three times last year so right now we're crunching the data but there was really not enough data that's been processed so far to really tell any more than the fairing didn't didn't deploy and that's about all I have to
say thank you rich and Mike Luthor the
deputy associate administrator for
ministration for programs for the
science Mission Directorate and NASA
headquarters Mike well clearly the
science Mission Directorate and the
Earth Science Division is extremely
disappointed in the loss tonight we had
worked closely at all levels of
the agency and with our industry
partners to evaluate this risk and we
felt going in that we believed we had an
acceptable level of risk
clearly we missed something so we've now
got to go off find out what that is
fix it and that is in fact what we will

do in the meantime we we have lost the

glory mission it would have made

important measurements for the

understanding of earth as a system and

of the impacts of climate change

however the earth SMD science Mission

Directorate and the Earth Science

Division will continue to contribute and

make significant contributions to the

understanding of the earth with its 13

existing operating missions and a cadre

of aircraft and ground networks and data

systems contributing to our science
research in addition we'll continue to plan the path forward into the next decade with a CAD Dre of more than a dozen missions to be launched in the next 10 years all right thank you Mike and we're ready now for questions please give your name and affiliation when the microphone comes to you we'll start in the front with Nora Thank You Nora Wallace at the Santa Barbara News Press Omar you said something about other indications of performance loss can you expand on that at all yeah what you see is since we
didn't jettison the fairing you see

we're expecting to shed weight as a fairing comes off and obviously wouldn't shed that way and the rocket just can't carry you into orbit with lift that an extra amount of weight

Janine's skully santa maria times Lompoc record can you I know it's still early and you haven't thoroughly gone through the data but can someone explain how similar this is to the OSI Oh failure do you have indication of partial separation is there any kind of assessment that you can give in terms of
Oh coz I guess I can take that we really
don't have any of the data processed yet

it's going to be several hours before we

got a good look at the data so it's too

early to tell whether it's it's the same

thing as we faced last time in terms of

the you know the symptoms and the data

pattern we just don't know right now

what I can say is that we did put

additional telemetry points and we do

have additional instrumentation

on this flight so we do have a leg up on

determining root cause this time and but

it's too early to tell if it if it is in

fact the same cause Omar are you going
to be able to pinpoint more where the
satellite might have ended up yeah like
we should be able to it's just too
preliminary to get the trajectory of
word ended up but seeing that it's
similar weight to what oka was and the
same launch vehicle performance it's
likely physics says it's likely in the
same spot or close to it
can you explain is there any kind of
difference between the system that's
been used on glory versus what's flown
successfully on Minotaur and in terms of
trying to figure what what happened the
the fairing system itself is very similar but they are different fairings between the two vehicles the there are different sizes for one thing the Minotaur fairing is quite a bit larger but it does use the same basic mechanisms the same frangible joint system for the separation or the frack during process and the jettison system the piston system is almost identical so but there are differences in terms of the fairing size and the geometry of the fairing from NASA
standpoint if you can speak maybe expand

a little bit on how the earth science

group and the scientists here who've

spent decades on this mission rebound

from this and how the crew might

bond together in this to recover from

this loss well as as you mentioned

the these missions are developed as you

well know over a course of a number of

years by some very dedicated people

overcoming great odds and develop that

really as a family and so they

respond to disappointments as a fan as a

family would quite frankly and so I
think you know if you can imagine how

00:13:49,649 --> 00:13:56,459
any family responds to a loss that might

00:13:53,639 --> 00:13:57,509
occur they've overcome other obstacles

00:13:56,460 --> 00:13:59,280
previously

00:13:57,509 --> 00:14:02,850
I'm sure they'll overcome this one

00:13:59,279 --> 00:14:04,620
although it is quite painful after

00:14:02,850 --> 00:14:11,519
having dedicated so many years of your

00:14:04,620 --> 00:14:14,820
life can you comment on the status of

00:14:11,519 --> 00:14:18,960
co2 will it still use the current plan

00:14:14,820 --> 00:14:20,910
is to fly on a Taurus XL is that what's

00:14:18,960 --> 00:14:24,810
the plan now

00:14:20,909 --> 00:14:26,879
is is in development and a couple of

00:14:24,809 --> 00:14:29,459
years away from launch yet we'll have to

00:14:26,879 --> 00:14:32,279
evaluate you know the outcome of this

00:14:29,460 --> 00:14:39,230
investigation and and we'll adjust our
plans appropriately any other questions

all right in that event saying million

that will conclude this briefing thank you very much