

class. In addition, substantial performance gains are possible if NERVA is used to propel payloads assembled in orbit which are boosted by smaller vehicles. Various studies indicate that the engine also may have utility in an upper state for some new medium booster between Saturn I and Saturn V in size. As we have testified, it is our hope that the Fiscal Year 1970 budget can support continuation of production of the Saturn V after the fifteenth vehicle. Even if Saturn V production cannot be continued, we believe that the nation will need a launch vehicle of the Saturn V class in the future, and design and development of such a vehicle would occur with the capabilities of the NERVA state in mind.

Question 8. Will the AEC be doing any NERVA I engine development work?

Answer. In accordance with the AEC-NASA Interagency Agreement, the AEC is responsible for funding the reactor portion of the NERVA I development effort. In FY 1969, this work includes NERVA I flight reactor design, component fabrication, and component testing. Fuel element developmental work directed at the NERVA I reactor performance will also be continued.

LAUNCHING FOR COMSAT

Senator HOLLAND. I would like to follow up the question on Comsat. Is there any question on responsibility as between NASA and Comsat, any question of liability?

Mr. WEBB. The legal responsibility, the risk rests with Comsat. We launch at their risk. We have an obligation to do a good job in launching; but the legal liability and the risk is for the account of Comsat and will not be a charge against our budget.

APOLLO SUPPORT BY CONGRESS

Mr. GEHRIG. Dr. Paine, on page 7 of your statement you say that reductions in Research and Development and Administrative Operations funding has greatly reduced your flexibility to cope with the problems in the Apollo program.

I wonder if you could explain that statement a little more, particularly in light of the action of Congress in consistently supporting NASA's funding requests for the Apollo program.

Dr. PAINE. Mr. Gehrig, this is the type of backup effort that we have in our R. & D. program to take care of the unexpected additional requirements for R. & D. activity that may be raised.

An excellent example of this is the so-called POGO effect that we encountered in Apollo 6, where we were able to assemble a substantial team from our Marshall Space Flight Center for the solution of this very difficult problem because we had them available doing other R. & D. kind of work. They could be reassigned very quickly to come up with a solution to the problem.

This is the kind of activity I am talking about here.

Mr. WEBB. I think it not amiss, Mr. Gehrig, to also point out that when you use words such as "Congress consistently has supported the Apollo program," you must "add at a minimum level." We have clearly indicated in every budget that the basis on which we were going forward, with this support by Congress, was one that did not take into account unusual risks and happenings and was, in effect, based on success in all of these efforts.

Mr. GEHRIG. What I am thinking of, the Congress has always authorized and appropriated almost the total amount for the Apollo program that the agency has requested, including this year when very deep cuts have been made in other parts of the program.

Mr. WEBB. And so has NASA, under the general pattern of a large unspecified cut in appropriations, also provided funds into Apollo, but it has also been very clear that the funding was related to success