

of the vehicle. The date that looks like the key date to Grumman is August of this coming year.

Representative WAGGONER. Joe, isn't it true that at any time you have this kind of an interruption, the costs really do become excessive?

Mr. GAVIN. Well, that's right. Any time that you have an interruption in the sequence of operations, you are faced with either tying up people or facilities unproductively, and this then represents a direct cost for keeping them, or if you dismantle them, you then face the restart problem.

Representative WOLFF. Mr. Chairman, the reason I asked that question is because of the fact that during the hearings when I questioned General Schriver about the duplication which existed at the IM project, there was some question as to whether or not, some of the old experiments could be carried out on existing vehicles, and I believe that this was a point made, that a goodly percentage of them could be carried. Therefore, if it was a question of duplication, a question of cost is something which might be considered.

Chairman TEAGUE. Yes, sir. Thank you for inviting us to your district and good to be here.

Representative WOLFF. Thank you, sir.

Chairman TEAGUE. One other question: I have forgotten what you people told us about your post-Apollo program. I would hope that these subcommittee hearings may force this post-Apollo problem to a head, where if there are some decisions made before the middle of the year, that you would know whether there are going to be other orders. Can you tell us of any other proposals for use of the IM on down the road in the space program?

Mr. EVANS. Looking ahead, in general, we are actively looking at things like Voyager. We are probably the only company that has the soft-lander capability for Mars.

We have had roughly 60 men working on this for about a year now. One of the promising Voyager Mars lander capsule configurations under study uses a significant amount of Lunar Module hardware and technology, including the IM descent engine. The resulting decrease in development costs would represent a considerable dollar saving to the U.S. Government for a Mars lander type of vehicle.

We have studied many manned and unmanned IM configurations and modifications which use its large volume, payload and propulsion capability to satisfy the goals of lunar exploration, earth and lunar orbital missions. The IM derivatives can perform missions that provide the basis for future long duration space stations, lunar bases, manned planetary vehicles and lunar roving vehicles.

We have examined over 100 scientific and applications experiments which included the use of several types of telescopes and a wide variety of sensors. The IM, as you know, has over 2,300 cubic feet of available volume and can carry over 20,000 pounds of payload.

Quite frankly, we had been looking, as I think any progressive company does, along the very lines that Congressman Wolff has just brought up.

These studies have positively concluded that the IM can perform all of the earth orbital missions, both scientific and military, that have