

sequential phases—Advanced Studies, Project Definition, Design, and Development/Operation—with each phase a specifically approved activity to be undertaken only after review and analysis of the preceding effort by agency top management. Under this system final hardware design, development, and fabrication will not be undertaken until necessary design work relating to critical systems and subsystems has been performed to provide reasonable assurance that milestone schedules for the final or development phase can be met. In contrast, milestone schedules for the delivery of advanced state-of-the-art hardware for integration and testing in the Nimbus project were established at the outset and, in our opinion, were adhered to unnecessarily after the Space Administration learned that these schedules were virtually unattainable because of typical developmental problems.

In this regard the Space Administration's policy directive, issued in October 1965, to improve the management of research and development projects would, if adequately implemented, eliminate the likelihood of a recurrence of this situation. The directive contemplates an orderly approach to the management of research projects. However, the tenor of the Space Administration's comments to us, 1 month after issuance of the directive, indicates that, under circumstances similar to those cited in this report, Space Administration management would again make the same decision. Therefore, we plan to examine into the implementation of the new policy as part of our continuing review of the management of Space Administration research and development projects.

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MANAGEMENT CONTROL OF NIKE-HERCULES MISSILE LAUNCHING AND HANDLING RAILS

The Army's management control over the computation of requirements, the procurement, and the accountability of major items of NIKE-HERCULES missile ground support equipment was inadequate in that the Missile Command was unable to account for substantial quantities of costly missile system equipment. The inability to account for this equipment was a result of an inadequate record-keeping system which did not provide sufficient data on which to base requirement computations. Requirements were computed on the basis of new deployments, authorization of increased number of missiles assigned, and individual users' requests, less the quantity of rails shown to be on hand in depots and on order. The total quantity already available at users' locations and the condition thereof were not considered in the requirement computation.

At the time of our review, the Missile Command had obtained authorization of funds and was in process of procuring 149 NIKE-HERCULES missile launching and handling rails, at a cost of about \$1.3 million, which were in excess of actual requirements. After we suggested that it reevaluate overall requirements, an Army-wide review was initiated, which resulted in a decision to cancel the planned procurement of 149 rails.