NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

PERSONNEL MANAGEMENT IN AN R&D ORGANIZATION:

AN ANALYSIS OF THE PHASEDOWN OF THE

GEMINI PROGRAM OFFICE AT THE

MANNED SPACECRAFT CENTER

By
Joan B. Coil
University of Minnesota

FACILITY FORM 602

N67-39239

(ACCESSION NUMBER)

75

(NASA CR OR TMX OR AD NUMBER)

TMX-60470

(THRU)

(CODE)

30

(CATEGORY)

MANAGEMENT

REPORT

MANNED SPACECRAFT CENTER

HOUSTON, TEXAS

August 31, 1967

ABSTRACT

The concept of the program office as a separate and viable organizational entity is relatively recent to both the government and industrial management scene. The literature on program management has generally dealt with such things as the role of the program manager and the actual build-up and organization of the office itself. Relatively little has been written about what happens to a program office once the program is completed. Where do the people go? What is the impact on the total organization?

This report analyzes and discusses problems the NASA Manned Spacecraft Center experienced when faced with the completion of both the Mercury and the Gemini Program. The report describes the processes used in phasing down the Mercury and Gemini Program Offices. In the phasedown of the latter office, a questionnaire was prepared and administered to the effected employees. The results of this and other analyses are summarized and a set of conclusions and recommendations drawn from them.

FOREWORD

    This study was undertaken as part of the Resident
Research Fellowship Program co-sponsored by the Manned
Spacecraft Center and the University of Minnesota's
Public Administration Center. The finished report has
been submitted to the University of Minnesota as a the-
sis which will partially fulfill the requirements for
the degree of Master of Arts in Public Administration.
The Resident Research Fellowship Program is designed to
provide university graduate students with the opportun-
ity of broadening their experience and conducting re-
search in an actual R&D organization.

iv

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

One of the factors which has an important effect on the stability of any employment is the degree of fluctuation in the activity with which the organization is concerned. While employment in the public service is capable of a greater stability than is frequently true in private industry, government as well must at times face the problem of cutting its payrolls or reorganizing to meet new situations as they arise. In the Federal Civil Service the former is known as a reduction in force. Changes in programs and organization may, however, lead to the necessity for transfers and reassignments as well as reductions in particular agencies. The annual review of budgets and appropriations can and often does create an atmosphere charged with uncertainty.

An organization structured on the basis of its particular programs often faces an extremely complex problem in dealing with the allocation of its personnel, particularly when those programs are subject to continual change. This is especially true in research and development organizations, whether public or private, where the completion of one program overlaps or is to be followed by the initiation of a new one. This type of situation is one which the National Aeronautics and Space Administration's Manned Spacecraft Center, Houston, Texas, has had to face several times in the past and will surely experience in the future as well.

The Manned Spacecraft Center has as its primary mission the development of spacecraft for manned space flight programs and the conduct of manned flight operations. Since its establishment in 1961, it has been given the responsibility for four major space research and exploration programs: the Mercury, Gemini, Apollo, and Apollo Applications programs.

The Center's mission further embraces an engineering, development and operations capability to support these projects and to generate the knowledge required to advance the technology of space and manned spacecraft development. Engineering and development efforts have focused on the conception and implementation of a program of applied research and development in the areas of space research, space physics, life systems, and test and evaluation.[1]

In view of the nature of the mission of this government agency, it can readily be seen that we are dealing with not only a constantly changing organization, but one in which change is often, of necessity, very

---

[1]Superior numbers refer to similarly numbered references at the end of this paper.

rapid. This brings into focus a question that is very often neglected in discussions of an organization of this type. As emphasis is shifted from one project to another personnel shifts will follow, but how can these transfers be arranged without a constant disruption of the employee himself, and of the organization, and an increase of dissatisfaction and a lowering of both efficiency and morale? What, if any, procedures could be developed to make this process as efficient as possible with the least disruption to affected employees and the program in progress?

These are some of the questions which this paper will attempt to answer. To accomplish this purpose, the paper has been divided into several parts. Chapter II will deal with the question of organizational structure with specific reference to what has come to be called "program management". A brief description of the organizational structure of the National Aeronautics and Space Administration's Manned Spacecraft Center will comprise Chapter III.

From there we will proceed to that portion of the paper which deals with the specific experiences of the Manned Spacecraft Center with the problem of the allocation of personnel at the termination of a program. Chapter IV is a discussion of the phase-out of the Mercury Project Office in 1963, the Manned Spacecraft Center's first experience with the termination of a program.

A greater problem was faced recently when the Gemini Program Office was phased out and almost 200 people had to be reassigned to new positions within the organization. It is to this problem that the major portion of this paper is devoted. Included in the discussion in Chapter V will be a detailed report of the procedures which were used to accomplish this phase out while Chapters VI and VII contain an analysis of the results of the procedures as viewed by both management and the affected employees. The necessary information was acquired through numerous interviews with management officials and the distribution of 167 questionnaires to the employees involved.

From the information so obtained conclusions will be reached as to the effectiveness of the policies and procedures that were chosen and suggestions made regarding any improvements or alternatives that could have or should have been used. Once this has been determined, it will be possible to develop guidelines in Chapter VIII that perhaps will be of some assistance to those responsible for the phasing out of programs in the future.

CHAPTER II

INTRODUCTION TO THE CONCEPT OF PROGRAM MANAGEMENT

There is no question that the concept and institution of program management has played an increasingly important role both in technically-based industries oriented toward government work and in the Federal Government itself. One reason for this trend is the change in theories and philosophies of management. The Space Age has produced performance capabilities requiring completely new doctrines of control. The establishment of the program office concept is the result of the need to concentrate responsibility for development and production efforts in one organization.

The specific title of program/project management is relatively new, although different titles and responsibilities have been used in the past to describe the function which it designates. According to Baumgartner, during World War II the government used a type of "project manager" to expedite the delivery of war goods. Program management in the atomic bomb project represents the first application of the concept as it is thought of today. It was not until the missile programs of the mid-1950's, however, that the concept of program management came into general acceptance in the defense-oriented industry. The actual term "project management" was originated in the military-industrial complex. It has made possible the management of large aggregations of resources across functional and organizational lines directed toward unifying all effort to the common objective.[2] While program management was conceived in the traditional and functional approach to management, it has also provided a unique way of planning for the development of the highly technical and costly space programs. Procurement for such a program involves many large and relatively autonomous organizations in both government and industry. The authority of the program manager permits him to manage across functional and organizational lines in order to bring together at one point the activities required to develop and produce a space vehicle.

Looking briefly at the traditional framework of management, one finds that what the manager does is actually fundamental and universal in its application regardless of the type of organization involved. Regardless of their level in an organization, all managers will perform certain basic functions directed toward the accomplishment of predetermined goals or end products. Management as an art requires skill in performance acquired through experience. As a science, management has been strengthened by knowledge which has been systematized and formulated by the application of general hypotheses and principles. Management is a distinct field of knowledge and skills apart from technical skills such as engineering, accounting, production, procurement and the many other skills found in complex organizations.

The program manager is responsible for both making and executing decisions in an environment of high risk and uncertainty under a management philosophy where conventional organizational theory and practice are inadequate. In accomplishing his task, he exhibits several characteristics which differ from the traditional manager.[3] In the first place, the program manager is concerned with specific, finite projects that are often primarily accomplished by organizations and individuals not under his personal jurisdiction. This concept of authority and responsibility does not necessarily follow the traditional scalar chain of hierarchy, but rather flows as a "web of relationships" or "interfaces" which pervade the organizational structures involved.

Secondly, because the authority and responsibility patterns represent interfaces rather than a distinct hierarchical flow, there is an inherent conflict between the program manager and the functional managers. Functional managers find themselves sharing their authority with the program manager. The result is the emergence of what is knows as "program authority", a concept of authority which departs radically from the line-staff organizational dichotomy that has been the basis of functional management theory. This program authority provides the formal basis for the management ties which bind together the various organizational elements.

Thirdly, the program manager manages a large number of professionals. As a result, he finds it necessary to use different management techniques from those used in a simple superior-subordinate relationship. There must be a modification of the traditional functions of management through the use of motivation, persuasion, and personal control techniques. For many professionals, management must include discussions of the rationale of any particular effort in addition to the more obvious functions of planning, organizing, directing, and controlling.

Fourthly, the program manager is a point of synthesis for the program in directing organizational elements outside his immediate control. He brings together such diverse functional activities as engineering, testing, production, operational support, etc., all of which must be time-phased over the life of the program relative to the mission.

Further, the program manager provides a unifying force to a program. Without such a force, two alternatives are possible: (1) the program activities would remain functionally separated with the risk of a lack of unanimity of objective; or (2) the senior executive of the producing organization could perform program integration. Neither choice is acceptable since, by nature, functional managers are parochial (as would be expected) and senior executives are more concerned with over-all support of all programs and long-range planning for their organization than with unifying a specific program.

In the area of personnel, the examination of which is the primary purpose of this paper, it is also apparent that a program manager must be capable of inspiring the employees of a program office to give their best efforts for his project. From the very beginning, however, he has a very strong factor working for the success of the program, and this is the fact that it is a program. The purpose of the program and the clarity with which program personnel understand it are the main reasons why an _esprit de corps_ is invariably evident on programs and may be lacking in functional and other working areas not normally engaged in work with finite objectives and measures of accomplishment. "When a space vehicle is launched, everyone who worked on the project feels that it is his vehicle out there;..."[4] The fact that a program has obviously measurable performance, schedule, and cost objectives, and serves an important and identifiable purpose are the two basic ingredients which aid in developing personnel into a team.

The periodic shifting inherent in the program office organizational approach can, however, affect the personnel of the program office in a variety of ways, both desirable and undesirable. In some cases it is an aid to avoiding a static job situation. On the other hand, when the average program office has a short life (three years or less) the employee may have to be too often uprooted and transferred to feel any sense of security. Moreover, the mix of diciplines found in a program office may limit the opportunity of the program manager to rearrange assignments to equalize workloads or accelerate his program, and to add to his staff he must arrange for transfers from other elements within the organization or recruit additional people from outside the organization.

Another problem which has generally been left unanswered is the question of what happens to the program office personnel when the project in which they have been engaged is completed. In the case where it has been a short term project and the employees were drawn from the functional organizations to work on it, the solution is relatively simple: at the termination of the project these employees will normally return to their original and permanent positions in the line organizations.

But what about the program which takes several years to complete? Many of the employees were hired directly into the program office and have no other position to which to return. The work in the functional organizations is on-going and they have presumably been fully staffed during this period.

The nature of program office organization is such that its size in terms of personnel is generally small relative to the total organization. Even then, however, if the organization is fully staffed it may prove difficult to absorb even a small number of employees released from the program office. This can be a significant problem in a government agency

where ceilings are placed on the number of employees allowable at any
one point in time. In the event that there are new programs developing
or programs in progress at the time one office is phasing out, the prob-
lem is much less severe. At that time there is a great demand for the
skills and experience of the employees being released.

These are only a few of the problems which must be faced in a pro-
gram oriented organization. In the following chapters we will be discus-
sing some of the actual problems with which the Manned Spacecraft Center
dealt with when two of its program offices were phased out. Before pro-
ceeding further, however, it will be appropriate to include a brief de-
scription of this agency's organizational structure in order to provide
us with the proper frame of reference.

CHAPTER III

THE MANNED SPACECRAFT CENTER'S ORGANIZATIONAL STRUCTURE

The preceding discussion of the nature of and organization for program management is quite relevant to the situation at the Manned Spacecraft Center. Due to the nature of the several missions for which this agency has responsibility we find the program office concept superimposed over the traditional organizational structure. (See fig. 1.)

During the Gemini program, MSC was basically composed of several functional directorates and two program offices. The Engineering and Development Directorate is responsible for the technical support in depth for the manned space flight programs. The Flight Operations Directorate is responsible for operational mission planning and for the overall direction and management of flight control and recovery activities associated with real-time mission progress assessment, and ground-based decision-making functions for all Manned Spacecraft Center space flight missions. The Flight Crew Operations Directorate has the responsibility for the overall program of flight crew selection, training, and mission performance. The Medical Research and Operations Directorate is responsible for biomedical research effort in manned flights. The Administration Directorate has the responsiblity for money, materials, and manpower. It prepares, consolidates, and analyzes the budgets, financial operating plans, cost estimates, and fiscal services for the entire Center. In addition, it provides the administrative and technical services support required by all Center operating elements. The Science and Applications Directorate is responsible for the planning and implementation of Manned Spacecraft Center programs in the areas of space science and its applications, for acting as a focal point for all manned Spacecraft Center elements involved in these programs, and for acting as the Center's point of contact with the scientific community.[5]

The results of much of the work in the Engineering and Development Directorate, the Flight Operations Directorate, and the Flight Crew Operations Directorate are channeled into the program offices. These results are evaluated in terms of the specific requirements for each program and are then incorporated into the design and operation of the spacecraft.

During the period of the Gemini Program the Gemini Program Office provided the overall management of all Gemini program efforts and all technical, operational, and administrative matters pertaining to the

NASA S 66 11572 DEC 5

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MANNED SPACECRAFT CENTER

HOUSTON, TEXAS

Figure 1.- Manned Spacecraft Center Organization Chart, December 23, 1966.

implementation of the program. By coordinating with other Manned Space-
craft Center elements, other National Aeronautics and Space Administra-
tion Centers, other agencies, and contractors, and by directing support-
ing agencies and/or contractors, the activities of the Gemini Program
encompassed the development, test, and operation of all spacecraft, tar-
get vehicles, launch vehicles, and associated ground equipment and facil-
ities within the Gemini Program Office.[6] The functions of this office,
which was officially removed from the Manned Spacecraft organization
chart as of February 16, 1967, will be discussed in further detail at
a later point.

The Apollo Spacecraft Program Office is responsible for the success-
ful execution of the manned lunar landing program, and implements this
responsibility by providing overall planning, coordination, and direction
of all aspects of the program through the supervision of industrial con-
tractors and through the direction and coordination of other elements
of the Manned Spacecraft Center and the National Aeronautics and Space
Administration which are assigned parts of the project.[7]

While this description of the organizational structure of the Manned
Spacecraft Center is admittedly brief, it is meant only to provide a
frame of reference for understanding the phase-out experiences described
in the following chapters.

CHAPTER IV

**PRECEDING
PAGE BLANK**

THE PHASE OUT OF THE MERCURY PROJECT OFFICE

As stated at the time of the initiation of Project Mercury, the objectives of the program were to place a manned spacecraft in orbital flight around the earth; to investigate man's performance capabilities and his ability to function in the environment of space; and to recover the man and the spacecraft safely. After establishing these objectives for the project, a number of guidelines were set forth to insure that the most expedient and safest approach for attainment of the objectives were followed. Included among these guidelines were that existing technology and available equipment should be used whenever practical; the simplest and most reliable approach to systems design would be followed; an existing launch vehicle would be employed to place the spacecraft into orbit; and a progressive and logical test program would be conducted.[8]

The Mercury Project Office was established to take charge of conducting and coordinating this vast project. At the height of the program there were some 650 people (including the Project Office) working directly on Project Mercury in the Manned Spacecraft Center, and over 700 more in other National Aeronautics and Space Administration organizations.[9]

In May 1963, the ninth Mercury mission was flown. Although it was already planned that this project would be phased out at the completion of this mission, it was strongly hoped by many within the agency that an additional two flights would be forthcoming. It was felt that more experience with longer duration flights to further the study of the effects of space on man would be desirable. Consequently, the Mercury Project team was held together in the event these two additional flights received approval.

However, in June 1963, the possibility of these two flights was eliminated when the end of Project Mercury was announced by Administrator James Webb at National Aeronautics and Space Administration Headquarters. The Mercury team and its facilities were to be utilized in the Gemini and Apollo Programs.[10]

Because the Mercury team had been held together in anticipation of further flights, when the end of the project was announced little in the way of preparations for the reassignment of these Project Office employees had been made.[11] At that time there were 50 people in the Mercury Project Office, including about 30 professional people, for whom reassignments had

to be quickly arranged. The time of the completion of the program helped to alleviate a number of potentially difficult problems in the reassignment of these personnel. Due to the continuing growth of the Manned Spacecraft Center at that time and to the increasing emphasis and enlarging scope of the already approved Gemini and Apollo Programs, positions within the organizational elements were readily available. As the Center was growing rapidly in personnel it was clear that there would be no need for a reduction in force, and what resulted was only the necessity for developing specific procedures that would facilitate the rapid placement of the personnel being released.

Because this was the first time since the establishment of the Center that a program office was to be phased out, there was little in the way of past experience on which to base these procedures. As there would be no reduction in force and it was decided initially that all transfers were to be made with no change in the grade of any employee, potential difficulties with the merit system regulations were avoided. There were 285 vacancies in the organization in June 1963, and two other program offices were already functioning both of which needed these highly trained employees as the Center had been doubling in size each year and experienced people in spacecraft management were not readily available. Because the Project Office employees represented a great asset to the Center, the basic question was not whether these people would have positions but rather how their special skills could best be utilized.

In view of these facts, the procedures which were developed were relatively uncomplicated. A listing of the available personnel was prepared by the Mercury Project Office Manager and was sent directly to the Division Chiefs of the other organizational elements. It was felt that there was no need for the inclusion of resumes on these individuals because the small size of the organization meant there was a greater familiarity with each individual employee. With the distribution of this list the Mercury Office requested from each element a list stating any preference it may have had for specific employees. However, only the Gemini Office submitted such a preference list. The Project Manager then prepared "availability sheets" on which was included information concerning the preference of a particular organizational element, the personal preferences of the employees, and placement as recommended by the Project Manager. Once these steps were completed, arrangements for interviews were carried out through the Project Office and, with the assistance of the Personnel Division, the reassignments were completed.

In spite of the fact that there was really no formalization of reassignment procedures in phasing out the Mercury Project Office, the results were most satisfactory. There were perhaps only one or two problem cases out of the 50 affected employes and each received on the average of three to four "good" offers for positions. All were reassigned to fully

equivalent positions in all cases and "no one was hurt". It was the
policy of management at that time to distribute as widely as possible
across the Center the program management experience of these individuals.
Because of this policy, however, not all employees were able to realize
their personal preferences with regard to specific positions. Several
employees with particular skills were asked by management to continue
their present work in other organizations despite preferences by the
employees to learn new skills. Few employees found themselves in this
situation. In any event, there is inevitably some conflict between man-
agement and employee wishes despite all precautions.

There was some degree of dissatisfaction expressed on the part of
the employees involved regarding the actual procedures which were used
in the phasedown. One problem that arose was that the Mercury Project
Office was not able to maintain strict control over employee interviews.
This phase out took place at a time when the organization of the Center
itself was not as well institutionalized as it is now and there was a
more substantial degree of organizational autonomy. It is felt that
this may have contributed to the fact that many interviews were con-
ducted outside the auspices of the Mercury Project Office which weakened
its attempt at controlling them. It was discovered that offers and prom-
ices regarding some positions had been made to various employees by other
organizational elements which, according to the Mercury Project Manager,
they would be unable to fulfill. This no doubt was a cause of future
dissatisfaction on the part of a few of these employees. As shall be
seen in the analysis of the Gemini Program Office phasedown, the problem
of controlling employee interviews and releases was handled in a differ-
ent manner than in Mercury.

In general, the phase out of the Mercury Project Office produced
few problems in regards to reassigning and transferring the employees
released. The numbers involved were relatively small while the demand
for these people was great as the Center was rapidly expanding. In 1963,
Congress looked with favor on the National Aeronautics and Space Admin-
istration's budget requests removing to a considerable degree this poten-
tial restriction on employee ceilings.

However, several years later when the Gemini program entered its
final stages, these favorable conditions did not exist. It is to this
more difficult problem that we now turn.

CHAPTER V

THE PHASE OUT OF THE GEMINI PROGRAM OFFICE

In Chapter III the position of the Gemini Program Office within the organizational structure of the Manned Spacecraft Center and its functions were discussed briefly. Because one of the major concerns of this paper is a detailed examination of this office, a more complete discussion of its organization and functions is in order at this point. (See fig. 2.)

The Gemini Program Office, created early in 1962, was given the responsibility for the management of all efforts directly associated with the Gemini Program, under guidelines established by NASA Headquarters in Washington and the Director of the Manned Spacecraft Center. These responsibilities included all technical, operational, and administrative matters pertaining to the implementation of the program. In actual practice, however, NASA Headquarters was not as heavily involved in the Gemini program as it was in Apollo.[12] As a result, direction came almost exclusively from the Director of the Manned Spacecraft Center and the Program Manager located at the Manned Spacecraft Center in Houston.

The specific responsibilities of this Office included the establishing of basic mission requirements, and participation in the development of specific mission plans; planning and directing the development of the Gemini spacecraft, launch vehicles, target vehicles, associated aerospace ground equipment, and related equipment; planning and establishing qualification, reliability, acceptance, checkout, and flight tests, including establishment of data requirements, data collection methods, and test evaluation and reporting; directing and controlling the activities of other Government agencies and arranging for support from other Manned Spacecraft Center elements, other National Aeronautics and Space Administration Centers, and other Government agencies as required in accomplishment of the program.[13]

In view of these responsibilities there is little question that any program manager must be a technically competent individual in order to properly manage the multitudinous functions involved in producing the end item. In this, the position is similar to functional management and administration. However, the functions of a program office encompass a good deal more than this and, therefore, require not only a technically competent manager, but one who is also capable of general management activities including planning, control, and supervision.

16

GEMINI ORGANIZATION

NASA-S-66-5570 JUNE 7

PROGRAM MANAGER DEPUTY MANAGER

ADMINISTRATIVE OFFICE OFFICE SERVICES

SENIOR ASSISTANT
TECH ASSISTANT
SPECIAL ASSISTANT
SPECIAL PROJECTS

TEST OPERATIONS
- RELIABILITY AND QUALITY ASSURANCE
- TEST PLANNING
- TEST EVALUATION
- FIELD REPRESENTA- TIVES MAC - LMSC

SPACECRAFT
- STRUCTURAL AND MECHANICAL
- ELECTRICAL AND ELECTRONICS
- GUIDANCE AND CONTROL
- ESCAPE, LANDING AND RECOVERY

VEHICLES & MISSION
- VEHICLE DEVELOPMENT
- MISSION PLANNING
- SYSTEM INTEGRATION
- FIELD REPRESENTA- TIVES MARTIN-LMSC

PROGRAM CONTROL
- PROGRAM INTEGRATION
- SPACECRAFT PROGRAM CONTROL
- VEHICLE PROGRAM CONTROL

RESIDENT MANAGER MC DONNELL AIRCRAFT CORP ST LOUIS, MO
- ENGINEERING
- QUALITY ASSURANCE AND RELIABILITY
- TEST GROUP

RESIDENT MANAGER CAPE KENNEDY
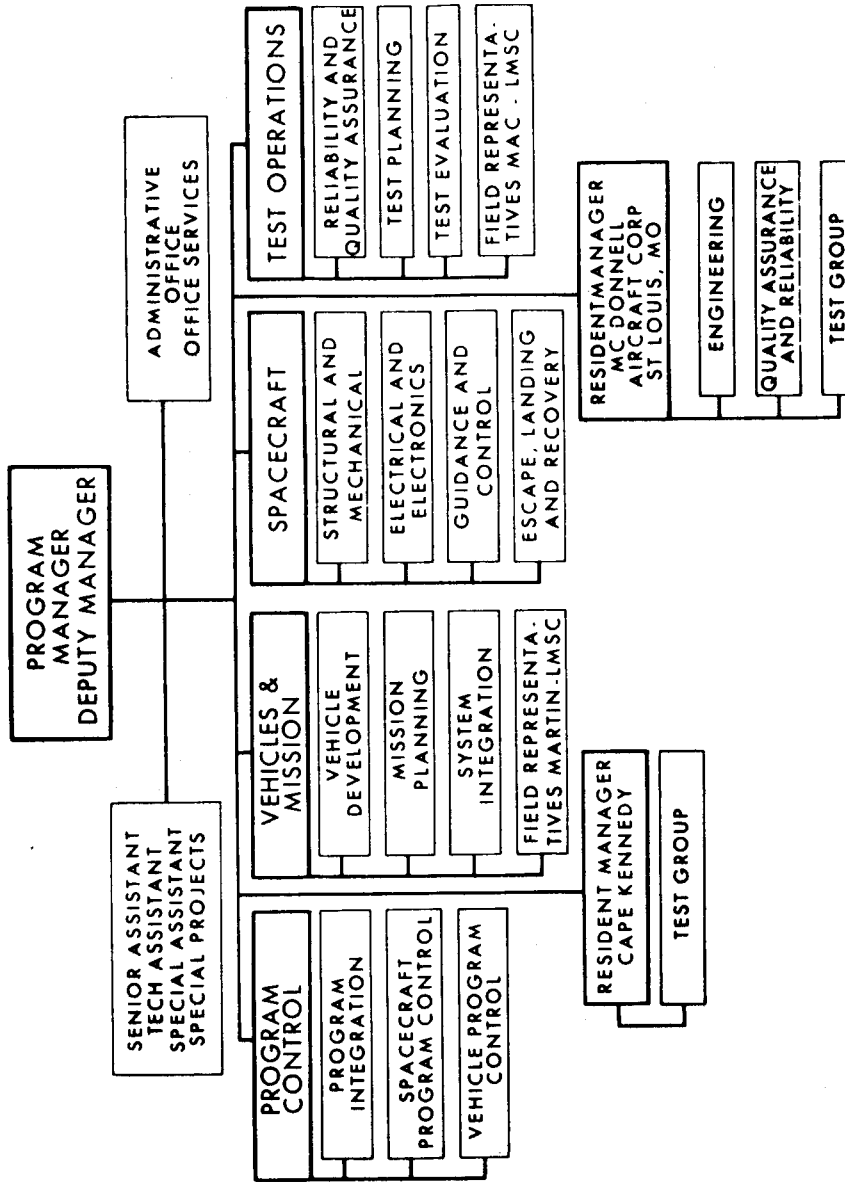- TEST GROUP

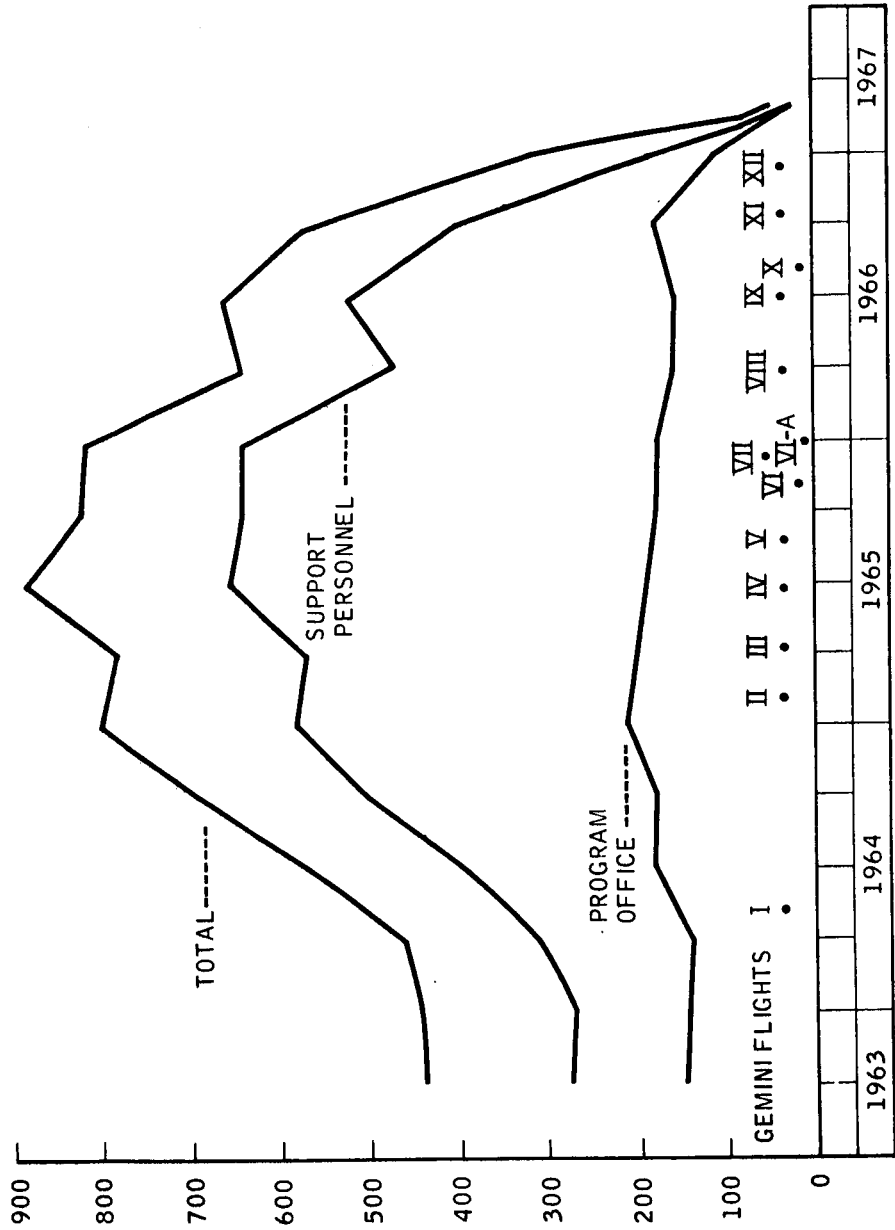Figure 2.- Gemini Program Office Organization Chart, June 7, 1965.

In the case of the Gemini Program Office its responsibilities, in addition to those given above, included providing, in conjunction with appropriate Manned Spacecraft Center elements, the necessary methods and procedures for the establishment of budget and schedules, the evaluation and control of cost and schedules, and the reporting of appropriate financial and schedule data. Moreover, this Office had the responsibility for supervising and directing industrial contractors in the performance of contract work including the preparation of statements of work and other documents defining the responsibilities of the contractor, the direction and supervision of a contractor's work within the scope of the contract, and the determination and implementation of required changes in the scope of work through the appropriate contracting offices.[14]

A study of the organization function of the Program Office reveals a departure from traditional approaches which is worthy of further discussion. The innovation itself was brought about by the almost unbelievable complexity of the organization interrelationships. It has been estimated that at the peak of Gemini activities the participation included the Gemini Program Office, all Manned Spacecraft Center organizational elements, all NASA supporting activities, McDonnell Aircraft Corporation, Martin-Marietta Corporation, General Dynamics-Convair, Lockheed Missiles and Space Company, and all of their associates including more than 50 major contractors, more than 150 subcontractors and a host of vendors and suppliers. Support was also provided by the Department of Defense; the State Department; the Department of Health, Education and Welfare; the Department of Commerce; the Atomic Energy Commission; and many others.[15]

At the time of the peak of activity in Gemini missions it has been reported that more than 25,000 people of the aerospace industry and the Government became directly involved.[16] Total management responsibility for this team rested with the Gemini Program Office which averaged less than 200 people. These statistics serve to illustrate the staggering size of the endeavor and the tremendous communication and coordination tasks which the Program Office faced. Figure 3 shows the number of people at MSC, including the Program Office, by quarter who worked on Gemini.

The scope of the diverse and scattered organizations participating in the program created two major problems: (1) adequate and timely communications; and (2) proper control and coordination of the activities of the separate participants. Time simply was not available for the conventional chain of command operation which restricts communication to channels, or with counterpart to counterpart at each level with each organization. The need, as had been experienced earlier in the Mercury Project, was to develop a group which could insure the widest possible dissemination and relay of critical information. This was accomplished by the establishment of management coordinating groups or committees to insure

Figure 3.— Manpower worked on Gemini Projects by Quarter, September 30, 1963 through February 28, 1967.

the highest conceivable degree of coordination and control. This resulted
in a precision meshing of all the factors, forces and functions of the di-
verse organizations so that for each mission they merged as one effective
organization. Similar coordinating groups with subordinate panels with
representatives from all interested organizations were used in several
areas including spacecraft, launch vehicle deployment, landing and re-
covery operations, etc.

The major deviation from traditional organization theory represented
by these organizations is found in their authority and power of decision.
For example, a representative of the Gemini Program Office acting as the
chairman of the Gemini Launch Vehicle coordination group possessed the
authority to direct action not normally found in similar groups.

The Gemini Program itself is unique in yet another way. At its in-
ception it was stated specifically that there would be 12 Gemini flights
all of which were planned for completion by January 1, 1967. Therefore,
we are dealing with a project with a definite end point. Although no one
could be certain as to the timing of its conclusion, everyone involved
knew it was going to end with the twelfth flight.

By June 1966, the activities of the Gemini Program had reached their
peak and pressure was beginning to be put on the Program Office to reduce
the number of its personnel to a greater degree than was being provided
by attrition.[17] Actual phase out activity and movement of personnel had
begun several months before with the transfer of quality control techni-
cians and engineers from the Resident Manager's Office at McDonnell Air-
craft Corporation in St. Louis to the Manned Spacecraft Center in Houston
and other NASA installations where a need for these people existed. By
July 1, 1966, the Gemini Program Office consisted of 185 personnel locat-
ed primarily in Houston, most of whom where still highly involved with
the final Gemini missions.

Of paramount importance in planning the final movement of Gemini per-
sonnel was the need to provide placement procedures which recognized the
needs of the Center and the desires of the individuals involved, yet which
maintained firm management control of the situation and insured stability
for the remaining top priority Gemini missions. It was apparent from the
beginning of the planning for the phase out that a situation somewhat
similar to Mercury existed. There would be no reduction in force because
management wanted to retain this highly skilled and capable work force in
which it had such a large investment and because there was an urgent need
for these employees elsewhere in the organization. With the increasing
workload of the Apollo Spacecraft Program Office, the establishment of
the Apollo Applications Program Office, and the anticipated creation of
the Science and Applications Directorate, it was imperative that these
people be retained and placed in positions that would best utilize their
special skills.

Arrangements had to be made to place these people in other positions within the MSC organizations. Normally in circumstances such as this the matter would have been turned over to the Personnel Division for disposition. This Division would then follow standard procedures by preparing a list of the employees who were subject to transfer and, in making the necessary reassignments, would deal directly with the line supervisors.

In this case this was judged not to be the most effective or desirable procedure to follow. Because there were still several Gemini flights to be conducted, the total concentration of the work force was required to complete these successfully. It was decided that the standard procedures for the reassignment of employees would disrupt the remaining work on the existing program by continually taking people out of the Program Office. It was also felt that undue concern as to what their next jobs would be was likely to distract the employees from the job at hand which was still of primary importance.

It was also not possible in 1966 to use the same procedures to phase out Gemini as had been used in 1963 to phase out Mercury because the environment was just not the same. First of all, the number of employees in the Gemini Program Office was more than three times greater than there had been in the Mercury Project Office. This was much too large a group to absorb into the organization at one time. When the 50 employees in Mercury were phased out there were 285 vacancies in the Center. As of July 1, 1966, there were only 246 vacancies (a figure which was declining monthly) within which 185 people had to be placed. Secondly, the total strength of the Center had become stabilized in mid-1966 due to NASA Headquarters restrictions. This was due to the fact that funds were just not as available to NASA as they had been in earlier years. No new programs the magnitude of Gemini were being initiated so Gemini personnel could not be transferred en masse to a new Program Office.

There were two preliminary meetings held on July 9 and July 12 to plan for the phasedown and resulting personnel reassignments. At these meetings the workload considerations (table I) and the categories and numbers of personnel involved (table II) were determined.

One of the proposals which emerged from the preliminary meetings was one accredited largely to the Gemini Program Manager concerning the establishment of a "working group" to be composed of representatives from each major MSC organization and chaired by a Gemini Program Office representative. The group was also to include, as an advisor, a fully qualified personnel management specialist. It was felt that such a group would be able to work effectively both within and among the various organizations and would be able to disseminate all the necessary information without the knowledge of the employees involved. This recommendation was approved

TABLE I.- WORKLOAD CONSIDERATIONS IN

PHASEDOWN PLANNING

Workload	Date
Launch of Gemini X	July
Mission Evaluation of Gemini X	Late August
Delivery of Gemini XII hardware	Mid-September
Launch of Gemini XI	Mid-September
Mission Evaluation of Gemini XI	Late October
Launch of Gemini XII	Late October
Mission Evaluation of Gemini XII	December
Property Disposition	January/February 1967
Closeout - Contractual Affairs	January/February 1967
Files and Documentation Disposition	January 1967
Special Historical Reports	January 1967

Source: MSC Management Document from the Manager, Gemini Program Office to the Chief, Personnel Division, July 30, 1966 (in the files of the Personnel Division).

TABLE II.- CATEGORIES OF PERSONNEL BEING CONSIDERED*

Assigned as of July 11, 1966

Categories	Number
Permanent Civil Service Personnel	
Technical and Administrative Professionals	119
Technicians	23
Clerical	39
	───
	181
Military	3
Summer hires (no action required - appointments terminate August 1966)	6
	───
	190

    *The grades of the technical professionals involved in this reassignment ranged from GS-12 to GS-16. This was quite a senior group.

    Source: MSC Management Document from the Manager of the Gemini Program Office to the Chief, Personnel Division, July 20, 1966 (in the files of the Personnel Division).

by the Deputy Director of the Manned Spacecraft Center who then established the Administrative Committee.

This committee was not given authority to approve the transfer of personnel or personnel spaces, but was designed to serve as a communication and coordination group which would make recommendations for reassignments to the Deputy Director through the Gemini Program Office Manager. The objectives of the committee were to insure that these reassignments would be carried out within a management controlled environment to insure the least possible adverse effect on the stability of the Gemini Program Office in accomplishing its remaining mission, that Center-wide requirements and priorities received adequate consideration in the reassignment of these personnel, and that the individuals were given the maximum practicable amount of latitude in selecting their new assignments.

At the same time Center management, on the basis of critical program needs, re-allocated all Gemini personnel spaces to other major organizational elements. Staffing vouchers were issued which indicated newly authorized staffing levels and directed that a specified number of vacancies in each organization be reserved for Gemini people. Throughout the phase out period the Personnel Division scrutinized all recruitment actions from outside sources to assure that qualified Gemini personnel were given first consideration.

In conjunction with the completion of the revision of the allocation of positions within each organization, each directorate and program office was required to prepare a personnel staffing requirements forecast through December 31, 1966. They were assisted by the Personnel Division in developing the specific format and the overall reporting requirements. This Division also provided the committee with the final report on all position vacancies approved for consideration.

In July the Program Manager listed general release dates for most Gemini personnel by designating three bi-monthly periods, i.e., July-August, September-October, November-December, as release periods for individuals so designated. These release dates were again determined by the workload considerations shown in table I. The actual release date for each individual was approved by the Program Manager after the selection process was completed.

In addition, Gemini supervisors prepared resumes of Gemini personnel emphasizing the Program Office responsibilities and accomplishments of each individual and recommending areas of best utilization. Representatives from the Personnel Division prepared a list of pertinent information concerning each employee. A complete package of information on each employee was made available to the committee for its consideration.

After each group was identified and resumes and information packets compiled, the Administrative Committee was convened to develop placement possibilities. No employee could be considered until his name appeared on the release list. Each member of the committee was responsible for circulating the resumes of those in the particular group under consideration throughout his organization. He was then to return to the next meeting, generally held several days later, with requests to interview Gemini personnel and with brief descriptions of the proposed jobs. Concurrently, the Program Office representative gave each member a list of people the Program Manager felt his organization should consider. The interview requests were submitted to the Chief, Personnel Division and the Program Manager and, if approved, were then referred back to the Administrative representative in the interested areas. At this point supervisor-to-supervisor contacts and ultimately interviews were approved and scheduled.

No specific job offers were to be made at these interviews, however. They were intended only as a means of providing an informational exchange between the GPO employee and the interested division. If it was mutually agreeable to both parties, the interested organization then submitted such information to the Program Manager who then decided whether or not a firm offer could be made. In this way the GPO Manager maintained a fairly tight control over the placement of GPO personnel. Matches which he felt to be undesirable were screened out, and in some cases, without an employee ever knowing that he had been considered for a particular area. Because of his extremely close relationship with his personnel, the Program Manager felt that he was in the best position to know the most suitable assignment for an individual and where the individual would be the most satisfied.

This point cannot be overstressed: during the course of not only the Gemini program but back into Mercury and before, this relationship between the Program Manager and his staff had become quite close indeed. Much of this was due to the environment which surrounded the entire Center--the challenges of the mission. Due to his senior management position in the Center's organizational structure, his knowledge about the other organization's and their programs, and his commitment to his own people, the Program Manager felt a personal obligation to insure that each one of his people was placed in a new position concomitant with his experience and capabilities.

The initial job contacts were restricted to the Division Chief level to insure the strict confidence required to de-emphasize the phasedown process. All of the activities of the committee, discussions between supervisors, and interviews with individuals were conducted in confidence to minimize an unsettling effect on mission-critical employees. Periodically, each Gemini employee was to receive a memorandum from the Program

Manager indicating that placement efforts were underway and reminding each of the critical mission tasks remaining.

The Program Manager also felt that it should not be left up to the individuals to find their own jobs and that they should be informed that systematic action to find positions for them was taking place. Accordingly, on August 15, 1966, a letter from him explaining that phasedown activities were underway was given to all Gemini Program Office personnel. The substance of this letter is as follows:

> Center management, fully aware of the individual and group accomplishments of the Gemini Program Office, has established a review and referral system which will insure careful consideration of the qualifications and experience of each and every individual as they are made available for reassignment by GPO. While primary consideration must be given to Center requirements, there will be some latitude permitted for personal preference whenever practicable.
>
> We have established an availability phasing plan which is based on our remaining mission requirements; consequently you will be notified by the manager of your office when you are being considered for reassignment. At this time, you will be contacted by organizations with specific job assignments in mind which have the concurrence of management.
>
> Until such time, you are requested to refrain from making personal contacts regarding reassignment. I believe that this approach will result in a satisfactory reassignment for everyone which has the complete support of Center management. As new developments occur you will be kept informed through your supervisors.[18]

The administrative officer for Gemini designated by the Program Manager, and the Personnel Management Specialist, designated by the Chief, Personnel Division were responsible for most of the day-to-day coordination of placement activity. The placement of key Gemini personnel was coordinated by the Program Manager and approved by the Deputy Director. All proposed reassignments were reviewed by the Personnel Division prior to processing to assure proper job classification and adherence to the MSC Merit Promotion Plan. In view of the initial decisions which were made, i.e., that there would be no reduction in force and that everyone would be reassigned to an equivalent position, the Civil Service provisions had little affect on the allocation of personnel in this specific situation and removed a potential additional burden on decision making.

In general, this committee placement procedure worked fairly smoothly. Almost all of the Gemini people had several interview possibilities and many received firm job offers from more than one MSC organization. One problem which had to be faced concerned the grade level structure in the Gemini Program Office. (See fig. 4.) Program Office grade level structure has generally been a step higher in grade than functional line positions. The complexity of the task of coordinating large programs and the managing of contracts valued in the hundred millions of dollars require these higher level positions. It is a fact that because higher grades are supportable in the program office this results in a greater desire on the part of personnel to get into them. On the other hand, it also results in a reluctance on the part of the functional organizations to take people from a program office.

This situation creates the problem of moving in high level personnel over others in an already established organization. Managers are generally Excepted[19] or at the GS-16 level. An already established organization does not have many management or division chief positions open. In the case of one of the newer organizations, it is reported that there are a number of young supervisors at grade levels below what their jobs actually call for. Placing higher level (GS-14 to GS-16) Gemini Program Office employees into this organization would most likely have resulted in a very real morale problem. To avoid this, many organizations wanted only the lower level technical professional people and clerical people from the Gemini Program Office.

As might perhaps be expected, most Gemini employees indicated a preference for similar positions in other program offices. The result was that the great bulk of the professional experience from the Gemini Program Office, particularly in regards to key personnel--Assistant Division Chief or above in Gemini or their new positions--was absorbed in the Apollo Spacecraft Program Office and the Apollo Applications Program Office. Of the 124 Gemini professional people who accepted reassignment at MSC, 86 were transferred into these areas, including in some instances, special task groups that moved intact. Of the 16 key Gemini Program Office personnel who accepted new positions, 13 moved to either Apollo Spacecraft or Apollo Applications Program Offices at the Manned Spacecraft Center or the Office of Manned Space Flight, NASA Headquarters.

The phase out of Gemini personnel in the NASA Resident Manager's Office at McDonnell Aircraft Corporation, St. Louis, also proceeded in an orderly manner. Of the 45 personnel on board as of July 1, 1966, six people were reassigned to the newly constituted NASA Resident Manager, McDonnell Aircraft Corporation, St. Louis to manage another smaller contract; 13 accepted assignments in Houston; four people went to the MSC Apollo Field Office, Downey, California; nine transferred to other NASA Centers, other Government agencies or resigned. Three others--two

DISTRIBUTION OF TECHNICAL PROFESSIONALS IN THE GEMINI PROGRAM OFFICE BY GRADE

JUNE 30, 1966

17   GS≤11

14   GS12

27   GS13

39   GS14

26   GS15

4   GS16

4   EXCEPTED

40

30

20

10

0
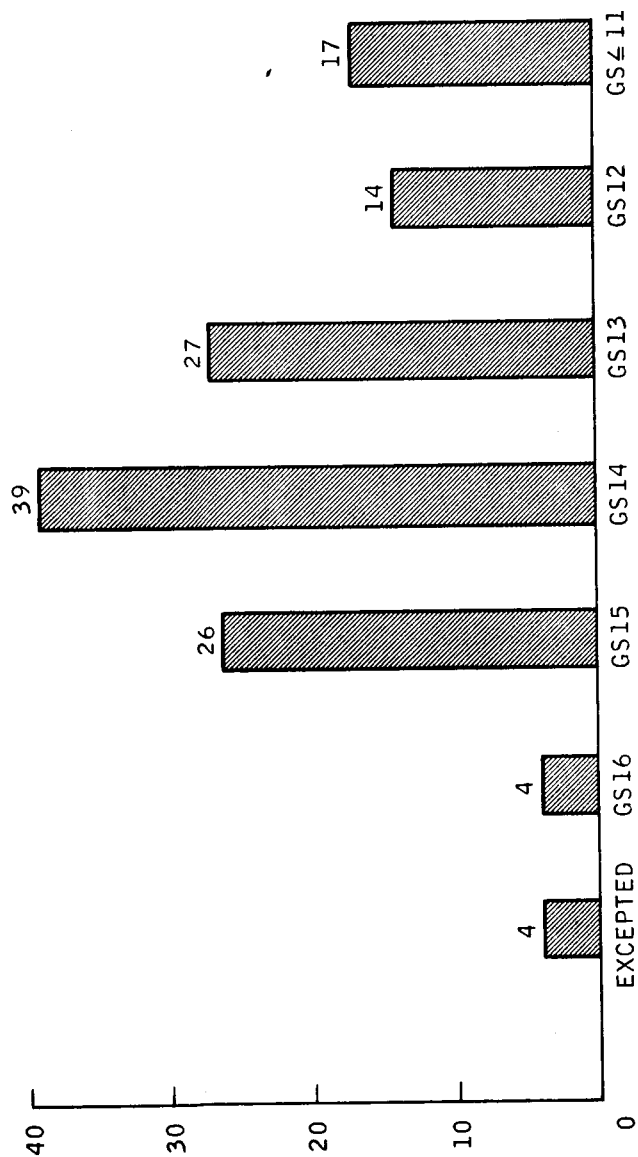
SOURCE: MSC PERSONNEL REGISTER

Figure 4. — Distribution of Technical Professionals in the Gemini Program Office by Grade, June 30, 1966.

clerical and one administrative--declined reassignment to comparable positions in Houston for personal reasons, and were notified of proposed separation effective March 19, 1967. (See table III.)

The break-up of the highly skilled, tightly-knit technical team which constituted the Gemini Program Office did not produce a significant number of resignations. Of the 185 Gemini personnel on board July 1, 1966, 165 are still on MSC roles and four went to other NASA organizations. Of the 16 people who left NASA, six were clerical, three were administrative, four were technicians, and only three were engineers. Fourteen of the 20 Gemini personnel who left MSC roles had been assigned to MSC Gemini offices in St. Louis (McDonnell), Sunnyvale (Lockheed), or Baltimore (Martin) and it may be assumed that reluctance to leave homes in these areas was a major reason for termination. Only six Gemini people separated from MSC (Houston) four of whom were clerical or administrative people who left for family reasons. Only two technical professionals left Houston. The Gemini Program Manager was promoted and reassigned to the Office of Manned Space Flight, NASA Headquarters, and one engineer resigned to join private industry.

At NASA Headquarters (see fig. 5) the Gemini Program Office had already begun to phase down approximately one year before completion of the program.[20] Planning began one year before completion as to where its 50 employees would go, and there was a good deal of activity by the first and second level directors to assure employees would receive positions commensurate with their abilities.

The initial planning was done on a confidential level. Several meetings were held in January through March 1966 to discuss the phase out preparations. These discussions covered such areas as what types of employees would be available, where the activities were which needed these types, and where they might best be used. Spaces were transferred to those areas of the Office of Manned Space Flight where it was felt they were most needed. After these decisions were made the release dates were estimated. These varied from April through December of 1966, the bulk of which would be in early December.

Two ground rules were established. First, there was assurance given to the employees that they would be placed in a position commensurate with their abilities. Secondly, the receiving organizations were told not to pressure the employees or to encourage them to assume their new positions before they were ready for release.

There were several other meetings held in the next four to five months. Discussions began between equivalent branch levels of the Headquarters Program Office and the areas which were expanding and needed employees. They had access to necessary interview material on

TABLE III.- MOVEMENT OF PERSONNEL FROM THE GEMINI PROGRAM

OFFICE BY RECEIVING ORGANIZATION

July 1, 1966 to January 31, 1967 (Close Out)

	Professional[a]	Clerical	Total
WITHIN MSC			
Apollo Spacecraft Program Office	43	6	49
Apollo Applications Program Office	43	13	56
Engineering and Development Directorate (Space Sciences)	21	7	28
Flight Safety Office	10	1	11
Flight Operations Directorate	4	2	6
Staff Offices	3	2	5
	124	31	155
EXIT MSC			
Transfers to other NASA Centers or Office of Manned Space Flight	3	1	4
Transfers to other Agencies	5	2	7
Resigned, Retired, or Separated	3	6	9
	11	9	20
Detail to Navy Bureau of Weapons (MAC)[b]	10	0	10
TOTALS	145	40	185

[a]Includes Technician and Administrative positions

[b]Loaned to Navy Bureau of Weapons Office at McDonnell Aircraft Corporation to manage the development of the Air Force Gemini B Spacecraft

Source: "Final Report on the Phase Out of the Gemini Program Office at the Manned Spacecraft Center", February 1966 (in the files of the Personnel Division).
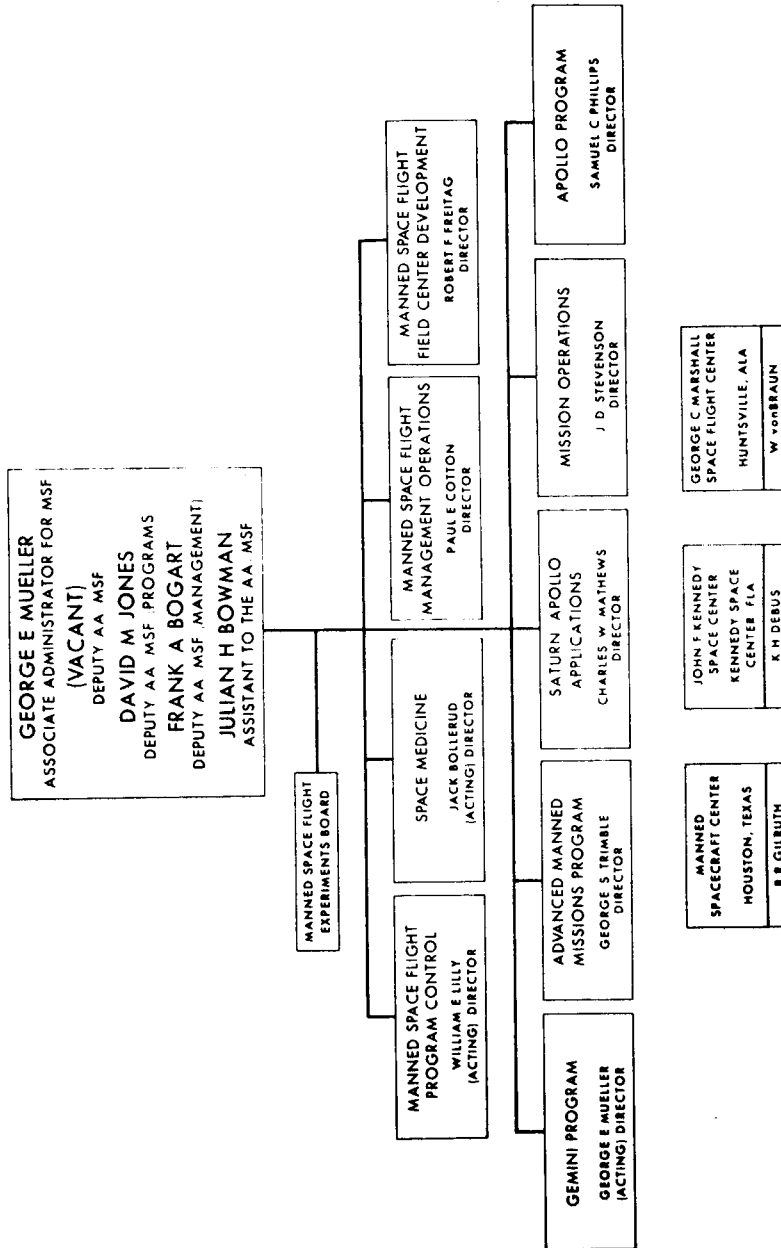
NASA-S-67-2742

GEORGE E MUELLER
ASSOCIATE ADMINISTRATOR FOR MSF
(VACANT)
DEPUTY AA MSF
DAVID M JONES
DEPUTY AA MSF PROGRAMS
FRANK A BOGART
DEPUTY AA MSF MANAGEMENT)
JULIAN H BOWMAN
ASSISTANT TO THE AA MSF

MANNED SPACE FLIGHT
EXPERIMENTS BOARD

MANNED SPACE FLIGHT
PROGRAM CONTROL
WILLIAM E LILLY
(ACTING) DIRECTOR

SPACE MEDICINE
JACK BOLLERUD
(ACTING) DIRECTOR

MANNED SPACE FLIGHT
MANAGEMENT OPERATIONS
PAUL E COTTON
DIRECTOR

MANNED SPACE FLIGHT
FIELD CENTER DEVELOPMENT
ROBERT F FREITAG
DIRECTOR

GEMINI PROGRAM
GEORGE E MUELLER
(ACTING) DIRECTOR

ADVANCED MANNED
MISSIONS PROGRAM
GEORGE S TRIMBLE
DIRECTOR

SATURN APOLLO
APPLICATIONS
CHARLES W MATHEWS
DIRECTOR

MISSION OPERATIONS
J D STEVENSON
DIRECTOR

APOLLO PROGRAM
SAMUEL C PHILLIPS
DIRECTOR

MANNED
SPACECRAFT CENTER
HOUSTON, TEXAS
R R GILRUTH

JOHN F KENNEDY
SPACE CENTER
KENNEDY SPACE
CENTER FLA
K H DEBUS

GEORGE C MARSHALL
SPACE FLIGHT CENTER
HUNTSVILLE, ALA
W vonBRAUN

Figure 5.— Office of Manned Space Flight, NASA Headquarters,
Organization Chart, February 1, 1967.

all employees who would be released. An interested organization could call an employee directly and the employees were encouraged to seek out job possibilities on their own although this was seldom necessary. These were carefully selected, highly skilled people and their experience was very much in demand.

There was no paper contact or questionnaires to employees for they were asked to state their preferences by personal contact. The small size of the Program Office and the resulting close contacts made access to personnel easy and information readily available. Employees were kept as fully informed as was possible regarding what actions were taking place. Once the employee decided which job to take, and most had several "good" offers, the necessary paper work was initiated by the receiving organization. As a result, the only action necessary at the time of an individual's release was to fill in the actual effective date of reassignment.

By July, all the people were reassigned to positions suitable to them and satisfactory to the Headquarters Program Director. It was all accomplished with no down grading with the exception of one secretary who agreed to the action. Except for some minor adjustments, the phase out was executed as planned. The time phasing did require some modification, but generally the releases were earlier than had been expected.

After the last mission on November 15, the transfer of Headquarters personnel increased rapidly. The hard core of employees at the end were key people who already had made their plans, but were needed until the completion of flight activity. The transfer was completed by December 19, with the exception of three people who were left to handle the closing of the office.

CHAPTER VI

THE PHASE OUT OF THE GEMINI PROGRAM OFFICE AS

VIEWED BY MANAGEMENT OFFICIALS

Having examined the policies and procedures which were used in the phase out of the Gemini Program Office at MSC, the next step was to determine how those who had participated in the phase out activities reacted to these methods. To obtain this information personal interviews were arranged with the Gemini Program Manager; Deputy Program Manager; Chief, Personnel Division; Deputy Chief, Personnel Division; five members of the Administrative Committee; and the Personnel Management Specialist who assisted the committee.

One purpose of these interviews was to question these people regarding their personal roles in the phase out. This information provided most of the details presented in the preceding chapter. In addition, they were asked for their opinions concerning the procedures and whether or not they considered the results to be satisfactory. Further, they were asked for recommendations for any changes they felt would improve the process in the future. Those in organizations which had received Gemini employees were also asked if any adjustment problems of these employees to their new organizations were in evidence at this time.[21]

The consensus of opinion expressed by management was that the phase out, in general, had been handled quite well. All agreed with the policies, but there were some objections voiced about some of the mechanisms used. Of those interviewed, only one member of the Administrative Committee felt that there had been no problems whatsoever and, therefore, no suggestions for its improvement were required.

The others offered several criticisms of the procedures and made a number of suggestions for their improvement. They disagreed primarily with the attempt to keep the activities that were taking place with regard to the phase out strictly confidential. As was mentioned earlier, the Program Manager had decided not to inform all the employees at the same time of their pending release. He did not want to cause undue worry about their future positions to those who could not be released until later. Thus, three separate release lists were compiled according to the date of anticipated availability. It is claimed, however, that this attempt at secrecy produced a tendency to create more problems than it solved.

In the first place, everyone knew that the program was going to end in the very near future. The fact that they were not informed as to what would be happening to them and what their future jobs would be was felt to have been a cause for greater worry. Secondly, several of those interviewed expressed some concern with the general idea of managing in secret and felt this is especially undesirable when decisions are being made that affect an employee's future career. Further, some felt that more was lost in employee morale resulting from misinformation from informal sources which resulted in greater concern, much of it unfounded, than was gained from trying to maintain strict confidence.

The suggestion was made that this could have been improved by the use of a general announcement to the Gemini Program Office employees. This could have been done through the means of a meeting where the problems and proposed action would be explained as thoroughly as possible. The same arrangements could also have been used for conducting the interviews with the same proviso made that no one attempt to make any arrangement on his own. While admitting there might be some exceptions, it is felt that the majority would have met these demands as they actually did under the system which was used. Because of the close relationship between the Program Manager and his employees, however, their confidence in him was sufficient to follow his assurance that all would be reassigned to comparable positions.

Under this arrangement the use of only one release list would have been both necessary and preferable. Copies of this release list could have been distributed to all Division Chiefs who would then indicate those individuals in whom they were interested and for which positions. These lists then could have been returned to the Administrative Committee which could have followed the same procedures for arranging interviews, screening out those considered undesirable, and approving firm offers. The only significant difference would have been allowing all employees to interview at the same time and to make arrangements for future positions.

It is felt that the use of one release list might have prevented the additional frustration on the part of those employees who were on the first release list, but for one reason or another were still not placed at the time the last list was made available. Further, those interviewed who represented organizations that received Gemini people stated that if they had known they were getting the individual they considered to be the right person for a particular position, they would have been willing to hold that position open for several months until his Gemini responsibilities were completed.

One criticism offered by several members of the Administrative Committee was that the procedures used were too time consuming and, as a

result, were extended over too long a period. As we discussed in the preceding chapter, the members returned to their organizations with a list of those Gemini employees available for release. Those on the list were to be discussed and an indication made as to those an organization wished to interview. After a request for interview was submitted to the committee, it is reported that it took from three to four weeks due to the "normal" demands of the program before permission to interview was granted by the Program Manager. It then usually took several days before a time for the interview could be arranged. If the interview was mutually satisfactory, the interested organization had to have permission from the Program Manager a second time before making a firm offer. These same steps had to be repeated with each of the three separate release lists.

In the opinion of these people, the Division Chiefs were simply "too bogged down in paper work." There was a feeling that the forms used to provide them with employee information were inadequate. The receiving organizations spent too much time searching for their own information. Although the personnel files were made available, there simply was not sufficient time to call for and examine them. They found themselves relying on the word of people who were familiar with a particular employee which could lead to some misconceptions.

It was suggested, therefore, that all pertinent information on any one employee be gathered together on one form rather than three separate ones. One suggested that what could have been used was an employee's last promotion papers as they provide the necessary information.

It will be recalled from Chapter V that prior to the beginning of the actual phase out the personnel spaces allotted to the Gemini Program Office were re-allocated to other major organization elements throughout the Center on the basis of critical program needs. This meant that a Gemini employee did not take his space with him when he transferred, but had to be placed within an organization's allowable personnel ceiling. When the spaces were distributed there was a "must-hire quota" set; i.e., each organization had to hire a specified number of Gemini people.

A complaint voiced by some of the representatives of the receiving organizations on this point was that these quotas were not enforced as they should have been. This non-enforcement was somewhat understandable in that the quotas were felt to have been "unrealistic" in the first place. What resulted was an organization receiving an increase in its allowable spaces without being required to take any Gemini people. At the same time other organizations who wanted more Gemini employees did not have the spaces for them. It was felt that this could have been avoided if the spaces had gone with the people as in the Mercury phase out and would have eased some of the placement problems which evolved.

Another apparent problem came to light during the course of interviewing the management personnel. Due to the nature of the Gemini program, the time phasing of the releases depended on an individual's responsibilities on the remaining three Gemini flights. Because of their roles, therefore, it was necessary that most key people be held until the completion of the program. Moreover, because of the grade level of this group, their reassignments were not handled by the Administrative Committee, per se, but were the personal responsibility of the Program Manager.

Whether it was in fact the case, employees who found themselves on the later release lists were concerned that those released earlier would get the better positions simply because of their availability. From later interviews with these key people it does appear that those who had to be held until the end of the program did in fact experience some concern about their future for this reason.

It is here that we find ourselves involved with what can be considered an inherent conflict in manager-employee relations. The employees, naturally concerned about their future careers, were anxious to find suitable positions. With the immense complexity of the Gemini program and the total responsibility for its success placed on the shoulders of the Program Manager, he was faced with a dilemma. He felt that the people under his command were the best people he could have. He was sincerely concerned about finding the right position for each of them. He, therefore, wanted to maintain some control over their placement in addition to placing these key people himself.

However, it should be remembered that Gemini was still flying at this time. This was his first and most important responsibility. According to the Program Manager, "The success of the last mission was just as or more important than the first".[22] His duties required him to be away from the Center a good deal of the time and made it impossible for him to devote as much time to the placement problem as he would have liked.

It is this aspect which furnishes the basis for the complaints mentioned earlier that the procedures took too much time. It was suggested by a number of those interviewed that it would have perhaps been better if the Program Manager had delegated these placement responsibilities to someone whose judgment he trusted and who could have devoted full time to these efforts. Rather than having only one man to assist him, it would have also been preferable to have three or four assistants working at this full time. It is felt that this system would have made it possible to complete the arrangements for the phase out in a shorter period of time.

However, having delegated these responsibilities to someone who could devote full time to it would not necessarily have solved the problem of placing the key people. Here we are dealing with the problems discussed in Chapter V resulting from the higher grade level structure in the Program Office. These people, because of their grade levels, would have been difficult to place under any system. As the Program Manager stated: "Many of my managers and deputies could have gone into higher slots and handled them effectively, but there was not enough room for them in the organization."[23]

In this case of the key people, therefore, the use of one release list would have perhaps eased their worry that the first employees available would have a better opportunity to find the better positions. However, it still would not have solved the placement problem caused by their grade levels. On the whole, however, the above problems notwithstanding, all key personnel were placed and, in most cases, time has shown these reassignments to be satisfactory.

One question which was directed to the Program Manager concerned the breaking up of the Gemini Program Office team. Was one of the objectives of the phase out the intentional disbanding of the Gemini Program Office personnel? According to the Program Manager, there was to some extent an intentional disbanding of the Gemini Program Office team. This was due primarily to the fact that to the Director of the Manned Spacecraft Center the next program is always the most critical and, as a result, he must insure that the new programs receive the benefit of experience from the old. However, once this move to put this kind of experience into a new organization is made, extreme caution must be observed. Employees cannot be transferred indiscriminately into an ongoing organization.

Several of those interviewed wanted to retain the integrity of the Gemini team and the Program Manager admitted to having had to fight his own feelings on this at times. The most significant factor which must be recognized, however, is that "what may be considered a good job one year may not be good the next year". Without changes in an organization there is no "cross-fertilization" and little transfer of information from other organizations. Thus, the disbanding of the Gemini team will, in the long run, prove to be in the best interests of both the Center and its personnel.[24]

CHAPTER VII

EMPLOYEE REACTIONS TO THE PHASE OUT

Now that the opinions and suggestions from those responsible for the development and implementation of the Gemini Program Office phase out policies and procedures have been presented, we will proceed to the discussion of the reactions expressed by the affected employees. What follows, therefore, are the comments and suggestions of those employees whose reassignments were handled through the procedures described in Chapter V.

Because of the large number involved, it was not practical to try to interview personally even a sampling of this group. Therefore, a questionnaire was devised and distributed to 167 former Gemini Program Office employees. Of the number distributed 101, or 60.5 percent, were returned.[25]

We were interested not only in discovering the reactions of these employees to the procedures, but also wanted to determine how successful, in their opinion, the objectives of the procedures had been.

It will be recalled that one of the objectives of the methods was to avoid an unsettling affect on the remaining three Gemini missions. To accomplish this, all the activities of the committee, discussions between supervisors, and interviews with individuals were to be conducted in confidence. We therefore asked the employees if they were aware that the reassignment of personnel had begun before they were officially notified of their release for interviews. Of the 97 people who answered this question, only 7 said they were not aware. The balance, 92.8 percent, claimed to have been aware of it on the average of two to three months before they were officially notified.

Another of the objectives of the procedures was to prevent possible chaos resulting from employees making their own contacts to find new positions. In the August 15 memorandum from the Program Manager, they were specifically requested "to refrain from making personal contacts regarding reassignment." We therefore asked the employees what action they had taken on their own behalf. Of the 91 who answered this question 83, or 91.2 percent, stated they had taken no action as requested. The remaining eight people said they had made contacts with personnel with whom they were acquainted to find out what positions were or might be available.

A further examination of this latter group shows that all had entered into the Gemini Program Office from outside the Manned Spacecraft Center and NASA. Two came from private industry while the remainder came to MSC from other government agencies. With the exception of one secretary who had approximately one and one half years of Federal service, the members of this group were technical professionals with Federal service ranging from 11.5 years to 25 years with an average of 16.4 years. These people also had the reputation of being the "Old Guard" in the Program Office.

The fact that those who felt a need to take some action on their own behalf came from these particular backgrounds could prove to be of interest. In private industry generally, when an employee's position is eliminated it is not unusual for him merely to be released. Traditionally, in government agencies, the agency may announce an employee's pending availability, but then the employee is left substantially on his own to find and select a new position. It is entirely conjecture, of course, but perhaps previous experience with a situation of this nature, especially with the length of Federal service involved, could have led these particular employees to suspect the assurance that comparable positions within the Center would be found for them.

The Program Manager's primary concern was of necessity the success of the remaining three flights. He needed the full concentration of the work force on their Gemini responsibilities. For those who were aware the phase down had begun before they were notified, did this period of uncertainty regarding their future positions affect their ability to concentrate on these responsibilities? Of the 91 respondents, 65.9 percent claimed that there was no effect on their responsibilities. The remaining 34.1 percent stated that it did have some effect, but in varying degrees. A number claimed to have experienced a sense of frustration from not knowing what was going to happen. Several expressed having feared that by the time they were released for interview all the better positions would be gone. There also was evidence given that a good deal of time was wasted in informal discussions as personnel speculated among themselves regarding what was taking place.

The employees were asked if they felt they had a thorough knowledge of the reassignment policies and procedures used. Of the 96 who responded, 51.0 percent answered in the affirmative. An additional 12.5 percent said yes, but did so with a number of qualifications. The remaining 36.5 percent claimed they did not have such knowledge.

Interestingly enough, the comments made by the employees in response to this question were similar in many respects to those elicited from the interviews with those responsible for the phase out. One common complaint was that "conflicting oral descriptions were the only sources of information". This problem was no doubt due to the attempt to keep everything

confidential. Speculation regarding the unknown more often than not results in unfounded rumors and inaccurate information.

Another fairly common comment was that an employee thought he understood the policies and procedures until he began his interviews. It would appear that in numerous instances the system did not work the way in which it was intended. Upon arriving at an interview it developed that the interviewer often had little or no knowledge regarding the qualifications of the employees he was interviewing. Many had not seen a copy of the prepared resumes. A number of employees seemed to misunderstand the purpose of the interview and thought they were being offered a specific position which, in actuality, was not the case. In some instances it appeared to the employees that the interviewer did not have any specific position in mind for them. As a result, these interviews were compared to a "merry-go-round with neither the interviewer nor the interviewee knowing where to get off".

A number of employees, therefore, felt that the paper work of the process was inadequate and as a result time was wasted in a number of interviews. They, too, suggested that the forms be improved to provide sufficient information and requested that in the future only interviews for specific positions be conducted.

After asking whether or not they felt they should have been briefed thoroughly enough, we asked if they felt they should have been briefed sooner regarding the phase out activities. Of the 98 who responded to this question, 65.3 percent said no, 25.5 percent said yes, 4.1 percent said they were briefed soon enough, but that it should have been more thorough, and 5.1 percent said that they had never been briefed at all.

One ground rule of the established procedures was to try to allow all the employees some latitude wherever practicable in selecting their own positions. Allowing a choice of positions such as this is generally not too commonplace either in private industry or the Government. We were therefore interested in whether or not the employees felt they had an opportunity to choose the type of work to which they were assigned. Of the 97 who answered this question, 63.6 percent said yes while an additional 15.5 percent said yes within the limits allowed under the procedures used. (It will be recalled that the number of interviews allowed was restricted to three or four in most cases.) It was indicated by 30.9 percent that they did not feel they had any choice regarding their reassignments.

Would they have preferred to choose and arrange their own interviews? Of the 91 respondents only 29.7 percent said they would. Another 9.9 percent said they would have preferred to choose if they had been provided with a list of positions which were available in the Center at

the time. However, 48.3 percent said they would not have preferred to choose and arrange their interviews. There was another 12.1 percent who said they in actuality did choose and arrange their own interviews. Only one of this group, however, acknowledged having taken any action on his own behalf prior to being officially notified of his release for interview. The others stated they had to arrange their own interviews because the system did not take care of them adequately. From the information available on the questionnaire, it appears that this group is largely composed of those at the higher grade levels for whom few comparable positions were available.

We were especially interested in the employees' attitudes concerning the results of the procedures which were used. To provide us with this information, we asked them if they felt they had been reassigned to positions consistent with their background and qualifications and where their skills could best be utilized. Of the 95 who answered this query, 76.9 percent said they had been. Included in this group were 89.7 percent of those who claimed they were not given an opportunity to choose their new positions, and at the same time stated they would have preferred to choose. Thus, it would appear that almost 90 percent of those who were dissatisfied with the procedures for choosing and arranging their interviews and new positions were at the same time satisfied with the positions which they received.

However, 14.7 percent of the respondents felt they had not been reassigned to positions consistent with their background and qualifications or where their skills could best be utilized. Further investigation revealed that half of this group did not transfer into other program offices, but were reassigned to functional line organizations. Their major complaint was that they were not given as much responsibility in their new positions as they had in the Gemini Program Office. For example, one respondent stated: "As soon as I began interviewing I realized that job responsibilities were minimal compared to Gemini."

We learned from our discussion in Chapter II that the duties and responsibilities of an employee in a program office are generally of a broader nature than those in a functional line position. The nature of the programs at MSC and the emphasis placed on them means that much of the work in the functional organizational elements provides the support to the program offices. Earlier it was mentioned that, according to those interviewed who were from these functional organizations which received Gemini employees, these employees had some difficulty adjusting to the more narrow range of responsibility in their new positions. The employee response to this question would appear to support this observation.

In addition, the employees were also asked if, in their opinion, most Gemini Program Office personnel had been assigned to positions

where they can perform most effectively. Of the 74 who answered this question 60.8 percent said yes. Another 25.7 percent said yes in general, but made references to some instances where this was not always the case.

The remainder, 13.5 percent, claimed this was not generally the case. Forty percent of the respondents in this group also had indicated they felt they had not been assigned to positions consistent with their background and qualifications and where their own skills could best be utilized. The others referred to informal conversations with their acquaintances as the basis for their answers.

Because of the increasingly important role program management is playing in today's organizations, we decided it would prove valuable to ask the Gemini employees how they felt about their program office experience. Although it was not directly applicable to the phase out procedures or their results, we asked them for an opinion as to how this experience prepared them for work in other MSC organizational elements.

Their comments were overwhelmingly favorable regarding the type of working experience they had gained in the Gemini Program Office. One of the most frequently mentioned comments was that this experience provided them with an overall picture of the Center's programs and organization not generally available in other elements. It provided an awareness of support requirements of a program office and helped one to understand all facets of the job to be done rather than only one small part of it. As a result, those who are then transferred to functional organizations find they have a more sympathetic approach to program office problems. This type of experience provided many with the orientation necessary to integrate into other MSC operations very easily. It stressed the ability to work and communicate with people of varied interests and exposed them to management type problems on a much broader scale than exists in most Center organizations. It taught them how to work with contractor personnel constructively and prepared them to cope with all types of situations and pressures.

Another frequently mentioned advantage in this type of experience is that it increases the range and scope of overall responsibility and capability. This in itself has been mentioned as one reason why a number of the employees, largely those who were reassigned to functional organizations, stated they are dissatisfied with their new positions. Also, in a project office time is one of the most important factors. "It (program office experience) makes one dissatisfied as program office work is usually at a faster pace and of more urgency than most other directorates."

However, perhaps the following comment expresses fairly accurately the general feeling of the personnel of the Gemini Program Office towards

their experience: "There can be no better training than to work on a successful program."

There is no question but that Gemini was a successful program and that the people who worked in the Program Office were a highly skilled, talented, and closely knit work force. In view of these facts, how did these employees feel about breaking up this "team"? To obtain this information we asked them if they felt the Gemini Program Office "team" should have been kept together as a group for future projects.

26.1 percent expressed the opinion that the group should have been held together, 8.0 percent felt this had generally been done especially in the case of the Apollo Applications Program Office, and 4.5 percent said they had no opinion.

There were a number of reasons given for the desirability of keeping the team together. Some felt that a group is more effective after it has worked together for some period of time. It was stated that the Gemini team knew how to accomplish any job that was given to it. Working relationships were established that had taken considerable time. Because these were destroyed by the transfer of personnel, new relationships will have to be developed which will result in a loss of the agency's resources. In this situation each person knew exactly the extent and limitations of his job responsibilities for career enhancement. It was a successful team and most of the people knew the strong as well as the weak points of the personnel. As a group, coordination, knowledge and experience were of the highest level.

However, it was somewhat surprising to discover that in spite of the fact an esprit de corps had existed to such a high degree among these people, 61.4 percent of the 88 who answered this question felt that the team should not have been kept together. Within this group of respondents were some from every occupation and division in the Program Office. Thus, it was not just a particular work group or type of employee who expressed this same opinion. They felt that reassigning them to other organizational elements within MSC was in the best interests of both MSC and the individuals involved. Many of the opinions expressed appear to be the opposite of those reasons given for keeping the team together.

Why did such a large number of these employees feel it was in their best interests to have the Gemini Program Office team broken up? One answer to this question provides a good summary of most of the reasons for this opinion:

As an organization ages, it becomes somewhat inflexible in its approach to new problems. "The way we did it on Gemini" is not

necessarily the best way on a new program. NASA will benefit
more by making experienced program management personnel avail-
able to other elements of MSC and other Centers. A significant
contributor to the effectiveness of the "Gemini team" was the
more or less personal working relationships attained with Gemini
contractors. In other words, no other projects would have "fit"
the Gemini organization.

It was felt that in the long run, the loss of continuity and effic-
iency resulting from breaking up the Gemini group would be outweighed by
beneficial application of program office experience to other MSC elements.
It was also felt that keeping the team together would be unfair to indi-
viduals seeking career advancement for they should have the opportunity
to gain broader types of experience. Teams tend to stagnate, to do
things the same way and resist new ideas or new procedures. From the
standpoint of personnel motivation, the change was beneficial in that
it prevented potential laxness due to familiarity. The melding of the
Gemini team into the other Center projects will enhance the cohesiveness
of the manned space flight programs.

Would the disbanding of the Gemini Program Office and the resulting
reassignment of its personnel create a loss of continuity and efficiency
in the productivity of these employees? We asked them how long they es-
timated it will take to fully acquaint themselves with their new work
and organizations. Of the 83 responses, 30.1 percent said they were al-
ready familiar with their new jobs and organizations or would be in a
very short time. An additional 32.6 percent stated they would be fully
effective within three months, while 31.3 percent said it would take from
three to six months to become fully acquainted. Only 6.0 percent felt
it would take longer than six months.

We also asked whether their new positions required any special re-
training and, if so, how was it being conducted. Of the 93 who answered
this question 76.3 percent claimed that no special retraining was re-
quired. There was another 17.2 percent who said that special retraining
was necessary and was being conducted in technical classes given by their
new organizations or by the contractors. The remaining 6.5 percent stat-
ed that retraining was required, but did not indicate how this was being
handled.

At the conclusion of the questionnaire the employees were asked to
give suggestions for improving the procedures which were used and for
additional comments they may have about the phase out of the Gemini Pro-
gram Office. Of the 101 questionnaires returned there were 15 with no
comments and an additional 16 respondents who stated they felt none were
necessary. The remaining 70, while generally favorable in their reac-
tions to the phase out, were critical of a number of the procedures.
Their suggestions followed quite closely the ones expressed by those
responsible for implementing the procedures.

As indicated earlier, one of the most frequent objections concerned the lack of an official source of information. They felt that the attempt at secrecy should have been avoided: "Respect the individual enough to assume that his present responsibilities will be properly discharged while future opportunities are explored."

A recurring complaint involved what was considered to be poor communications throughout the Center. It was stated that first and second line supervisors in other organizational elements either had never seen a release list or saw them after an individual had been reassigned. (It will be remembered that the release lists followed the formal communication networks of the Center.) As a result, some employees reported having been contacted about good positions a month or more after they accepted another offer simply because it was not known earlier that they were available. "Too many interviews were conducted where the interviewer obviously knew nothing of a man's background." Another point was made that too many interviews were experienced where the interviewer had no specific position in mind which resulted in a good deal of wasted time.

The consensus on the part of the employees appeared to be that everyone should have been notified at the same time concerning what plans were being made for the phase out. Periodic briefings should have been held to keep them informed of the progress to prevent the spread of unfounded and often inaccurate rumors. The key people should have been given the first opportunity for positions rather than being the last people placed.

Further, it was suggested that the employees should have been allowed to write a short description of what types of work and/or organizations they would like. This could then have been attached to their resumes, which should have included more than their Gemini experience, and distributed to all the Division Chiefs. Also, if the spaces had gone with the people placement would have been much easier in many cases.

Because they all knew Gemini was scheduled to end in the near future, they felt that arrangements could have begun much sooner than they did. Reassignments could have been made with the people remaining in the Gemini Program Office until their responsibilities were completed. If any unforeseen circumstances had arisen which required their attention after their transfer, they could have been detailed back to handle it. This would have taken care of the situation that many said existed where people were held in the Program Office after their work was essentially completed.

In general, the feeling of many of the employees appears to be that the established policies and procedures were basically sound, but not everyone involved followed the ground rules thereby destroying in a number of ways the overall effectiveness.

CHAPTER VIII

CONCLUSIONS AND RECOMMENDATIONS

The original truism stated at the beginning of this study was that an organization which is structured on the basis of its particular programs will face an extremely complex problem in dealing with the allocation of its personnel. This will be especially true when those programs are subject to continual change and the completion of one program overlaps or is to be followed by the initiation of a new one. As we have seen in the preceding chapters, there is no simple solution to the personnel problems created by the introduction of program management and the program office concept in the traditional functional organizational structure.

At best, the phase out of a program office would be expected to proceed within a somewhat negative environment. According to the employees themselves, working in a program office has a special prestige attached to it. They form a closely knit group, are generally given special consideration by management, and have duties and responsibilities of a broader nature than is found in traditional functional line organizations. As was revealed earlier in our discussion, "everyone wants to get into the program office".

In view of these attitudes, special attention must be given to the manner in which the phase out of any program office is handled. While there will inevitably be some employees who are dissatisfied, the objective of any procedures must be to limit the amount of discontent as much as is possible. It is not easy for an employee to be frequently uprooted from his position and reassigned to a new area. It is particularly difficult when he is transferred, not into a newly initiated program, but into one that has been in progress for some time where relationships have already been formed and duties long since assigned. As the question-naires indicated, it usually takes several months or more before he can become fully effective again which can, as often as not, create personal feelings of frustration. The need for constant retraining can undermine his own sense of security and selfconfidence. If he is transferred out of a program office into a functional line organization where he feels his duties and responsibilities have been diminished, it can prove to be a difficult adjustment for him to have to make. This reduction in the scope of their duties and responsibilities was frequently mentioned by the employees who were phased out of the Gemini Program Office.

All of these aspects should be taken into consideration when plans are being made by management to phase out a program office. The procedures are certainly difficult, but without special attention given to

the employees they wish to retain, an unfortunate situation can only be made worse. It goes without saying that the primary concern of management must be for what is in the best interest of the organization. However, within these limits, special consideration can and should be given to the employees whose careers will be affected by these decisions.

What can be learned from the National Aeronautics and Space Administration's Manned Spacecraft Center experience with its problems emanating from this type of organization and the procedures which have been developed for the allocation of the affected personnel? Now that the procedures which were used have been examined, are there any suggestions which can be offered to improve them? Can we assume that the procedures used in the past will be applicable to any phase out situation in the future or is the environment in which the termination of a program occurs the determining factor? Using past experience together with suggestions for its improvement is it possible to develop a set of procedures which can be used in the future or are flexible guidelines adaptable to existing conditions the only reasonable alternative?

In an attempt to provide some answers to these questions the Manned Spacecraft Center's experience with the phase out of the Mercury Project Office and the Gemini Program Office, both at the Manned Spacecraft Center in Houston and at NASA Headquarters in Washington, should be reviewed and compared on a number of points.

The Mercury Project Office team had been held together in anticipation of the scheduling of two additional flights. At that time there were only 50 employees in the Project Office. At the same time there were 285 vacancies in the Center, the Gemini and Apollo programs were expanding, and Congressional support and money were not lacking. Because of these factors there was no problem concerning a time phased plan for releasing the employees, no questions regarding the merits of keeping the administrative activities strictly confidential had to be raised, and the small size of the group relative to the number of vacancies in the Center minimized the placement problem. Therefore, it was primarily the conditions existing outside the Project Office itself which determined how the phase out would be handled.

However, none of these favorable conditions existed at the time preparations for the phase out of the Gemini Program Office began. As a result, a more structured process had to be developed to handle the reassignment of the affected personnel. There was no unexpected ending to this program. It was unique in that a specific number of flights was announced several years in advance. It represents one of the few R&D programs to date which have ended in that fashion. The number of personnel in the Gemini Program Office at the time the phase out began was 185, too large a group to be absorbed into the organization at one

time. At the same time there were only 246 vacancies in the Center and while the Apollo Applications Program Office was in its initial stages of development, the Apollo Spacecraft Office had been in existence since 1961. These environmental conditions strongly influenced the decisions which were made by management regarding the procedures which were made by management regarding the procedures which were to be followed in the phase out.

By way of a summary we can list some of these decisions which were made without a further explanation of the reasons for them as they have already been discussed in Chapter V.

It was decided first of all that the phase out activities should be conducted in strict confidence. From the interviews with management and the response from the employees this attempt at secrecy cannot be considered to have been completely successful. As was pointed out in Chapters VI and VII, it created even more problems than would have otherwise been the case. In addition to causing additional concern on the part of employees, much of it based on unfounded and untrue rumors, the responses to the questionnaires would tend to indicate that it also resulted in feelings of resentment towards management for not having told them anything except "not to worry".

This attempt at secrecy led to the necessity for preparing the three separate release lists the disadvantages of which have already been discussed. The results of this procedure proved to be quite unsatisfactory as it produced a fear on the part of the employees that not all of them would have an equal opportunity for what they considered to be the better positions. The Program Manager indicated that, in retrospect, this is one thing he would have done differently.[26]

The Program Manager's fear that if the employees were told everyone would be out seeking new positions on their own appears to have been unfounded. While only seven out of the 97 respondents claimed they did not know that the reassignment of personnel had begun prior to their official notification of release for interview, 91.2 percent stated they followed his instruction and made no contacts on their own behalf. Surely this would have also been the case if they had been officially briefed as thoroughly as possible on what actions were being taken on their behalf. In fact, one could possibly conclude that this figure might even have been higher if more of the doubts about their future could have been removed and they had known management was taking such extensive precautions to find comparable positions for them.

It was this approach that was used by the Gemini Program Office at NASA Headquarters and is one which they feel worked very successfully

for them. Once the initial decisions were made by Headquarters management as to the considerations that had to be taken into account in phasing out the Program Office, the employees were notified regarding what plans were being put into operation. They were kept periodically informed as to what progress was being made. There had been some unfavorable results in the past from trying to keep personnel actions such as this strictly confidential and management felt that this method was the best way to avoid to a large extent the potential dissension.

One criticism of the policies and procedures of the phase out of the Gemini Program Office at MSC that was heard frequently was that preparations should have been started much sooner than they were. At NASA Headquarters, with only 50 employees in the Program Office who would need to be reassigned and with the great demand for these people in other areas, preparations began for phasing out the Office as early as January 1966. At the Manned Spacecraft Center, with 185 employees to be reassigned and the more difficult conditions which existed, preparations were not begun until June 1966. At Headquarters all of the reassignments were completed and all of the necessary paper work processed (with the exception of filling in the effective date of transfer) as early as July. This was in spite of the fact that the bulk of the employees would not actually be released until December. When the questionnaires distributed to the employees at the Manned Spacecraft Center were returned in late February 1967, it was discovered that two of the respondents stated they still had not been fully assigned to new positions as of that time. These facts would appear to indicate that by beginning the planning and arranging for the forthcoming reassignments earlier than had been the case some of these bottlenecks could have been eliminated.

Another problem appeared which deserves some attention. The concept of the Administrative Committee to coordinate the procedures received endorsement from both management and the employees. However, it appears that somewhere in its application this carefully planned system failed to operate as anticipated. From the interviews and the employee questionnaires numerous complaints were voiced, but it was not possible to determine exactly where the weaknesses in the application were located.

The members of the Administrative Committee stated that the information furnished on the available employees was adequate, but because of the form in which it was presented it was inconvenient to utilize. This information was to be distributed to the Division Chiefs of the organizations interested in Gemini employees. However, from many of the questionnaires, as we have seen, a very frequent comment was that when an employee arrived for his interview the interviewer knew little or nothing about his background and qualifications and often had only a list where his name appeared. This meant that time was wasted in these interviews, a situation which could have been avoided had the necessary information been made available beforehand.

The list of Gemini employees scheduled for release was to be made available to the Division Chiefs by the members of the Administrative Committee. Yet, a number of employees stated on the questionnaires that there were many instances where first and second line supervisors who were interested in them did not find out until quite some time later that they were available. In a number of cases contacts such as these were not made until after an employee had decided to accept another position.

Exactly where the communications network broke down is difficult to determine. However, perhaps this unfortunate situation would not have occurred if the attempt at secrecy had been avoided and the desired information was openly and readily available.

It was suggested by several of those who were interviewed and was frequently mentioned by the employees that the personnel spaces should have gone with the employees. They felt this would have eased the placement problems somewhat. However, management had reassigned the personnel ceilings to those organizations which needed additional personnel. This suggestion would have perhaps eased the placement problem, but also would have resulted in building up organizations which might already be too large.

As we discussed, there were valid reasons behind all of the decisions which were made regarding the methods which would be used. First and foremost was the Program Manager's responsibility for the Gemini Program. He had to be concerned with keeping the complete attention of his people on that responsibility. He could not afford to have them thinking instead about their next jobs. However, it should be noted that those who were interviewed at NASA Headquarters felt that in their case this in no way proved to be a problem.

The Program Manager is well-known throughout the Center as a man who is very loyal to those who work for him. Throughout the entire phase out his concern was that these people be placed in what he considered to be the right positions. He personally believed that there were employees who had not been taken care of properly when the Mercury Project Office was phased out and he did not want the same thing to happen to any of his people. However, as he stated in retrospect: "Perhaps I was overly concerned with this aspect."[27]

But, if the Program Manager was noted for being loyal to his people, it should also be stressed that his people are known for being loyal to him. This feeling of loyalty and the esprit de corps of the Gemini Program Office was perhaps underestimated when the decisions about the phase out procedures were being made. This may be why more than 91 percent of the respondents stated they had made no contacts for positions on their own behalf as he had requested. The evidence would appear to indicate

that when he told them they would receive comparable positions within
the Center they believed it. They only asked to be respected as indi-
viduals who knew enough to concentrate on the responsibilities at hand
and, regardless of the situation, would continue to do the excellent
job they had done throughout the life of the Gemini Program.

In concluding the discussion of the NASA-Manned Spacecraft Center's
experience with the phase out of its program offices we can say that, in
view of the uniqueness of the situation, the policies and procedures
which were developed were basically sound. However, considering the
criticisms offered by both management and the employees it is apparent
that the mechanisms for handling the reassignments which have been dis-
cussed above should be modified in the future. None of these suggested
changes would require any significant adjustment in the approach. The
results of the methods as presented in Chapter V speak for themselves.

At this point we must look briefly to the future. The Gemini Pro-
gram Office has only recently been removed from the official Manned
Spacecraft Center organization chart. Already one frequently hears,
"When Apollo phases out..."

What will happen when the Apollo Spacecraft Program Office phases
out? It is unlikely that the same procedures which were used for Gemini
will exactly fit the phase out of other program offices. As we have
shown, the decisions that will need to be made will be influenced largely
by the environmental conditions existing at the time such a phase out
takes place as well as the nature of NASA's future programs. There are
likely to be different people responsible for establishing the policies
and procedures who may wish to approach it using a somewhat different
philosophy.

In any case, those who will ultimately be responsible for phasing
out the Apollo office are not to be envied. One reason Mercury was no
greater problem than it was can be attributed largely to its small size.
The phase out of the Gemini Program Office at NASA Headquarters was also
said to have proceeded relatively smoothly because of the small number
of employees involved. Those who were interviewed readily admitted they
did not know how well their procedures would have worked or how they
would have handled it if there had been a larger group to be placed.
Phasing out the Gemini Program Office at the Manned Spacecraft Center
was vastly more complicated by the fact that there were 185 employees
to be reassigned.

Up to this point the Apollo Applications Program Office has attempt-
ed to maintain a relatively small number of employees. Although it will
continue to expand, as of March 1967 there were only 71 employees as-
signed to this Office.[28]

However, as of March 1967 the total number of employees on board and committed in the Apollo Spacecraft Program Office had reached 393.[29] As a result, there will have to be some very careful and thorough planning in order to reassign this large group of employees to positions within the Center when the Apollo Program is completed. The higher grade level structure, which was found to be quite a problem in phasing out the Gemini Program Office, also exists in this Office. If this trend continues, the problems which it creates will continue to grow as well.

However, the numbers of personnel involved does not represent the entire problem that will have to be met. The programs themselves are becoming more complex and this trend will certainly continue. As the programs become more complex they will require even more highly skilled personnel. As we discussed in Chapter II, the more professional the employees, the less applicable are the management techniques found in a simple superior-subordinate relationship. It is doubtful that these highly trained professionals will be willing to wait for action on the part of management when decisions about their careers are being made. In the case of the Gemini phase out this problem was not as severe as it might have been primarily because there were other program offices already in existence; i.e., the Apollo Spacecraft Program Office and the Apollo Applications Program Office, which both had positions available. If this had not been the case there undoubtedly would have been a much greater percentage of employees seeking positions on their own.

The point that must be made here is that the exact procedures used in phasing out the Gemini Program Office will no doubt prove to be unworkable for Apollo or other future programs. The comments and suggestions made by those who developed and implemented the procedures as well as the reactions of those who were affected by them should not be ignored. It is not too early to begin a consideration of the possible procedures which can be developed to best meet the problems which will be encountered when Apollo is phased out.

In general, the first step which should be taken in any future phase out would be a determination of the manpower available at that time together with a determination of the future manpower needs insofar as this is possible. This latter step is not always easily accomplished in a government agency where future programs depend on congressional action.

Secondly, the time phasing of the program phase down must be established. Because of the definite end point inherent in any particular program, this can generally be anticipated within reasonable limits as was shown with Gemini.

Another initial decision that must be made concerns the question of who should participate in the application of management's decisions regarding phase out procedures. The Administrative Committee which was established for Gemini was composed of representatives from all the program offices and organizational elements within MSC. A group of this composition is perhaps best equipped to develop the necessary overview of the conditions which exist throughout the Center.

A fourth step which must be taken involves the decision in regards to what degree an employee should be allowed to find his own position. To what extent will organization goals take precedence over the career goals of the individual employees involved? In retrospect, it is not possible to speculate with any accuracy what, if any, different results would have been achieved if Gemini employees had been able to bargain freely for their new positions rather than having reassignments controlled to such a high degree by management. Perhaps those responsible for the decisions in any future phase out might wish to consider controlling the time and circumstances under which interviewing is allowed rather than attempting to control the types of job offers that could be made and investigated.

Finally, once these decisions have been made, the question of adequate and timely communications is introduced. Just how much should be told to the affected employees regarding what is or will be taking place, and when this should be done are important questions to be considered. In the case of the Gemini phase out management decisions in regards to the secrecy aspect virtually ignored the existence of the informal communications network found in any organization. By providing the employees with as much information as is possible under the existing circumstances it is not only possible to minimize the rumors emanating from this informal network, but it may be possible to utilize the system to the advantage of management.

An important consideration in all these decisions is the time factor. If preparations are begun soon enough the machinery for implementing the procedures can be set into motion as soon as it is needed. The objective of any phase down should be to have the reassignments completed as quickly as is possible even though actual transfer of an individual may have to wait for the completion of the current task as actually happened in the phase down of the Gemini office in Washington.

The steps which have been discussed above are general enough so that they could be taken well in advance of the actual phase out of a program office. These together with the environmental conditions which exist at the time a particular program is completed and the program office phase out, will provide us with the basis on which to establish the exact procedures in the future.

REFERENCES

REFERENCES

1. The Manned Spacecraft Center Organization Chart Book, December 1963.

2. John Stanley Baumgartner, Project Management, (Homewood, Illinois:
   Richard D. Irwin, Inc., 1963), p. 7.

3. David I. Cleland, "Contemporary Military Program Management", Cali-
   fornia Management Review, Winter 1966, pp. 68-70.

4. Baumgartner, op. cit., p. 84.

5. The Manned Spacecraft Center Organization Chart Book, December 1966.

6. Ibid.

7. Ibid.

8. Mercury Project Summary: May 15 and 16, 1963, (Washington: NASA
   SP-45, October, 1963), p. 2.

9. Ibid., p. 24.

10. James Grimwood, Project Mercury, A Chronology, (Washington: NASA
    SP-4001, 1963), p. 196.

11. All of the information presented in this Chapter was obtained through
    interviews with the former Manager and former Deputy Manager of the
    Mercury Project Office, and the Chief, Personnel Division, unless
    otherwise stated.

12. Unlike the Apollo Program where three major NASA Centers are involved
    in carrying out major portions of the program, all major NASA re-
    sponsibilities for the Gemini Program were centered at the Manned
    Spacecraft Center. This resulted in a situation where NASA Head-
    quarters became primarily concerned with overall policy while dele-
    gating operational responsibilities to Houston.

13. Manned Spacecraft Center Management Instruction No. 1140.1, August 17,
    1966. Subject: Functions and Organization - Gemini Program Office.

14. Ibid.

15. Interview with A. A. Verrengia, Administrative Assistant, Gemini Pro-
    gram Office, January 23, 1967.

16. _Ibid_.

17. The information presented in the remainder of this Chapter was obtained through interviews with the former Manager and former Deputy Manager of the Gemini Program Office; the Chief, Personnel Division; Deputy Chief, Personnel Division; five members of the Administrative Committee; and the Personnel Management Specialist who assisted the Committee, unless otherwise noted.

18. GA-60428, Memorandum from the Manager, Gemini Program to Gemini Program Office Personnel, Subject: Gemini Program Office Phasedown, Ausust 15, 1966 (in the files of the Personnel Division).

19. "Excepted positions" are those established under the provisions of the legislation which created NASA. They are equivalent to "super grade" positions, but are outside the Civil Service Act.

20. The following information was obtained through interviews with the Chief, Manpower and Organization, the Gemini Program Special Assistant, the Chief, Executive Staff Planning and a representative of the Personnel Division, all with the Office of Manned Space Flight in Washington.

21. The following discussion represents a composite of the opinions expressed by the individuals interviewed by this writer. It was initially agreed that the information so obtained would be presented only in the aggregate and that no individual would be quoted directly.

22. Interview with Charles W. Mathews, former Program Manager, Gemini Program Office, March 6, 1967.

23. _Ibid_.

24. _Ibid_.

25. This questionnaire was prepared under the auspices of the Personnel Division. A copy of the questionnaire and the letter to the employees can be found in the Appendix. No one has had access to the completed questionnaire but this writer who, therefore, assumes complete responsibility for the interpretation and analysis of the results which follow.

26. Interview with Charles W. Mathews, March 6, 1967.

27. _Ibid_.

28. MSC Personnel Register, March 1967.

29. <u>Ibid</u>.

PRECEDING PAGE BLANK NOT FILMED.

BIBLIOGRAPHY

BIBLIOGRAPHY

A. BOOKS AND ARTICLES

Baumgartner, John Stanley, Project Management. Homewood, Illinois: Richard D. Irwin, Inc., 1963.

Cleland, David I., "Contemporary Military Program Management," California Management Review, Winter 1966.

Cleland, David I., and David C. Dellinger, "Changing Patterns in Management Theory," Aerospace Management, Volume 1, Number 1, Spring 1966.

Gemini Midprogram Conference, Washington: NASA SP-121, 1966.

Grimwood, James, Project Mercury, A Chronology. Washington: NASA SP-4001, 1963.

Mercury Project Summary: May 15 and 16, 1963. Washington: NASA SP-45, October 1963.

Poust, Roy, and Irwin Rubin, "Analysis of Problems Encountered in R&D Management." Working Paper No. 232-66, Alfred P. Sloan School of Management. Cambridge, Massachusetts: Massachusetts Institute of Technology, 1966. (Mimeographed.)

Rosholt, Robert L., An Administrative History of NASA, 1958-1963. Washington: NASA SP-4101, 1966.

Rubin, Irwin M., "Project Management and the Role of the Project Manager." Working Paper No. 222-66, Alfred P. Sloan School of Management. Cambridge, Massachusetts: Massachusetts Institute of Technology, 1966. (Mimeographed.)

Swenson, L., C. Alexander, and J. Grimwood, This New Ocean: A History of Project Mercury. Washington: NASA SP-4201, 1966.

Stahl, O. Glenn, Public Personnel Administration. Fifth Edition, New York: Harper & Row, 1962.

Stanley, Alexander O., and K. K. White, Organizing the R&D Function. AMA Research Study 72, American Management Association, Inc., 1965.

B.   INTERVIEWS

In the process of gathering data for this paper, the author consulted with knowledgeable people who were intimately involved with the development and implementation of the policies and procedures used in the phase out of the Mercury Project Office and the Gemini Program Office. The first listing includes the people who were interviewed and the dates on which each was consulted. The second list includes those who were frequently consulted by the author during her three months at the Manned Spacecraft Center and to whom grateful acknowledgement is hereby expressed.

Formal Interviews

1. Robert J. Bailey, Executive Assistant, Apollo Spacecraft Program
        Office, February 15, 1967.

2. William M. Bland, Former Deputy Manager, Mercury Project Office;
        Chief, Reliability, Quality, and Test Division, Apollo Spacecraft
        Office, January 26, 1967.

3. Anthony R. Cannetti, Headquarters Personnel, Office of Manned Space
        Flight, NASA Headquarters, Washington, March 3, 1967.

4. Andrew Conversano, Jr., Chief, Executive Staff Planning, Office of
        Manned Space Flight, NASA Headquarters, Washington, March 3, 1967.

5. Robert A. Dittman, Former Administrative Assistant, Gemini Program
        Office; Chief, Program Control Office, Administrative Directorate,
        January 23, 1967.

6. Samuel H. Hubbard, Gemini Program Special Assistant, Office of Manned
        Space Flight, NASA Headquarters, Washington, March 3, 1967.

7. Kenneth S. Kleinknecht, Former Manager, Mercury Project Office; For-
        mer Deputy Manager, Gemini Program Office; Deputy Manager, Apollo
        Spacecraft Program Office, January 26, 1967.

8. Charles W. Mathews, Former Manager, Gemini Program Office; Director,
        Saturn/Apollo Applications Program Office, Office of Manned Space
        Flight, NASA Headquarters, Washington, March 6, 1967.

9. Andre Meyer, Jr., Former Senior Assistant, Gemini Program Office;
        Manager, Program Control, Advanced Spacecraft Technology Division,
        Engineering and Development Directorate, February 7, 1967.

10. Charles H. Pace, Chief, Manpower and Organization, Office of Manned
    Space Flight, NASA Headquarters, Washington, March 6, 1967.

11. Leslie J. Sullivan, Assistant Chief, Office of Program Management,
    Flight Operations Directorate, February 14, 1967.

12. Augustine A. Verrengia, Former Administrative Assistant, Gemini
    Program Office; Administrative Assistant, Program Control Office,
    Administrative Directorate, January 20, January 23, and January 27,
    1967.

13. Elwyn H. Yeater, Special Assistant to the Director, Engineering and
    Development Directorate, February 10, 1967.

Continual Guidance

1. Dr. George Warp, Director of the Public Administration Center,
   University of Minnesota.

2. Philip H. Whitbeck, Deputy Director of Administration, NASA Manned
   Spacecraft Center.

3. Floyd D. Brandon, Chief, Personnel Division, NASA Manned Spacecraft
   Center.

4. Robert Zimmerman, Deputy Chief, Personnel Division, NASA Manned
   Spacecraft Center.

5. Jack Lister, Chief, Personnel Management Branch, Personnel Division,
   NASA Manned Spacecraft Center.

6. Fredrick Boyes, Personnel Management Specialist, Personnel Divi-
   sion, NASA Manned Spacecraft Center.

7. Richard Stephens, Management Research Center, NASA Manned Spacecraft
   Center.

PRECEDING PAGE BLANK NOT FILMED.

APPENDIX

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

TO   : Former Gemini Program Office Employees   DATE: February 16, 1967

FROM : BP/Chief, Personnel Division

SUBJECT: Questionnaires

As you know, the Gemini Program Office has recently been phased out. Because the Center is program oriented, we will periodically have other programs phasing in and phasing out. Therefore, it is our desire to develop the best possible techniques for dealing with these program phasedowns.

The purpose of the attached questionnaire is to furnish us with some insight into the personal aspects of the GPO phasedown. Please complete this questionnaire and _please_ be candid. Your completed questionnaire will be used only to assist us in evaluating the techniques which were used in order to make any necessary improvement in future program phasedowns.

Please return the completed questionnaire to Code BP by _February 27_.

Floyd D. Brandon

Enclosure

BP:FDBrandon:mc   2-16-67

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

GEMINI PROGRAM OFFICE PHASEDOWN

[167 questionnaires distributed; 101 returned (60.5%)]

1. Length of service in the Federal service:

2. Position and organization immediately prior to entry into GPO:

3. GPO assignment and length of service in GPO:

4. Organization to which assigned from GPO and effective date of re-assignment:

5. Were you aware that reassignment of other personnel had begun before you were officially notified of your release for interview?
    If yes, approximately how long before?

    97 responses, 92.8% were aware, 7.2% were unaware

    a. If yes, what, if any, action did you take on your own behalf prior to the time you were notified?

        91 responses, answers ranged from "a few weeks" to "about six months" with the major portion clearly falling within 2 to 3 months as stated in the paper.

    b. If yes, do you feel this period of uncertainty about your future position adversely affected your ability to devote your full attention to your Gemini responsibilities?

        91 responses; 65.9% said no effect; 34.1% said some effect.

6. Do you feel you had a thorough knowledge of the reassignment policies and procedures used?   If no, why not?

    96 responses; 51.0% said thorough knowledge, 12.5% said some knowledge, 36.5% said no knowledge.

7. Do you feel you should have been briefed sooner on the GPO phasedown?

    98 responses, 65.3% said no, 25.5% said yes, 4.1% said briefed soon enough but needed a more thorough one, and 5.1% said never briefed at all.

8. Do you feel you had been reassigned to a position consistent with your background and qualifications and where your skills can best be utilized? If no, please explain.

    95 responses, 76.9% said yes; 8.4% said yes with some reservations, 14.7% said no.

9. Would you have preferred to choose and arrange your own interviews?

   91 responses, 29.7% said yes, 9.9% said yes if list of available positions had been provided, 48.3% said no, and 12.1% said they actually arranged their own interviews.

10. Do you feel you had an opportunity to choose the type of work to which you were assigned?

    97 responses, 53.6% said yes, 15.5% said yes within limits, and 30.9% said no.

11. In your opinion, have most GPO personnel been assigned to positions where they can perform most effectively?   If no, please explain.

    74 responses, 60.8% said yes, 25.7% said yes with reservations about particular people, and 13.7% said generally no.

12. Would it have been better to keep the "Gemini Program Office team" together as a group for future projects?   Please explain the reasons for your answer.

    88 responses, 61.4% said no, the team should not have been kept together, 26.1% said yes, the team should have been held together, 8.0% said the team is still partially together, and 4.5% said no opinion.

13. How long do you estimate it will take to fully acquaint yourself with your new work and organization?

    83 responses, 30.1% said already familiar, 32.6 % said within three months, 31.3% said three to six months, and 6.0% said longer than six months.

14. Does your new position require any special retraining? If yes, how is this being conducted and for what period of time?

    93 responses, 76.3% said no special retraining needed, 17.2% said special retraining was necessary and was undertaken through special courses, and 6.5% said retraining was required but not made available.

15. How does program office experience prepare you for work in other MSC organizations?

16. Please give suggestions for improving the procedures which were used and additional comments you may have about the phase out of the Gemini Program Office.

    56 responses.