ADVANCED SYSTEMS TECHNOLOGY REVIEW

(Presented by C. J. Dorrenbacher, Vice President, Advanced Systems and Technology, Missile & Space Systems Division)

I kind of feel like the dog in the dog and pony show—I've talked to members of your committee three times before, Mr. Chairman, like Ted Smith. They are probably getting tired of seeing us.

Mr. TEAGUE. No, sir, Jim, I don't think so.

Mr. DORRENBACHER. Everytime I stand before you, I feel kind of humble, because I'm really trying to talk on a subject which is much broader than any one contractor—namely, what does the future look like?

Today, rather than bore you with a lot of pet concepts, I will try to use some suggested concepts as a way of putting into perspective what we believe the next 20 years of the space program should hold.

You have to start by talking about cost and effectiveness, in whatever context our national space goals appear.

Twenty years from now, assuming that the number of dollars appropriated for space applications remains constant, those dollars will buy only half the product—by weight—that we get today. Inflation is one reason for this, but the second reason is increased sophistication of the product. Thus, the dollar cost-per-pound of space hardware will increase.

At first glance, you might think this means that the space budget has to double in the next 20 years to maintain our present pace. But that is not the case.

When you examine the progress to be made in 20 years, it turns out that the product this industry can provide 20 years downstream will be about 50 times more effective than what it produces today. This will come about because of increases in payload effectiveness, and increases in transportation effectiveness. Some of this will be shown in our presentation today.

With the gross national product increasing, if you again assume a constant level of space appropriations, then in 20 years we will be spending only about half the percentage of gross national product that we are now spending for space. Thus, if we spend our space appropriations wisely, and new programs are timed to start in the proper sequence for cost effectiveness, then the years ahead will give us a much improved yield on our investment.

At present, the space program produces dividends mainly in the area of scientific experimentation, and the value of this is already increasingly apparent. This new technology already contributes to everyone's personnel well-being, and to the general conomy. But as the space program approaches the 20-year mark, we should reach the point where true commercial utilization of space will start to pre-