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Oral history interview with Capt. Kirk L. Byerly  
[full name of interviewee]  
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## CONTENTS:

Biographical - [date/place of birth; family background] \_\_\_\_\_

Education - \_\_\_\_\_

Career Path - \_\_\_\_\_

Topics - Astronaut-service liaison; 1965 Project 128 <sup>(128 AF officers assigned to MSC)</sup>  
 Problems: closed mess on naval vessels, AF specialty code, medical care, clothing, Commissary/BX facilities, morale away from service; 1966 Air Force created Detachment #1 of 1137th USAF Special Activities Squadron at MSC; 3 other AF liaisons: Detachment #2 (Space + Missile System Office), DOD rep. office, AF Systems Command Scientific and Technical Liaison Office; Viet Nam War demands reduce to Project 108; non-astronaut AF pilots flight proficiency thru Ellington AFB; poor social & recreational facilities at EAFB; Project 108 personnel in all operational areas of MSC; 1967 Apollo IV unmanned mission & 1968 Apollo V flights described; <sup>all</sup> unit personnel performed well

Interview with Capt Kirk L. Byerly  
3/28/68

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148-3  
When the first group of astronauts were selected, a master sergeant in personnel was assigned to service the personnel needs of the military and serve as liaison type individual between the military people and their parent services. He relieved them of the necessity for preparing reports, forms, and records, made sure they had their orders so they could be paid for their flying time, etc. If any particular problems that were NASA-connected arose, he was supposed to relay them through the personnel division up to NASA management. At this time the only military people attached to MSC were the military astronauts and 3 or 4 military detailees.

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In August 1965, Project 128 was assigned to the Center. This project consisted of 128 Air Force officers--engineers, missileers, and maintenance officers assigned to MSC to assist in the Gemini Program and lay the groundwork for the Apollo Program. These people came to the Center with the consent of the Air Force at the request of NASA. Project 128 was mutually beneficial to both agencies in that these people were able to gain experience in the operational aspects of space flight. At the completion of their tour they would go back to the Air Force to a similar or related assignment. It was conceived as a training program and the cost was to be divided 50-50 for each agency. Since NASA had failed to budget for this expense and the Air Force agreed to pay all costs the first year. This was a 2-year program and NASA would assume the costs the second year. NASA agreed to pay all travel and all per diem in accordance with the Joint Travel Regulations of the Armed Services. Of the 128, 96 had engineering, mathematics or physics degrees, 27 had degrees in nontechnical fields and 5 had no degrees at all.

305-3 The officers with the non-technical degrees or without degrees were selected because of the combination of their operational experience and high officer effectiveness reports. The program has also been referred to as a SAC Program and the reason for this is that 92 of the 128 came from SAC. These were the missileers. In November 1966, in this group of 128, there were: one lt/col, 10 majors, 45 captains, and 72 lieutenants. Of the total, 106 were assigned to the Flight Operations Directorate and 22 were assigned to Flight Crew Operations Directorate, and all worked on the Gemini and Apollo Programs. About 306-1 16 worked as prime controllers and backup controllers in the Mission Control Center.

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175 A number of problems were encountered when the Project 128 people were assigned to the MSC. People assigned TDY to naval vessels to participate in recovery missions, found when they returned that the joint travel regulations would not allow them to draw a per diem allowance aboard a government vessel when both government quarters and mess are available. The problem was that on these vessels, the closed mess system was practiced. A closed mess is one that is formed by the officers on a ship; they contribute to the mess fund and purchase their own food prior to each shipping. Depending on the desires of the members, a plain or gourmet meal is served, and naturally the cost varies accordingly. Since our military people detailed to these ships were not reimbursed to cover their participation, it worked a financial hardship on them. We requested relief. The Air Force contacted the Navy and the Navy proposed to DOD that all officers other than Navy Officers be paid



per diem while TDY on a Navy ship. The per diem allowance would be \$2.00 per day to cover the additional cost of joining the closed mess of the ship. This request is still pending.

304 Then there was the problem of the Air Force specialty codes. NASA uses its own classification system to describe the responsibilities of a particular position, and the Air Force has a similar system, only the Air Force specialty codes are not comparable to NASA's. In many cases, a NASA position may encompass as many as three Air Force specialty codes or Air Force position descriptions. Our officers felt this was unfair to them as their Air Force records would not reflect their true duties with the MSC. This problem was brought up to the Air Force and the Air Force has written new position descriptions that now come much closer to paralleling NASA's.

304 There also has been a problem of medical care. The officers assigned to MSC were obliged to depend on the medical care facilities available at Ellington AFB or go to a civilian doctor at their own expense. In 1965, only 2 medical doctors were initially assigned to Ellington with a minimum support staff. Ellington's medical facilities are open only 5 days a week. On weekends and nights a doctor is available for emergency, but he has to be called to the base. It's very time consuming and if the man or his dependents are critically ill, there is a problem. As a result most servicemen and their dependents have been forced to rely on the service medical care program and use the facilities of the local community. Some doctors participate in the medical care program and others don't, and some participate but charge more than is allowed for their services by the medical care program. Ellington now has 3

doctors assigned and their staff has been increased. They are conscientiously trying to take care of the servicemen and their dependents. The military members are authorized to use the outpatient clinic that NASA provides its civil service employees. However, this must be used during the day. There is still no provision for medical care in the evenings or during weekends. The problem there is that children never get sick during the day, it's always at 1:00 in the morning or on a Saturday night.

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Another major problem for the military is clothing. The primary mission of NASA is the peaceful exploration of space. It just really doesn't look good to the world to see military people working at this Center in uniform. Consequently, we are told when we first arrive that NASA prefers that the military people wear civilian clothes rather than their uniforms. The problem is that officers are not given an allowance to purchase civilian clothes. They are, however, required to maintain a full uniform closet and when they come to the Center they immediately have to purchase additional civilian clothing to work in. This has created a morale problem for the military here at the Center. A 2nd Lieutenant really doesn't make much money and it hurts to be obliged to buy civilian clothing that he would not have to purchase if he were assigned to a normal military organization.

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Then there is the problem of commissary and BX facilities. They are normally furnished on a military installation, but Ellington in 1965 had no commissary and the base exchange being a detached exchange from the Lackland AFB was rather small and inadequate for the large number of people using it. When I came in December 1966, some of our people were

driving 160 miles to Austin, Texas, the nearest facility. I was informed that many Air Force people at Ellington, at the Center, and even senior officers in the astronaut corps had requested a commissary without success. Gen. McConnell made a visit to MSC during November 1966 and was approached during that visit by Col. Cooper, specifically requesting consideration for a commissary at Ellington for the military detailees. I was informed that Gen. McConnell listened intently then gave a most favorable response. I immediately began preparing a formal request in accordance with the Air Force regulations to have a commissary established at Ellington Air Force Base. I was told time and time again by people that I was wasting my time, that the Air Force would never approve a commissary for a base that was closing. (At that time Ellington was scheduled to close December 31, 1966.) Ellington now is not scheduled to close any time in the near future. Nevertheless, we made the request, which went through channels all the way to the DOD and the DOD approved it. In February 1967, an interim commissary was opened. It was a rather small facility but it did help solve the problem. On March 26, 1968, a large complete commissary was opened at Ellington.

304 Another problem we had grew out of our unique assignment. The officers were not receiving professional military publications from the Air Force, information articles, the weekly news summaries, the aerospace speech series, the policy letters for commanders, the airman's magazine, etc., - the normal things that are distributed in the average Air Force unit. Basically, these people felt they were away from the Air Force in a civilian environment and were forgotten by their parent service, and it created a big morale problem here. This has been largely overcome. The Air Force people are receiving on a monthly and in many cases a weekly basis, various Air Force publications that tend to keep them informed of what their service is doing so they



won't fall behind in the program. In addition, various meetings are held monthly and quarterly, and various news release films are shown to keep people current in technical areas to keep them informed as to career progression opportunities, and to let them know what educational opportunities are available.

304 The Air Force recognizing that Project 128 was unique and would need a military unit in Houston to serve as the focal point for problem solving, for orientation, and for information and guidance of junior officers created in November 1966, Detachment #1 of the 1137th USAF Special Activities Squadron at MSC. All Air Force detailees--astronauts, members of Project 55, medical doctors, and members of Project 128, were assigned to this unit for personnel, administrative, and logistic support. It was formed with the concurrence and request of MSC and consent of NASA Headquarters. This unit was to take care of pay, records, officer effectiveness reports, and to guide and assist the civilian supervisor in proper preparation and evaluation of the effectiveness reports for the Air Force detailee. It also served as a reference library for appropriate Air Force regulations so that these Air Force detailees could keep abreast of what was going on in their service. The detachment was increased from one master sergeant to a captain and a master sergeant and as the workload was defined over the next year, two personnel staff sergeants and an administrative sergeant were assigned.

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305-3 As of February 29, 1968, military strength figures at the Center were as follows: 154 Air Force officers and 5 Air Force NCO's, 14 Army officers, 2 Marine Corps officers, and 18 Navy officers and 5 Navy NCO's. Overall, this totals 198 detailees on duty with the Center. NASA reimburses the parent service 100% for these 198. My office is not in this situation. 148



It includes one captain (myself) and three NCO's for a total of 4 non-reimbursables. We are here to provide a service to the military, and NASA does not pay for us. There are other military personnel associated with the Center, as well, although my detachment doesn't support them per se. If they call on us for help, we endeavor to respond as a courtesy, but they are not our responsibility. (4)

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There are three other Air Force organizations, detachments, and functions associated with the MSC that we are not responsible for. One is Detachment #2, which is assigned to the Center from the Space and Missiles System Office in Los Angeles, California. There are approximately 12 people assigned to this function and their primary responsibilities are the experiments that Air Force conducts during the NASA space mission. (12)

Another is the DOD representative's office at MSC. It performs liaison between the DOD ranges and the Mission Control Center in Houston. They actually serve as communications controllers and as a communication focal point for all the DOD communications during NASA missions. There are approximately 7 personnel assigned to this activity and they are located in the Flight Control Division of the Flight Operations Directorate. In addition, there are three people assigned to the Air Force Systems Command Scientific and Technical Liaison Office. Their primary responsibility is to insure that proper interface is maintained between the Air Force Systems Command and NASA in the exchange of scientific and technical information. (7)

We have several categories of detailees--we have the military astronauts who have come from the Navy, Marines, and the Air Force. (40?) We have what is called project other - this category includes people such as General Bolender who is the Manager of the LM, and several other detailees, such as the master sergeant who is in charge of the astronaut gym and one officer assigned to the medical directorate. There are the personnel in Project 128 and Project 55. Project 55 was originally assigned to NASA at the request of General Phillips, Chief of the Apollo Program, NASA Headquarters. These people were considered to be experts (12?) in their individual areas and came to NASA to a specific position to assist in the Apollo Program. Of the original Project 55, nine were assigned to MSC.

333-4 The requirements of Viet Nam created a critical need for officers in the Air Force, especially in short supply were those in engineering, math, and physics. After conferring on this problem, the Air Force and NASA agreed to redesignate Project 128 as Project 108 in June 1966 and whereas Project 128 was 50-50 reimbursable, Project 108, its replacements is 100% reimbursable. Its 108 positions are to be filled by junior officers--captains and lieutenants from the Air Force. These officers come to the Center to serve a 2-year tour, and in some cases their tours are extended for 1 year. They are then returned to the Air Force for assignment to the Air Force Space Programs. We had many people to leave here and be assigned to the Air Force MOL Program as controllers, engineers, and other technical areas. The experience and knowledge gained here at

MSC has been most beneficial to these individuals in their Air Force jobs, and of course this is the reason the Air Force and NASA agreed to continue the program as Project 108.

Officers of Project 128 were assigned to the Air Force organizations from MSC as indicated below:

<u>Assignment</u>	<u>Number</u>
AF Western Test Range, Vandenberg AFB, Calif.	11
AF Eastern Test Range, Patrick AFB, Fla.	7
Space Systems Division, Los Angeles AFS, Calif.	22
Space Missiles System, Norton AFB, Calif.	2
Space/Missile Systems Division, Los Angeles, Calif.	2
Det 1, AF Satellite Control Facility, Sunnyvale, Calif.	20
Det 1, AF Satellite Control Facility, Los Angeles AFS, Calif.	15
AF Satellite Control Facility, Los Angeles, Calif.	1
6595 Aerospace Test Wing, Vandenberg AFB, Calif.	13
Overseas	12
1105 MPC Gp., Randolph AFB, Texas	1
363 Tac Recon (TAC), Shaw AFB, S. C.	1
Aerospace Systems Division, Los Angeles, Calif.	1
479 Tac. Ftr (TAC), George AFB, Calif.	2
3550 Student Sq., Moody AFB, Ga.	1
15 Tac Ftr Wg (TAC), McDill AFB, Fla.	1
3641 Student Sq. (ATC), Laredo AFB, Tex.	1
Det 6, 6590 SpActySq, w/duty DOD Mgr Office, NASA, Houston, Tex.	1
Aerospace Medicine Division, Los Angeles AFS, Calif.	1
4531 Tac Ftr Wg (TAC), George AFB, Calif.	1
Det. 1, National Range Division, Patrick AFB, Fla.	1
Retired	1
Discharged	1
Deceased	1
Pending	8

The Army program at MSC consists of lieutenants and captains. These people generally all have engineering degrees, except for one lawyer. Most of the Army personnel have their doctorates. Detailees in the Navy Program are in general assignments or astronauts. The Marine Corps has two assigned as astronauts.

All of the detailees assigned to the Center live in the local area.

Ellington has only four government quarters available, and these are filled by the base commander, the base operations officer, and other

senior personnel on the base. There is a trailer court available and a few of the detailees are living there.

317 The Air Force direct chain of command for support is through the 1120th Support Group, Ft. Myer, Va. The next echelon above that is the 1100th Air Base Wing, Bolling Air Force Base, Washington, D. C., and the next higher echelon is Headquarters Command, USAF, at Bolling, who in turn reports to Hq USAF in the Pentagon.

304 We work with the Personnel Division here at the Center and I am an executive assistant to the division chief. We maintain contact and interface with Personnel Division at NASA Headquarters and the DOD representative's office also in NASA Headquarters. Lt. General Phillips, the senior Air Force officer assigned to NASA, is our prime representative for Air Force problems. My office primarily has three points of contact with major Air Force elements--one is the Directorate of Space, Hq USAF, which is in the Deputy Chief of Staff Office for Research and Development, the second is the Director of Personnel or the USAF Military Personnel Center at Randolph Air Force Base, Texas, and third is the Hq Command, USAF, at Bolling.

304 One problem I failed to mention a little earlier was flying support. In this unit, we have Air Force pilots who are not astronauts. All of the astronauts are supported in the flying area by the NASA operations office. They provide reports to the Air Force on the flying status, flying requirements and flight time of military pilot astronauts. The other pilots assigned to the Center maintain their flying proficiency through support from Ellington Air Force Base Operations Office. In 1965,



there were no aircraft assigned to EAFB for such support, but with the advent of Project 128 and the arrival of additional pilots assigned in that particular category, the Air Force felt it would be to the Air Force's advantage to allow pilots assigned to maintain their rating. Consequently, aircraft were assigned to enable them to maintain their aircraft qualification and currency. The base now has two C-47 aircraft for this purpose.

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Recreation and social facilities at EAFB are below the standards normally available at an Air Force installation. EAFB has an officer's club and an NCO club, but both are old, rundown, and substandard. However, they suffice as a social center for the military assigned to MSC. There is no service club available. A 9-hole golf course is available, which is not in the best repair, but it does provide an opportunity for those of our people who golf. At one time, EAFB had a base theater, however, it is closed. It was only receiving second and third run movies as local theater chains prevented the base from receiving first run movies. Consequently, it could not draw the crowds necessary to support it, and was closed. An ~~old~~ gymnasium is available at EAFB for use by the military people, however, the military people must provide their own equipment. Other sports activities at Ellington are extremely limited. The astronauts have their own gym and equipment is furnished by NASA. This situation has created a morale problem within our unit. The officers feel that if the astronauts can be provided a gym by NASA, why aren't they afforded the same opportunity. However, the astronaut's gym was not designed as a recreation outlet and even the civil service people of NASA are not

permitted to use it, as it is simply a training facility for physical conditioning of the astronauts.

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Feb. 27, 1967 to Dec. 27, 1968, members of this unit were assigned duties in all operational areas of the Manned Spacecraft Center in support of the manned space program. Their accomplishments include, but are not limited to, performing inflight crew training and simulation activities. activities for specific missions, in the support effort related to crew briefings and debriefings, in the development of postflight crew performance reports, and in the support of checkout activities. Participates in flight control planning, requirements determination, and operations. Assists in flight control operations for all manned space flight missions. Serves as flight controllers (system and mission specialists) during space flight missions. Participates in the development, design and optimization of operational trajectories for space flight missions. Participates in the supervision and scheduling of activities associated with the operational computers, including real-time and nonreal-time. Assists in system engineering of tracking, telemetry, digital command, communications, and display systems hardware. Assists in identification, coordination, operational analysis, and evaluation of requirements and systems of ground network instrumentation for space flight missions. Participates in the establishment and implementation of the operational requirements in support of the landing-recovery phase, for the coordination and development of long range plans and for the establishment of liaison channels with the supporting elements in the recovery operations. Fifteen members serves as crew members as selected for specific space

missions. On November 1967, the Apollo IV unmanned mission was successfully completed. This mission was the maiden flight of the Saturn 5 moon rocket and demonstrated the capability to send a 50-ton spacecraft with three astronaut passengers to the moon. The spacecraft showed that it and its astronaut passengers could comfortably withstand the searing heat of reentering the earth's atmosphere on return from the moon. It was the most powerful rocket launched by the United States. Its first stage gave out 7,5000,000 pounds of thrust to lift more than 6,000,000 pounds of weight off the launching pad, and placed in earth orbit more than 280,000 pounds which included the 95,000 pound Apollo spacecraft and Saturn's third-stage rocket. It was the first time the engine of the third-stage rocket had been stopped and restarted in space. The rocket pushed the combined third-stage and Apollo spacecraft into an almost circular orbit of about 110 statute miles at its perigee, and almost 119 miles at its apogee. The flight was successfully completed after eight hours and 37 minutes. On January 22, 1968, personnel participated in the flight of Apollo V, the first flight test of the Lunar Module (LM). Major objectives of this successful mission was to confirm operation of the descent engine and the ascent engine of the LM. On April 4, 1968, the unmanned Apollo VI mission was performed and the ship placed in orbit with an apogee of about 227 miles and a perigee of 113 miles. The Apollo VII mission was flown from October 11-22 October 1968, a 163 orbit flight for an elapsed time of 11 days. The Command Pilot of this flight was a member of this unit. This flight was performed primarily for vehicle checkout preliminary to the first manned flight to the moon. This flight performed

all assigned functions with outstanding success. The Apollo VIII mission was flown from December 21-27 1968. The Commander and the Lunar Module Pilot on this flight were members of this unit. The mission was a complete success and accomplished many firsts were the use of the Saturn 5 moon rocket for manned flight; the heaviest payload ever orbited, weighing 283,000 pounds, with a moon payload of over 87,000 pounds and the first manned mission to enter into the gravitational influence, about 185,000 miles in distance from earth, of another celestial body. This mission completed 10 lunar orbits at approximately 234,000 statute miles from earth.

All members of Det. 1, 1137th USAF Sp Acty Sq, as a unit, performed their functions in a truly superior manner in support of the United States manned space effort.