

Entry Date 5-18-93  
Data Base HDOCNDX  
Index # INS.0206161

**ORAL HISTORY INTERVIEW**

DATE OF DOCUMENT [Date of Interview] = 12-13-67  
OFFICE OF PRIME RESPONSIBILITY = JSC  
NUMBER ON DOCUMENT = 00  
TYPE OF DOCUMENT [Code for Interview] = 1  
PROGRAM [3-letter Program Archive code] = INS  
AUTHOR [Interviewee's Last Name] = WILLIAMS  
LOCATION OF DOCUMENT [Numeric Shelf Address] = 091-74

SUBJECT OF DOCUMENT: [use relevant bold-face introductory terms]

Oral history interview with Walter C. Williams  
[full name of interviewee]

about STG + MSC Operations  
[main focus of interview]

Title: 1962 - Associate Director, Office of Director  
[interviewee's current and/or former title and affiliation]

Interview conducted by Robert B. Merrifield - Staff  
[interviewer's name/position]

Historian at MSC  
[location of interview]

Transcript and tape(s). [for inventory only: # pages 16; # tapes 1]

Abridgment

**CONTENTS:**

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

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Career Path** - 1950s Edwards AFB, High Speed Flight Station, Flight Research Center; 1958 STG, operations & DoD liaison

\_\_\_\_\_  
\_\_\_\_\_

**Topics** - NASA access to DoD resources; system development experience; organizing at Cape; charter air service - Langley & Cape; relations w/ Redstone Group; relations w/ DoD; Navy support; Yater & Atlantic Missile Range; tracking stations; military presence denied in some countries; <sup>relations w/</sup> Public Affairs Office; <sup>staged</sup> move to Houston; Spring 1961 Gemini Program getting out of bounds; concerns re <sup>MSC</sup> E+D Directorate; <sup>personal</sup> relations w/ ~~Stans~~ other <sup>MSC</sup> officials; <sup>(Elms, Dorelay)</sup> bringing 2 assistants from Edwards (Byrnes, Kleinknecht); decision of flight directors (Kleist, Matthews).

Interview with Walter C. Williams  
12/13/67

58  
57  
62  
At the time Abe Silverstein asked me to come East, I was running the High Speed Flight Station of the Flight Research Center at Edwards Air Force Base and had been there some 13 or 14 years. We'd gone through the development phase of the X-15, and were at the point where it was ready for flight. There were two aspects of the job I had been called to fill--organizing and running the operation side of the Space Task Group and the other involved establishing contact with the Department of Defense. It was quite obvious that there were many facets of the Mercury operations that would have to be supported by the DOD. Clearly NASA wasn't going to start its own Navy or its own Air Force, etc., or its own medical service.

62  
The problem was how to get NASA access into all the various parts of DOD. Also, NASA at that point had had no real experience in operating networks, and was dependent on the DOD to supply equipment, such as radars. Rather than have NASA go to various elements of DOD on an uncoordinated basis, General Yates suggested that there should be one person in DOD as a point of contact for everything that NASA needed for Project Mercury, and that a like individual be appointed within NASA. Further, Yates' concept of this point of contact was it not be a Pentagon-type staff job as far as the DOD was concerned and he didn't feel it should be a Headquarters-type assignment as far as NASA was concerned. It should be someone with operational responsibility. At the time Yates was Commander of the Atlantic Missile Range.

The arrangement gave him a means of controlling to a degree what went on at the Pacific Missile Range which he wanted and the means of providing DOD with a world net. It actually couldn't work out this way because of the international complications involved in having DOD people at certain foreign stations. However, in fairness to Yates and to be completely objective about it, the DOD-NASA working relationship was an excellent conception, and it was a great advantage to NASA to have him in this role. He was very objective in his approach to problems. We got everything we asked for within reason. He was a strong defender of our cause in working with the Navy, the Army, etc., and I think to have accomplished Mercury without this type of relationship would have been extremely difficult if not impossible. This type of arrangement, although the personalities have changed, continued through Gemini and into Apollo. It has been particularly important when we have had to establish new relationships as with the Pacific Fleet for recovery support.

58 I guess another reason Glennan tapped me for this job was that I was one of the few people in the NACA organization who had had system development experience and had worked in bringing hardware from a concept into actual use. This experience and background was valuable to the program.

8 In carrying out my duties both as the operations director and as a single point of contact, Dick Horner who was the Associate Administrator at the time (replaced later by Seamans) wrote a very strong functional charter for me. This functional role was clearly stated in a letter from Horner to Yates and made Mercury a

57-1

special case insofar as relationships with the range were concerned. LOD meanwhile was trying to develop its own interface with the range and was constantly trying to force our work through their channels to the range. LOD was responsible for the civil engineering and was a lot of help in the facilities that we had to build at the Cape in the old area around Hangar S. As you know, we ended up with quite a nice complex there at Hangar S for the job we had to do. We had some silly arguments with LOD, like they insisted on glass brick in the building because other buildings had glass brick and all the NASA buildings should look alike, but we were too busy to worry about details like that so we went along with it.

57-1

The ~~NASA~~ people we had at the Cape had initially gone ~~to the~~ *there* Cape as a group on Big Joe, which was prior to our arrival in the program. They had originated for the most part from the Lewis Center's Flight Research Group and we really built on this organization. The biggest problems in organizing at the Cape were to get a good inspection organization set up, to get the NASA people to act like program managers rather than doers, and to get them to use the contractors like McDonnell for their judgment and technical capabilities. The NASA people had to concern themselves with what was to be done and done properly, rather than try to do it themselves. This was very difficult as most of the old NACA flight groups were used to doing a lot of the direct work themselves, but it worked. It was a new experience for them.

61  
60

At one time in the program, there was some consideration given to moving operations to the Cape because the control center was there and its people would be expected to spend most of their time there. I never fully supported this plan. Although it might have been a good move, I felt that the bulk of the operating people, other than those concerned with day-to-day checkout, were involved in operational planning, the planning of mission control, writing of mission rules, etc., and had to be available to and have easy access to the people responsible for the design of the hardware and the construction of the spacecraft. It was this same reasoning really that logically led to the mission control center being established in Houston rather than at the Cape when we built a new center. Initially, it made sense to put the control center at the Cape. It would have made no sense to put it at Langley because of the temporary nature of the whole arrangement. The communications terminals were at the Cape and the like.

76

It was obvious to me that we didn't want to move the whole operations group to the Cape and have them become very isolated from the rest of the activity. This led to the establishment of the charter air service. By commercial air, portal to portal travel time was a matter of 9 hours. It was obvious that if we were to use people efficiently we had to be able to get them back and forth easier. We had some discussions with the airlines, National in particular. They would not provide a convenient service for us, so we began the charter

service. We first ran it twice a week and then moved it up to 3 times a week. It cut the portal to portal travel time from 9 hours to a little over 3 hours. A man could put a full day at Langley or the Cape and be at the other end of the line early enough in the evening to get a reasonable night's sleep. This move increased efficiency in the use of people that we had. We would have had to increase our staff by half or two-thirds, had we not been able to move them around so easily. Actually we used the charter air service for a certain amount of hauling of freight, data, and things of that sort which would have been very difficult to transport commercially. I am sure it paid for itself.

VB [ We never had any serious problems with the Redstone group. Eberhardt Rees and I always got along very well. In fact, I didn't have too much trouble with Debus at the Cape either when he headed LOD as an organizational arm of Redstone or later when he was head of KSC except when his staff put him up to something. The one man in the organization who sort of bridged the gap as far as the Cape and STG was concerned was a guy by the name of Bertram. There were problems at times. The Redstone people wanted their place in the sun in the program and thought they ought to be providing a little more service. The one big confrontation I had came early in the program. The Redstone group wanted the Mercury spacecraft to come by Huntsville and be mated to a booster in their reliability lab. We did this twice and still had problems when it got to the Cape. There were no problems showing up at Redstone so we didn't feel we gained a lot from sending the spacecraft to Huntsville. We made a decision that

we would no longer do that and this decision was confirmed in Washington by Silverstein in a meeting where the decision was made that starting with the third spacecraft which was manned, we would no longer send the spacecraft to Redstone. Silverstein asked me to tell the Redstone group about this decision. I started with ~~Quitner~~ <sup>KUETNER</sup> who was our nominal point of contact, and who had a title like Program Manager or Project Engineer but he didn't do much engineering or managing and was really the coordinator for our access to the organization. He was appalled that we would suggest such a thing and before the day was over I went the daisy chain including Von Braun and Eberhardt. <sup>REES.</sup> I guess the final confrontation was between Eberhardt and me. We looked each other straight in the eye and he said that if this was what we wanted to do, Redstone would go along, but that they didn't recommend it. I told him we were going to go ahead with the plan, and really that was the last heard of it. They actually had defeated their own argument because when we had a launch failure involving shooting the tower and the Redstone settled back on the pad, they moved a new booster in under the spacecraft and it had not ~~realized~~ <sup>MATED</sup> in Huntsville, but instead was mated for the first time on the pad. The decision of not going to Huntsville had been made prior to that, however. We had to use care in the people we selected to go to Huntsville, because of an abrasiveness in the personalities--both our people and theirs. I think our people were probably equal to the Huntsville crowd although the Redstone group had been around for awhile and knew what they were doing. The Redstone group in some cases was pedantic, and some of our guys were pretty good and figured

they had all the answers. It was probably hard headedness on one side and immaturity on the other, and between the two we had some pretty bad clashes at times. When we had meetings to resolve problems and establish working relationships, we had to be careful who we sent down there.]

62  
116  
As far as relationships with DOD were concerned I would say they were uniformly good. I guess this is another reason Abe saw my coming onboard as an advantage, quite apart from my systems experience. Over the years I had had to do a lot of dealing with the military. We were a tenant organization at Edwards, and a lot of our existence there depended upon our working well with the DOD. In many ways it was easier to work with DOD than it was our own NASA people outside of Space Task Group, as within NASA there was a reasonable amount of vieing for position and standing on prerogatives. With the DOD, once the rules were laid down (and this included even BMD), it pretty well understood itself as being in a support role to the program, stood on damn few prerogatives and showed a strong willingness to cooperate. All Air Force elements--whether SSD<sup>or BMD</sup>, the operating end represented by Yates, or the launch wing at the Cape--with all we had an extremely good working relationship.

116  
62  
Our relationships with the Navy were good early in the program, but they got a little restive when our dates kept slipping. The Navy arranges ship movement schedules in advance and every time we would change a date this upset a rather complex shipping<sup>movement</sup> schedule. But other

than that, our relations were good. The Navy never failed to support us and support us in the manner we wanted, even to the point wherein some of the early manned flights they used 3 carriers in the recovery fleet--a large commitment on their part. As you know Bob Thompson was Director of Recovery and he had a good relationship with the Navy. I guess at times I got a little upset with him when he took the Navy position too strongly and I occasionally referred to him as Ensign Thompson.

56  
56-1  
69-1  
116

We sometimes had problems in assignment of DOD personnel to the net. We used a large number of DOD medical monitors, and had more than enough because the medics insisted that since they were very specialized there should be two of them at each post in case one of them got sick. The DOD also really wanted to train more of them. I think DOD didn't realize what long term commitments some of these flights would be when they made them, but nevertheless they honored every one.

54  
56-1  
116

Yates' initial plan was that Atlantic Missile Range should handle all stations from the Cape to 90° east, the Pacific Missile Range would handle everything from Vandenburg at Point ~~Aguila~~ <sup>ARQUELLO</sup> to 90° east going the other way, and White Sands would handle the continental stations plus Mexico. It worked out that we wanted to operate Bermuda ourselves because it was a complex station and a complete backup to the Cape, although somewhat degraded. The Canary Island station because it was a Spanish possession, we couldn't have military there

and couldn't have it run by the military. However we were able to use military medical monitors there. At the African stations, because of the terms of the agreement it could neither be run by the military nor could we have military personnel located there, so we had to use Public Health doctors. The Australian stations were run by the Australians. Canton Island and Hawaii were run by the Navy out of their PMR organization, as was the station at Vandenburg. The Mexico station could not have any taint of military and was run by NASA. Although no military personnel were supposed to be allowed there, I think we did have some military medics go there with the knowledge of the Mexican government. We did it, though, on the basis that the medics would never wear uniforms nor use their military rank. At Zanzibar, which was very sensitive (and as you know, we finally lost that station), it was too sensitive to run any risks. In Australia, we used Australian doctors, who came to the states for the mission briefings and debriefings and training.

119  
SB  
SB-1  
117  
We always had problems getting these people spread around the world and when we had extended launch schedule slips, we worked up groundrules, depending upon location, as to whether it was cheaper to bring them back or keep them on site. The only place where we allowed flight controllers to come back on short slips was Canton. It was such a miserable place to be - a bare atoll. Sometime during the spring of 1962 I made a trip out through the Pacific with General Lee Davis who had replaced Yates, and could quite understand why

our people wouldn't enjoy being there for a month or more. However, just getting in and out of there even if they had the freedom to go was a difficult job. Initially we could get Pan Am to stop if we would buy 5 tickets but then as jets came into general usage in the Pacific they couldn't land at Canton, and we had to look to the Navy for transportation. I guess there were arrangements with Quantas too.

174  
On the subject of the PAO releases to the net stations, we were working a 2-way street. The stations themselves would demand some release information because they were being put on the spot, particularly in the settled areas like Bermuda and the Australian stations. Yet the same time, our communication nets had heavy traffic. The solution was to supply each network station with stock releases which would be filled in on a go-ahead from Powers, and this greatly simplified communications with the stations. Actually, the whole operational relationship with the PAO was really pretty good. Shorty was an onery character and caused as many problems as he solved but he carried on this working relationship with the net pools and had an information plan at least during the missions that generally satisfied the networks. It also really did not interfere with our being able to carry out our operational responsibilities associated with the mission. From that standpoint, I think he did an excellent job. Although he personally was often criticized he took the heat off technical elements.

[Through the end of December 1961, before anyone moved to Houston, we had reached the point where we had a reasonably tight organization at Langley Field. Everybody <sup>who should have know</sup> ~~know~~ what was going on, <sup>did know, and we had good</sup> ~~and with all our (controls over what was going into the~~ programs <sup>content and personally, I knew what was happening and we keeping</sup> ~~I felt that Purser was on top of things and that Bob~~ <sup>RLH informed</sup> pretty well know what was going on. The arrangement was that Gilruth would move to Houston the first of the year and I would not move until the 1st of July after Mercury flights ended. We moved Gemini and Apollo personnel, but we didn't want to move the Mercury troops because we had the Glenn flight and the later orbital flight coming up, and there was a question as to whether the operations-oriented groups should be burdened with flight operations duties, in addition to making the move. That's why we staged the move, although space availability was also a consideration. In that spring, Gilruth didn't actually go to Houston until about April, and this is understandable for he was quite concerned about the Glenn flight and was spending quite a bit of time at the Cape. I would never argue whether he was needed there or not, but he was there. Perhaps he was satisfying himself that things were going well. As a result, there was no management in Houston at all. Around April we had a review of Gemini with Chamberlin and Brainard Holmes present. It was quite obvious that the program was getting out of hand and I want to be careful how I say that. It was not a warmed-over Mercury, as far as using

144

248

the Mercury systems as we talked about when we sold the program. It was indeed a completely new spacecraft with quite a bit of capability which probably all in all wasn't wrong except that Chamberlin had gone ahead and committed the Center to major policy decisions without anybody really being aware of them, and the cost was getting out of bounds. I guess Gemini finally ended up costing twice as much as originally anticipated. There obviously was no management control. Holmes at that time started arguing that there had to be somebody who stayed in Houston and ran the Center. He was looking for people. ~~Conner (?)~~ started this talent search, and he told me at this time that I ought to dispose of some of the operational duties, spend more time in Houston, and run the ~~team~~ place, because it really wasn't being run. He apparently told Bob what he told me and Bob cornered me a few days later in St Louis and told me he disagreed, and that I ought not do this, that I ought to concentrate on getting these flights off and that sort of thing and not tie myself down in trying to run the Center. That put me in a cross-fire. Why he did it I don't know and I won't even raise the question. ] ~~I can think of many different reasons.~~

258

Holmes continued his talent search. Supposedly Elms came down with the announcement that he would sort of be the internal side of the house, running the programs, etc. [I'll be honest, I tried objectively to work with the guy and also tried to see what the hell he was doing and other than the organizational chart he came up with after I left, which I am not sure was a very good one, I don't know

what he did.] The weakness in the organization which I think exists today essentially involves tying the E&D effort into proper technical support to the programs. As far as I am concerned, MSC is not a research center and although there has been some good work done in the E&D Directorate, I don't feel it has all been applied as well as it could be to program development. *Recent events have strengthened this tie as far as I can tell.*

[ I don't know whether we underestimated or overestimated Elms. When I went to Langley they had a guy named Charlie Donlon who had been assistant Director and when I came in as Associate Director, they made him an Associate as well. Charlie, I felt was a little bit of a menace to the program and I was accused of doing a job on him when really he did the job on himself. He never really quite understood what it was all about. Those are very harsh words, probably harsher than they should be. He volunteered to go back to Langley because first he had an attractive job there, and too, I think he realized he was in over his head. He took actions and made decisions that were ill advised. For example, when I insisted we have some quality control, some inspection of the activity, etc., in the shops doing work on Mercury spacecraft, Charlie wrote a memo that we'd have inspection provided it didn't interfere with the normal course of work. Obviously you can't do that. But as I said, he didn't understand the problem. To this day, as far as I am concerned, the relationships between Charlie and me are good.]

I was not the guy that selected Messing to go to White Sands, although he was an old friend, and in fact had worked for me at Edwards. He contacted me about a job at Langley, I showed his application to Aleck Bond and Faget and they hired him, initially,

to run the propulsion area in Houston. Frick and Faget came to me with a recommendation that Messing be put in charge of our activity at White Sands, and I agreed. I worked with ~~Wes~~ trying to help him get going. Many aspects so far as concerned establishing relationships with the range management, the problem of bringing the facilities in, etc., it seems to me that he did a very good job, and should be complimented. When White Sands reorganized about the time I was leaving Houston on that short Washington stint, three organizational elements there each reported to a different part of Houston. He asked what ought to be done about it and I said the only thing he could do was *do his job* ~~what he had done~~ and keep his mouth shut. He said it wouldn't work, and I said I didn't think it would either, but complaining about it wasn't going to do him a bit of good. I personally feel that Messing was treated in a somewhat shoddy manner.

32  
When I first went to STG, I brought two people from Edwards with me to fill two needs that I thought were important. Rather than impose them on an existing organization at the time, I brought them both back as assistants - one as an administrative assistant and the other as a technical assistant, with the idea that after they were there awhile and had proved their position, they could move into a line organization. One was Marty Byrnes. I had seen that there was no administrative organization worth talking about in Space Task Group at the time. I knew there were many things in developing the organization and particularly the operating side of it where we had

to break ground at the Cape, where we had a lot of agreements to work out with the services, and I was convinced that Marty would be a very valuable guy. Kenny Kleinknecht had worked with me at Edwards and here again I felt I needed someone with real hardware experience, who would not only make his own contributions, but also be eyes and ears for me in the technical areas as to how we were really doing. In addition, he did a lot of work in helping Preston getting organized and set up at the Cape and in instructing him as how we wanted to work down there. Kenny of course is still there and apparently he has done well. He was the manager of Mercury after Jim Chamberlin moved over to Gemini. His work on the 33-hour capsule, resulted in a weight reduction of about 300 pounds. The weight that had been originally laid out probably couldn't have been lifted with an Atlas. Other people that I worked with and depended on included Chuck Mathews, head of the Operations Division, Kraft, his assistant in the Operations Division, and Preston was at the Cape. As we moved along we had to pick somebody that could spend full time in ~~the~~ flight control and be the flight director. We picked Kraft since he had done most of the detail work in laying out the missions. He was a decisive guy and showed good strong leadership. In the case of Chris and Chuck there was some competition for the job, and Chris had some strengths that Chuck lacked, and in other ways Chuck was quite a bit better guy than Chris. It made sense

57

professionally to move Chuck over to the development side of the house.

195-4  
 He would have the greatest growth potential there. <sup>It was fortunate this move took place, as from there the move to the Gemini Program Office was a natural step, and one that I supported.</sup> Chris was a little naive in dealing with people. He was argumentive at times when he shouldn't have been. <sup>In the long run, however, he did an excellent job, and grew tremendously on the job.</sup> I remember when I first started working with him, I told him I would make a manager out of him or kill him. ~~At times, the issue was in doubt, but all in all, I don't think we can complain about the job he did for Mercury nor for Gemini.~~

Gemini, as far as the Cape was concerned was done by Preston working with Houston in very much a similar manner that he had for Mercury even though for the greater part of Gemini operations he was part of the Debus organization. Sometimes Pres speaks before he thinks. This is probably causing him some difficulties. But he is competent.

24  
 Another man I depended on a lot was John Bailey. John actually had been my boss at Langley before I went to Edwards. He moved to the Cape with Mel <sup>Hough</sup> Goff as a new adventure for him before he retired. When the <sup>Hough</sup> Goff organization at the Cape dissolved, the victim of LOD's ascendancy, Bailey was really without a job. I knew he was a very competent technical man, but after working for Mel for so many years he almost developed an inferiority complex insofar as taking action, just because of the way Mel worked. But Bob and I agreed that he was the type of talent we needed and we gave him the Flight Safety and Reliability Office and I found his help invaluable particularly near the time of launch.