

Please proceed in any fashion that you see fit.

STATEMENT OF HON. EDWARD C. ALDRIDGE, SECRETARY OF  
THE AIR FORCE

Mr. ALDRIDGE. Thank you, Mr. Chairman.

I have a statement which I have provided for the record. What I thought I would do today is to try to summarize that statement and a series of briefings, which, I guess, is typical of the Pentagon's approach in presenting its case.

Before I start, let me just say that, as you well know, 2½ years ago, when we came before the Congress to start a little program of only 10 complementary ELVs, it was not a very popular event. There was a lot of personal abuse that I took with even suggesting such a "terrible" idea as that. But, because of the persistence of the Congress, we are, in fact, about 2 years ahead of where we would have been if that program had not been approved.

Unfortunately, since that time, we have had a series of accidents with *Challenger* and unfortunately two Titan failures, the first of which occurred in 1985, which was the first Titan failure from Vandenberg Air Force Base, in 18 years of flying Titans. So it was quite a tragedy. An unexpected event.

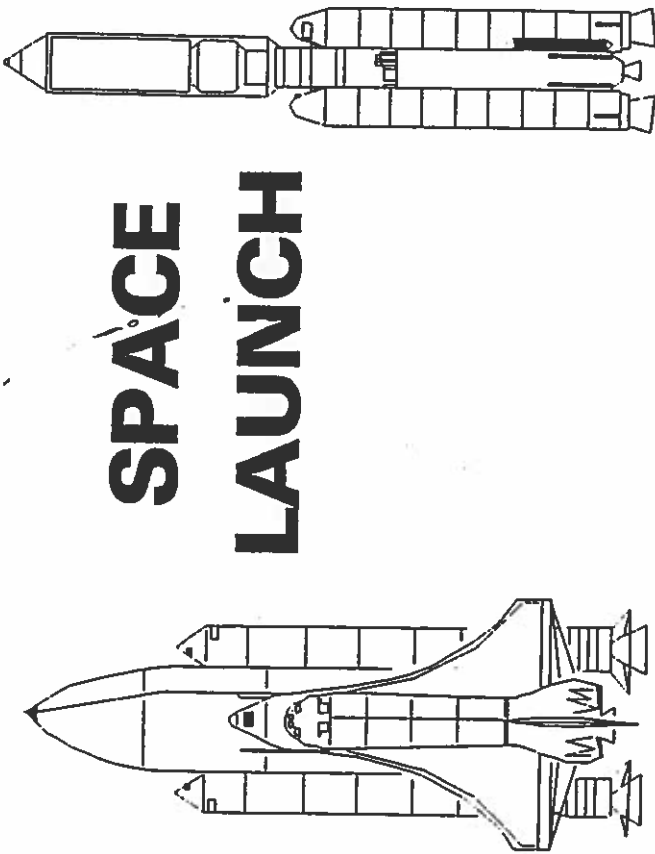
What I would like to do today is to give you an update of where we stand on launch recovery.

As you know, through the great help of this Congress, we did get some significant funds approved for fiscal years 1986 and 1987, right after the *Challenger* accident, to begin the process of recovery.

Unfortunately, there have been changes that have occurred, even since that time. What I would like to do today is to tell you where we were at that time and then update you on where we need to go in order to fully recover from the situation we have today.

May I have the first chart, please.

# SPACE LAUNCH



No, the next chart.

## THE PROBLEM

Previous budget submissions—resolved many problems.  
More fixes required:

Additional Shuttle slips/launch rate reductions.  
Additional performance losses.

We have no option but to fix them—the purpose of today's briefing.

Senator EXON. May we dim the lights a little bit, please.

Mr. ALDRIDGE. Mr. Chairman, as I mentioned before, the problem that we see today was not known in 1986. We submitted in the previous budget submission some fixes to the recovery program as a result of the *Challenger* accident and the Titan failures. They resolved many of the problems that got us started on the major program. However, there have been some additional impacts to our recovery plan and more fixes are now required.

The sense of what has happened is: at the time we submitted the fiscal year 1988 budget, we made the assumption that the Shuttle would be down about 18 to 24 months. It now looks like it will be down for 30 months, and it could be down even longer than that.

In addition, NASA has reduced the launch rate of the Shuttle, to the point where the rate that was assumed at the time of the budget submission is going to be less than is now planned. We have to take some additional actions.

We have also had some performance losses. At the time the budget was submitted, the assumption was that the Centaur was still on the Shuttle. NASA made a decision that cancelled the Shuttle Centaur program, and we have had to remove certain pay-

The main discussion on this is that these spacecraft represent operational capabilities, and, of course, they are worth billions of dollars. We have already spent money to buy these satellites. The question of just keeping them sitting on the ground—waiting—is really not an acceptable alternative for us. We must pay the bill to get these satellites launched.  
Next chart, please.

## SHUTTLE IMPACTS TO DOD

EVENT	RESULT
● CHALLENGER ACCIDENT	● + 30 MONTH SLIP
● PERFORMANCE LOSSES	● - 16,000 POUNDS VANDENBERG STANDDOWN
● SAFETY CONCERNS	● NO CENTAUR UPPERSTAGE
	● REDUCED FLIGHT RATE
	● PAYLOAD DESIGN IMPACTS

As I mentioned before, the Shuttle is having an impact on the Department of Defense, and in very significant ways, as a result of the *Challenger* accident. We are now looking at a 30-month down time. The expectation now is June 1988, before the next Shuttle will be launched from Kennedy. There is still some speculation on whether or not NASA will meet the June 1988 schedule. Right now, we have no information that would preclude them meeting it, but that is still considered to be very tight and very optimistic by NASA. It could go beyond that point.

Senator EXON. Let me stop you right there.

Just within the last 10 days, did you not have a test that indicated that they may have solved the main problem?

Mr. ALDRIDGE. That was a little longer than 10 days ago, sir. But they did have a full-up test of the new design solid rocket.

Senator EXON. Was that all positive?

Mr. ALDRIDGE. Yes, sir. Everything looked very good on that point.

The problem is not so much getting the testing done, but building the flight hardware to meet the June 1988 flight date. They will have to deliver to Kennedy in December of this year two flight

loads off the Shuttle because of that decision. Also there have been other losses which have caused us to make some additional changes.

The problem, Mr. Chairman, is these are not satellites that we can wait to launch. These are operational replacement satellites to existing on-orbit capability and some new capabilities, which are identified as essential for the national security mission. We must launch these systems, and the only option we have is to pay the price to do so.

That is what I am going to talk to you about today.

May I have the next chart, please.

### OPERATIONAL IMPERATIVE

Launches replace degrading existing capability or provide new on-orbit capability. Delay in launch will preclude a reliable missile warning capability or arms control verification capabilities.

Waste of billions of dollars in capital investment is unacceptable.

The imperative, as I mentioned, is that these are not satellites which we can wait to launch. These satellites shore-up degrading capabilities, which have been on-orbit.  
Let me make just one point here.

The performance of our on-orbit satellites during this crucial period have been absolutely outstanding. The quality of our contractor team who built our satellites has saved us from a national security disaster. Many of these satellites, which normally would have been replaced by now with Shuttle or expendable launches, are lasting longer than their lifetime expectancy would have been, and they are performing much better than we expected. So, our on-orbit capability has saved us from having some real problems in accomplishing our national security mission.

We have identified very important and new capabilities that need to be launched to meet our national security requirements. I will show you those. Unfortunately, some of the satellites that I cannot discuss go into classifications even beyond this hearing.

Senator EXON. Mr. Secretary, I will tell you and should advise the staff that we are at the secret level. Some of the members may wish to go into things which you have properly indicated that you could not talk about at this classification.

I just want to tell everyone that we are now at the secret level. We are ready to go and prepared to go very shortly to codeword, if we have to, to discuss some of the things that you just referred to.

So I think there should be no hesitancy on the members to inquire into any of this as they see fit. I think there probably is nothing more that is going to make harder choices for the members of this committee than what we are launching into today, and the quicker we understand as best we can everything about it, the better off we all are going to be.

So, when you feel that we have to go to codeword level, would you please let me know. I think we are cleared for that now, but we would want to make one more check.

Mr. ALDRIDGE. We are not cleared on our side, sir. But I think I can describe, in general terms, the characteristics of those satellites without having to go into the details of it. I could certainly go into the details with individual members as they see fit.

sets of solid rocket motors. They have to be delivered before the testing of flight hardware is completed.

Now, the question is can they make that kind of schedule, that type? They claim they can. Right now, we have no reason to doubt that they can. That is the assumption that is made for the June launch, and that is the 30-month slip.

We are hedging against the possibility of it going longer than that.

Shuttle performance losses—as part of the Shuttle recovery, they have canceled the solid rocket-motor filament-wound casing upgrade to the Shuttle, and the 109 percent rated thrust improvement to the Shuttle main engines. For Vandenberg Air Force Base, Shuttle launches that has reduced our flight capacity by 16,000 pounds. The Shuttle is no longer capable of lifting any Department of Defense payloads from Vandenberg with that weight reduction.

So, therefore, we had to stand down Vandenberg to caretaker status, pending the improvement of the Shuttle performance and return of the 16,000 pounds loss. But, in the meantime, we have to take the payloads that must fly from Vandenberg, put them on expendable launch vehicles, and fly them out of existing facilities.

Senator GLENN. Why is that again? I did not get the reason for the 16,000 pound requirement?

Mr. ALDRIDGE. The requirement for Vandenberg launches is to get to a polar orbit. When you launch polar you do not get the advantage of the Earth's rotation which gives you another 1,000 miles per hour in equatorial speed. Shuttle could launch about 6,500 lbs. to orbit from Canaveral but less than 30,000 from Vandenberg. The hotter engines and filament casings were needed to meet west coast requirements.

Senator GLENN. This is a change after the *Challenger*, then?

Mr. ALDRIDGE. This is after the *Challenger* accident?

Senator GLENN. What is changing that?

Mr. ALDRIDGE. There were two performance improvements that were planned for the Shuttle. One is the filament wound cases, the light weight cases on the solid rocket motors. Those are now pushed back in time.

The other is that they have fallen off the rated Shuttle main engines level of 104 percent rated thrust. To fly the payloads out of Vandenberg, we need it at 109 percent and the filament-wound cases.

These have now been deferred for the Shuttle program until the recovery is complete. That reduced the payload capacity from Vandenberg (with a few other safety margins in there) by 16,000 pounds. That is one-half of the capacity that we had originally anticipated from Vandenberg.

Senator WILSON. Mr. Secretary, are you still committed to a shuttle capability out of Vandenberg?

Mr. ALDRIDGE. Currently, we have no plans to fly the Shuttle from Vandenberg but we have kept the facility in a caretaker status, so that when the requirements do come up, we can reinstitute. We have not foreclosed the option of bringing Vandenberg back on-line.

It is still there as an option.

Senator WILSON. But you have no further or present plans to do so?

Mr. ALDRIDGE. No, sir.

We have no plans through the 1995 period to do so.

Senator EXON. Are you telling us, Mr. Secretary, that after all of the experiences we had with shuttles which all went off without a hitch until the terrible tragedy that we are going to end up with a shuttle that has half the payloads that we did before? Is that what you are saying?

Mr. ALDRIDGE. This is out of Vandenberg.

Senator EXON. Just out of Vandenberg?

Mr. ALDRIDGE. Just at Vandenberg.

The reduction at Kennedy is an 11,000 pound reduction. That is based on the 109 percent engine, and some additional weight increases due to the redesign of the solid rocket motors and the weight increase because of the escape system that will go on the Shuttle.

So we are down from 65,000 to about 54,000 pounds from Kennedy. It is still adequate to launch some of the payloads, but not all of them.

In addition to that, NASA canceled the Centaur capability on the Shuttle. That was a capability that we needed for DOD and that NASA also needed. They took the Centaur capability off the Shuttle, which meant that we had to remove more payloads from the Shuttle onto expendables so that we could launch them.

Senator COHEN. How many DOD launches are anticipated after the 10 that you want to shift to the ELY?

Mr. ALDRIDGE. I will show you a chart of our current plan, with Shuttle and expendables, in just a second, sir.

The whole mission model for DOD after we implement this plan I will show you in a moment.

NASA canceled Centaur. That means that we had to put the Centaur on Titan and move some payloads off the Shuttle. The flight rate says we are now competing for more capacity. So we have removed some more payloads from the Shuttle, and there are some design impacts that we have to pay for as we move payloads from the Shuttle and improve our safety margins on some of the payload capacity.

May I have the next chart, please.