

# NASA TECH BRIEF



NASA Tech Briefs announce new technology derived from the U.S. space program. They are issued to encourage commercial application. Tech Briefs are available on a subscription basis from the National Technical Information Service, Springfield, Virginia 22151. Requests for individual copies or questions relating to the Tech Brief program may be directed to the Technology Utilization Division, NASA, Code UT, Washington, D.C. 20546.

## Systems Approach Provides Management Control of Complex Programs

A management control for planning and implementing large and complex development programs has been built around a systems approach. Based on an analysis-synthesis rationale, the Integrated Program Management Process (IPMP) proposed affords program management the necessary controls to carry out any complex program from conception stage to successful operation.

The IPMP could be used in such areas as urban redevelopment, transportation, air and water pollution control, natural resources conservation, and oceanographic investigations. The systems approach, as represented by the IPMP, appears to offer substantial promise as a means of coping with multifaceted problems involving vast quantities of detail plus complicated and often intangible relationships both within the problem and between the problem and its environment.

Proper employment of the IPMP will provide management with visual assistance through the use of three interrelated charts: a system model or functional-flow diagram that identifies each function to be performed; a matrix that identifies personnel respon-

sibilities for these functions; and a process chart that breaks down the functions into discrete tasks or operations while demonstrating the input-output relationships among them. Such charts are valuable tools that enable managers to continuously adjust system operations to compensate for such unpredictable occurrences as material shortages, accidents, equipment damage, and corporate policy changes.

### Note:

Requests for further information may be directed to:

Technology Utilization Officer  
Marshall Space Flight Center  
Code A&TS-TU  
Huntsville, Alabama 35812  
Reference: TSP70-10647

Source: J. F. McCarthy, Jr. and E. F. Dudek, Jr. of  
North American Rockwell Corp.  
under contract to  
Marshall Space Flight Center  
(MFS-20791)

Category 06