ORAL HISTORY TRANSCRIPT

SIGURD A. SJOBERG
INTERVIEWED BY DOYLE MCDONALD
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MCDONALD: Mr. Sjoberg, I'd just like to ask you how you came to work for NACA [National Advisory Committee for Aeronautics] and what year that began?

SJOBERG: Well I came to work for NASA in 1942 [Sjoberg began working with NACA in 1942. NACA was incorporated into the newly formed NASA in 1958]. It was the year I had just gotten out of college with a bachelor's degree in aeronautical engineering. I had planned to follow that line of work for a long time. With NASA, of course everybody who studies aeronautical engineering gets to know NASA through their technical work throughout their education. A lot of NASA reports you use, that you're required to use. That's the way I had heard about NASA and became familiar with their work. They were interviewing at many different colleges in 1942, the year I got out of school. And I went to work for them that way. I interviewed for them that year and I worked there until I retired.

MCDONALD: What was your first job?

SJOBERG: The first job I had was at Langley Field in Virginia in the Flight Research Division. And that was a lot of fun.

MCDONALD: What were you doing?

SJOBERG: I was working on stability control work of airplanes. Not long before that NASA had built up some criteria for flying qualities for airplanes. And that was a hard job in that one of our main jobs in that Flight Research Division was to set out the flying quality of a whole different bunch of types of airplanes. It was just about all of the airplanes that flew in the World War II. We were busy with those at the time.

MCDONALD: And then after the war, what were you doing after the war?

SJOBERG: Well I continued working. At the time I had a couple of interruptions, I left Langley in, I think it was, 1946. I went to back work for the Douglas Aircraft Company in Santa Monica California for a year. Then I went back to Langley working in the same division. And it was about 1947 I was asked to go out to Edwards Air Force Base to use a project in flight testing. One of the X airplanes, the D-558 Phase II. We were out there for about a year while we did that. Then I went back again to Langley.

MCDONALD: And when did you leave Langley? You went back in the same division?

SJOBERG: The same division, Flight Research work. I left Langley again, not until 1962 when the group that was formed at Langley, called the Space Task Group [STG]. That group was the nucleus of us now at the Johnson Space Center. NASA started the Johnson Space Center [originally named Manned Spacecraft Center] in Houston in 1962.

MCDONALD: What were your initial jobs here? Where did you first work when you came to Houston in 1962?

SJOBERG: I had a job…I worked in…I'll try to remember the names. I worked for the Flight Operations Division when I came to Houston. Their job of course was to do all of the planning of the space flights. And that's where I spent most of my time in Houston working in Flight Operations. Of course, I had to. The first control center we used for manned space flight was at Cape Kennedy [Cape Canaveral, Florida later renamed Kennedy Space Center]. Then we moved to Houston. The decision was made to have that center in Houston. Well from 1942 on for several years, it was designed and implemented. Then, it came into use in 1944. I think it was in 19…The control center in Houston was first used in '44 or '45 [Houston Mission Control was first used in 1965 with Gemini III and IV]. I think it was in '44, but I'm not absolutely sure about that. You can check on that easily. Then about…I'm trying to remember. It was the Flight Research Division, really, that controlled the flight control activity through all of the Mercury, Gemini and Apollo flights. I think it was 1972 that Chris [Christopher C.] Kraft [Jr.] was made Director of the Center and he asked me to be his deputy. So that's when I moved from Flight Control to _____.

MCDONALD: Going back to Mercury, when you were still stationed officially, at Langely, you did work on the Control Center in Mercury on the Cape?

SJOBERG: No, I never really worked there. I never did have a job there. I spent some time there.

MCDONALD: Well, what were you doing?

SJOBERG: Learning about space flight. You see, this was new to us too. We spent a lot of time there developing the procedures and the mission rules, all that kind of thing, that goes into each flight.

MCDONALD: I also understand that in Gemini, you were a part of the Gemini Planning Organization.

SJOBERG: Yes. I worked from Gemini 2 through all of the flights. It was a busy time.

MCDONALD: What do you remember about that?

SJOBERG: What I remember most about it were the people involved. A bunch I thought were just outstanding people. Chris Kraft was probably the most outstanding. Of course, Max [Maxime A. Faget] did an awful lot of work on the space craft in those days getting central ideas. That was very interesting, very satisfying work.

MCDONALD: Any particular missions stand out?

SJOBERG: The Gemini program's most outstanding mission…well, they were all very interesting. There were new things on every flight. Should have written them down then because I'm awfully confused now.

MCDONALD: What do you see as the major accomplishments that came out of the Gemini Program?

SJOBERG: The experience of manned space flight and how to operate. How they can be designed. I don't think we could have gone to the moon without it, without that background.

MCDONALD: As you transitioned from Gemini to Apollo, how do you see that flight operations changed?

SJOBERG: I don't think there were a great deal of changes in flight operations. I think what we learned from Gemini we applied for Apollo, it was a good background for that. But, I didn't see any changes. There were a lot of new things to work on from Gemini to Apollo because of the distances involved. After all, on Gemini, we were always on earth orbit so you could return relatively quickly. Once you commit to a lunar flight there are only so many days before you can get back to earth. That was mostly with planning the flights and so on.

MCDONALD: After the early flights the decision was made to send Apollo 8 to the moon. Were you surprised by that decision?

SJOBERG: No. Not nearly as surprised as the decision being made shortly after. One of the early Apollo flights [actually Alan B. Shepard's *Freedom 7* Mercury flight in 1961] it was, Mr. [President John F.] Kennedy announced that we were going to the moon. That was a lot more surprising.

MCDONALD: How was that news received? Let's talk about that for a second.

SJOBERG: I think all of us were floored. It was such a change, such a challenge. It was such a surprise.

MCDONALD: Did your team think you could accomplish it?

SJOBERG: Well after, I suppose, after working for a couple of years, you're in a lot better position to judge. Most people thought at that time they could just work to get it done. I don't think that the immediate reaction was "That's good, we can go do it." The more you do, the more you've got confidence in something like that because you learn how to do things. You don't get caught and slow down.

MCDONALD: How do you see, did you see any changes in program management structure and interactions between centers as programs developed?

SJOBERG: Could you repeat that please?

MCDONALD: As the programs moved from Kennedy to what is now Johnson Space Center and became much larger did you see other changes besides engineering changes?

SJOBERG: Oh yes. The program became a lot broader in terms of public interest. Education. Certainly in the early days of the space program had a big effect on technical education and became a lot more, it got a lot higher priority, I think, at most of the technical schools around the country. I think more people became interested in technical subjects. It was a lot of priority on that because…as for me, the only aspect would be the mission associated with space flight. The public affairs associated with it, all these changed greatly. Nothing was the same anymore.

MCDONALD: What would be some examples? What are some examples of that?

SJOBERG: I gave you one—education. Certainly, you can see that nobody paid any attention to space medicine starting out in the program but now it has a lot of attention. It had something to do with, I'm sure, a big influence on the computer industry that was getting going at that time. There were many others that you can think of that way.

MCDONALD: What were the differences in flight operations in the Gemini and Apollo era when the vast computing powers that these machines give us were not available?

SJOBERG: Would you repeat that please?

MCDONALD: Sure. I mean, you can't find a person today that barely knows what a slide rule is. We didn't have the big computers in those days that could perform all of these calculations. Could you just describe how the operations were accomplished?

SJOBERG: That's a good question. I think one thing that, it took a lot more people to develop a program for the computers and so on, and do a lot more testing. That's a good question. I'd probably have to find a computer expert to talk to.

MCDONALD: As the political climate changed during the Apollo missions and Apollo became less important apparently to the nation, was that visible to you working in the program?

SJOBERG: Well, sure it was. Because it affected your money and what you could do, what you couldn't do. Because really, in the Apollo program every year at budget time, in the latter years of Apollo, it was a real rat race trying to figure out how you were going to get things done without enough money. At the end of it, it was quite dismal that way.

MCDONALD: You said when Dr. Kraft became head of the center and he asked you to be his deputy, it was one of those times, wasn't it?

MCDONALD: Well, it was…the last few years of the Apollo program, I think it was in 1971 or '72, well things were good then. It wasn't many years after that, that money became scarce.

MCDONALD: By that time you were in the program, you had been cut off as the program manager?

SJOBERG: Yes, I had been working for Dr. Kraft at that time. Yes.

MCDONALD: What did Dr. Kraft and you focus on during those first years?

SJOBERG: Well we just continued the Apollo program. It was pretty well laid out at that time. Continued pretty much on the path I think it was going for a while.

MCDONALD: After that?

SJOBERG: Oh, then? It was the last Apollo flight.

MCDONALD: Nineteen seventy…I think if you consider ASTP [Apollo-Soyuz Test Project] that was 1975.

SJOBERG: Well, we did one for the Skylab program. When was that? About'76 or '77? '78, maybe [The Skylab flights were in 1973-1974]. That was something different because it was a long duration associated with it.

MCDONALD: In Skylab, were you involved in the decision to go with the dry workshop?

SJOBERG: If I wasn't, I should've been. I can't remember exactly and direct…although I probably endorsed the decision when it was made. I don't remember who would've done it.

MCDONALD: With Space Station coming on line soon and working with Mir, this is the first time since the Skylab days that flight operations had involved long duration flights. What do you see as changes in the ways either that the Center operated or flight operations were conducted because of the long duration flights?

SJOBERG: I don't think that there have been any drastic changes outright. Well, why don't you interview George Abbey?

MCDONALD: That does bring me to a couple of questions. In your career there were certainly a number of people that either influenced you greatly or which you think were the people who made a great and vast difference in the space program. Who would be those people on your list?

SJOBERG: Number one was Chris [Christopher C. Kraft, Jr.]. Not only did he have the technical ability, but he was what I call a real leader. He inspired people and developed the whole concept of flight control. He led as a flight director and I think he did an outstanding people job. It's not what many people could have done. I think that Max [Maxime A. Faget] was outstanding. Some of the people I may mention, you may not even know. Bill Tindall [Howard W. Tindall, Jr.] was excellent. He was a _____ and techniques. In the

program office, I think Aaron Cohen, who you probably don't know, was a real good young man. In the flight house, Glynn [S.] Lunney was outstanding. Arnie [Arnold] Aldrich, as far as I know, he's still at Headquarters. I don't know if you know him or not.

MCDONALD: I think he's gone now.

SJOBERG: Gene [Eugene F.] Kranz has certainly done a good job for us. A real good job from a flight control standpoint. George M. Low is _____, certainly an outstanding man. Dr. [Robert R.] Gilruth was.

MCDONALD: When NASA was going to the moon, there was definitely this national mandate behind the human space flight program. The whole country was behind it. As that moved, as Apollo came to an end and moved into the shuttle and now into the 1990's, that mandate doesn't seem to be there. Why do you think that is?

SJOBERG: I think it was inevitable. I mean, going to the moon was such a feat, that a lot of other things seem rather mundane after that to a lot of people. It's still effective. The whole space flight program has affected the civilization of the world. I think one of the first things people want is to do it the first time once and that's basically it. I'd like to ask you that question.

MCDONALD: Sure, after we're finished. How would you recommend that NASA handle this?

SJOBERG: Given the things…

MCDONALD: Well, given that you can only do it first once and that some people believe that the relevance is no longer there. What would you recommend?

SJOBERG: I'm not sure that it makes a hell of a lot of difference. I think that the world will go on and I think that we'll want to learn things, we're going to want to discover things. That's still a major goal of the civilization of the world. I think it will continue to be. And then you're saying of course, that a lot of people don't think that you need a program at all. You can say that about most everything. Save money, save money and save money. Then what do you do? I don't know if that's an answer or not, but that seems to be the way that it is. There's not much NASA or anyone else can do about that.

MCDONALD: The recent contract with United Space Alliance doing parts of the shuttle program, Mr. [Daniel] Goldin is pushing toward privatizing some of these functions. How do you see that push?

SJOBERG: Well, I think it's plain and simple. Try to save money, do it a little cheaper. I don't get much of a thrill out of that. I don't think that we better, I don't think so. I don't think it will be as good.

MCDONALD: You do, or you do not?

SJOBERG: I do not.

MCDONALD: Why is that?

SJOBERG: You won't get that far without getting as many dedicated people as NASA has. You just won't.

MCDONALD: As the Space Station is being constructed over the next few years, as you mentioned, with the new push in space medicine, where do you think NASA should adjust its funds beyond that?

SJOBERG: I'm not sure that I understand your question.

MCDONALD: In addition to Space Station, where do you think NASA should be placing an emphasis?

SJOBERG: Well, I suppose what they ought to do is research in the things that space flight can do for you. Or the environment that you can create, that kind of thing. And exploration, I think, is the ultimate thing, but they kind of go hand in hand. After all, the inevitable thing that you're looking for here is, I guess, are there any other people on the planets somewhere, or something like that. So, I think it is, anyway.

MCDONALD: Of all the tasks or positions which you've held in NASA, which one means the most to you?

SJOBERG: I think it was being the Deputy Director. I got a lot of satisfaction from that. I think I did some good. I was working for an outstanding man, then too. That always makes it nice. [???In memory of???] George [W. S.] Abbey.

MCDONALD: Why do you have to do that?

SJOBERG: What?

MCDONALD: Tell me about Mr. Abbey.

SJOBERG: What do you want to know?

MCDONALD: Everything.

SJOBERG: I don't know if I know that much about him. He's a good friend. He likes to catch salmon. He's got a good friend up in Seattle or Westport, Washington who is a sports fisherman. He likes to get up to Seattle to see him. Well, I'll tell you about George Abbey, but you can talk to him and ask him yourself. He'll tell you.

MCDONALD: I don't think so.

SJOBERG: This area was nice when I first moved here you know. Not many places to live when I first got here, around. Lots. Johnny [John H.] Glenn [Jr.] lived half a block over here. Wally [Walter M.] Schirra [Jr.] was next door. And next door to him was [Virgil I. "Gus"] Grissom. Next door to Glenn was [M. Scott] Carpenter. [L. Gordon] Cooper [Jr.] lived across the lake here. Deke [Donald K. Slayton] lived over in Friendswood. And Alan [B.] Shepard [Jr.] lived in town. So it was full of them.

MCDONALD: What was it like living in the neighborhood with astronauts?

SJOBERG: I didn't notice any difference. Lights, cars and you would always have a crowd of people around of course. TV people and so on. Aside from that, you'd have some buses coming and driving through watching the houses. Tours once in a while.

[End of Interview]