

## APOLLO MISSION CONTROL CENTER

### Justification

There exists a unique requirement for a Mission Control Center for support of manned lunar missions. The existing Mercury Control Center was designed for support of earth orbital missions and even if modified, would be inadequate to support orbital and deep-space ~~missions~~ missions simultaneously, a condition which undoubtedly will exist during the Apollo time period.

The proposed Mission Control Center is required to monitor the spacecraft and to provide overall control of all Apollo support elements throughout ~~the~~ each phase of the mission. The Center will have direct communication (including voice and data transmission) with the launch control facilities at Cape Canaveral, with remote sites having spacecraft communications, telemetry and tracking capability (including the DSIF), and with remote recovery control stations.

The Center will support the spacecraft crew by providing a ground-based source of information and data for use during normal, alternate or emergency mission periods, to increase flight safety and performance. The Center will also include the simulation and training facilities associated with the spacecraft and the remote stations for personnel training and procedural development. This requirement is an absolute necessity for these exploratory type missions.

### Description

The configuration of the Mission Control Center has not yet been fully developed. The Center will, however, include a communications center and the appropriate data processing equipment and displays required to allow complete and adequate control of mission and information flow. The Mission Control Center will also include the computing facilities required to handle the data

processing necessary for determination of vehicle position and velocity, for spacecraft systems checkout, mission analysis, and other associated computations throughout the flight phase of the mission, as well as for simulation and training exercises.

The information flow associated with the Mission Control Center will include voice communication capability to and from the spacecraft via relay through ~~any~~ <sup>and</sup> of the remote stations, the transmission of information to the spacecraft, the reception of processed vehicle telemetry data from the remote stations, the control and conduct of all ground support activities, and all tracking and tracking support data. In addition, the center will include simulation and training facilities associated with the spacecraft and the remote stations for personnel training and procedural development.

A two-story facility is planned for the center, to provide approximately 50,000 square feet of floor space. Special requirements for this facility include high-ceiling areas and computer areas having appropriate false flooring with movable panels.

The facility will provide for powered flight, spaceflight and recovery monitoring and support areas equipped with appropriate display areas, plotboards, consoles, and communication systems. Other support areas for telemetry data <sup>and tracking</sup> and communication processing and <sup>systems</sup> maintenance will be provided, as well as viewing rooms and engineering and administrative support areas.