

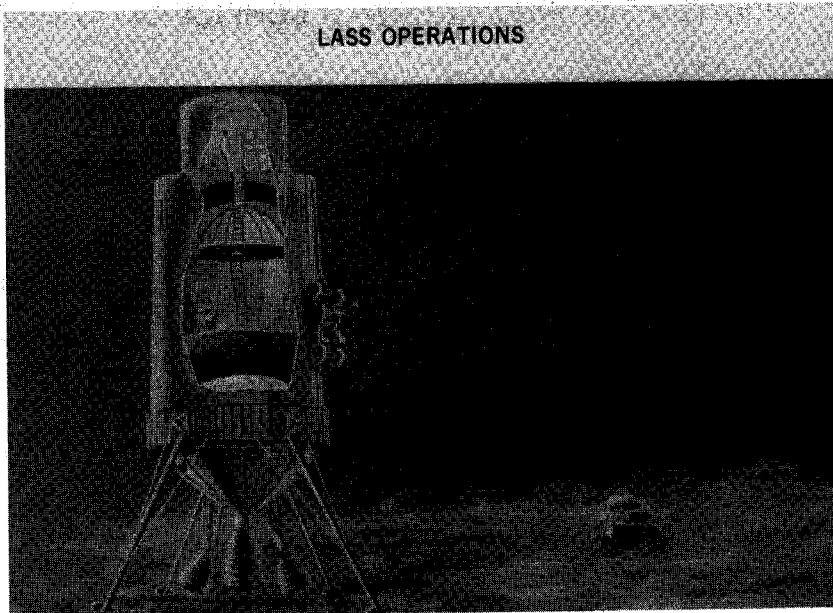


FIGURE 47

were required to accomplish this purpose are not the most immediate considerations. What is important are the decisions that have to be made in the immediate future in order to support this kind of progressive increase in space operations capability. Progressing in this fashion will make it possible to maintain the required level of industrial competence and provide for a smooth transition from the Apollo hardware configurations and capabilities to the eventual capability that will be available when a reusable transportation system has been achieved. The hardware that will be available if this kind of transition is undertaken will provide a usable base for about 10 years.

While it will not be feasible during this transition period to significantly change the efficiency of the transport system, it will be possible to deliver larger and larger payloads. Using the Thor and Delta systems as an example, the payload capabilities have been increased by a factor of 4 or 5 over the original configurations, at essentially no increase in launch cost. When we described that progression at one of our previous conferences, we said that we were studying a similar pattern to increase the efficiency of the Saturn vehicle.

A possible candidate growth pattern for the uprated Saturn I is shown in figure 48. The corresponding cost pattern as a function of this growth pattern is shown in figure 49. It looks very similar to the corresponding cost pattern that we showed you at our last meeting. If we propose to follow a growth pattern similar to that of the Thor, the incremental increase in payload capability will be obtained in a similar manner. As payload requirements increase, the Saturn vehicle can be uprated to match. Assuming that payload requirements con-