

BRIEFING BY NASA'S JOHN F. KENNEDY SPACE CENTER FOR THE SUBCOMMITTEE ON MANNED SPACE FLIGHT, COMMITTEE ON SCIENCE AND ASTRONAUTICS, U.S. HOUSE OF REPRESENTATIVES, FEBRUARY 24, 1967, PRESENTATION TO THE CONGRESSIONAL HEARING

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Mr. PETRONE. Thank you, Dr. Debus.

Mr. Chairman, gentlemen, in a few minutes I am going to attempt to describe our role in launch operations. We are later going to see the breakdown in terms of what it costs to do the job. I am going to use the Saturn V Apollo, 500 series, since this is typical of our large operations in the future. I am going to use our Saturn V operations to show how we check out the hardware, how we interface with the development centers, and how we actually launch the vehicle.

Now, in terms of launch operations, we carry on activities at 17 of the unmanned facilities that Dr. Debus just spoke about. We also carry on Centaur operations at pad 36. We have just concluded operations at pad 19, which was, of course, Gemini. We have been and are now performing Apollo Saturn I launch operations at launch complexes 34 and 37. However, I am going to spend this time discussing Saturn V operations at complex 39 and at our spacecraft check-out facilities in the industrial area.

Figure B-1 is an artist's concept of complex 39. Shown is the VAB (vehicle assembly building), the Launch Control Center, and the pad we will be visiting this afternoon.

You might say a major part of our job is to plan far in advance. As many of you know, this all started some 5 years ago, in the summer of 1961. We must take flight hardware from the time it arrives, inspect it, assemble it completely by stage—first stage, second stage, third stage, and instrument unit—as it arrives from the manufacturing sites around the country, and marry it to the ground support equipment, a most important function.

We then have to get the vehicle from the vehicle assembly building to the launch pad, and then ready it for launch some weeks later.

Now, how do we go about concluding that cycle? The artist makes it appear very simple. With a stroke of the brush he shows it taking off. Now let me give you some insight on how we go about it.

Figure B-2 is an operation plan flow. Starting with program schedules and mission definitions out of NASA Headquarters, we at KSC have to develop master schedules. We also have to consider other Center requirements such as those from MSC and MSFC. These criteria control such things as the amount of fuel needed, tolerances, and the type of testing. KSC converts these criteria to test procedures. Every step we take is documented. The other centers are