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JOSEPH P. ALLEN
INTERVIEWED BY JENNIFER ROSS-NAZZAL
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ROSS-NAZZAL: Today is March 20, 2012. This interview with Dr. Joseph P. Allen is being conducted for the JSC Oral History Project in Washington, D.C. The interviewer is Jennifer Ross-Nazzal, assisted by Rebecca Wright:

ALLEN: In those years, [the early 1980s], they were always doing press conferences with the crews before you flew. There were five of us on the flight [STS 51-A]. The first question to Anna [L. Fisher] is, "How does it feel to be a mother flying in space?" She was the first mother to fly into space. She answered it in her gracious way the first couple times, but the third time she said, "I don't really understand that question. I'm not the first parent, there are many parents who have gone to space. Why don't you ask the same question of my crewmates here?" She sort of shut them up. If you think about the newspeople, it was kind of a sexist thing to be asking only that of her, nothing technical, only what's it like to be a mother.

Kristin Fisher [Anna's daughter] was married this last spring. Sadly, Bonnie and I were not in the country, but it made me smile to think that that beautiful little two-year-old girl—who's now a drop-dead gorgeous and quite a successful TV [television] individual—was getting married.

I was the Assistant Administrator [for Legislative Affairs] of NASA here, in the old NASA [Headquarters, Washington, DC] building across from the [Smithsonian National] Air and Space Museum. The Air and Space Museum, which Mike [Michael] Collins opened during

the time I was at NASA Headquarters Fourth of July 1976, came in on time and under budget. I told Mike at the time his career with the federal government was now ruined. And, sure enough, within a year he'd left. His job, in a sense, was done.

The Space Shuttle was being built and was having some considerable troubles with the engines not working and tiles not adhering properly to the fuselage, all sorts of complications. The chairman of our Appropriations Committee was a man named William Proxmire, who really did not like NASA at all, and Jim [James C.] Fletcher was the [NASA] Administrator. I would be with him in all of the hearings, and always he and George [M.] Low [NASA Deputy Administrator] would be asked by Proxmire why there were no black astronauts and why there were no female astronauts.

Dr. Fletcher's answer was always, "The astronauts, by and large, come from test pilot schools. That's a question you must ask the military. Why don't they have those groups represented in test pilot schools?" It was a little bit of finesse, obviously, because they had already taken scientists. They'd taken the class in '65 that included [Harrison H.] Jack Schmitt, and the class in '67 that included me. There were numbers of scientists who were females, but there was never a female taken.

Proxmire, I would say, was a real grandstander. During my tenure, I won the Golden Fleece Award a third time, and I drafted a letter.[1] "Dear Mr. Chairman, now that I've won it a third time, I presume I can retire the trophy." I won it a third time when Dr. [Robert A.] Frosch had become the Administrator, and Dr. Frosch said, "No Joe, you can't send the letter. Even if you take out the word 'chicken shit,' you still can't send it." I was a bit of a troublemaker.

[1] Proxmire established the Golden Fleece Award, presented to public officials who he believed wasted public money.

During that time, NASA geared up to select another class of astronauts. That would have been in the summer of ’77, because that class was selected in the summer of ’78. They were the Thirty-Five New Guys, and of them, six were females. Judy [Judith A.] Resnik worked for Xerox [Corporation] here in the Washington, D.C. area. She had some interest in applying, and she actually found me, came to talk to me in my office. That’s the first time I ever met Judy. She had a Ph.D. in engineering, clearly a very talented engineer, and she had other elements of her résumé that I looked at. I said, “Judy, I think you’d be just as competitive as anyone I can imagine. I encourage you to apply.” She did apply and was selected.

I’m going to jump ahead now to the summer of 1985. I had informed NASA I was going to leave. I thought that I might be competitive for a Center Director’s position, and I very much would have liked to have done that. I’d already been an Assistant Administrator of NASA. But for whatever reason, the NASA hierarchy wasn’t interested in retaining my services—which is how it came to pass I went to work for Max [Maxime A.] Faget, which is another story entirely.

As you know, you’re sent out to give speeches on behalf of NASA often, and since I was not assigned to flight I was always being sent out. I said, “No more. I’ll do, at most, one more speech. I don’t have to do that anymore.” They were to have the finals of the Teacher in Space selection here in Washington, D.C. Because I had been a teacher, I asked to be the astronaut speaker to do that. I asked Judy if she would fly up with me, because it got her flying time and she was a very good speaker, very dynamic. The two of us spoke to the group the night before [S.] Christa [McAuliffe] was selected. I will forever be struck by the irony that Christa and Judy were on the *Challenger* together and both lost their lives [in the STS 51-L accident].

I had been detailed to Washington, D.C. at the request of Dr. Fletcher, but with considerable trepidation, because I actually wanted to fly in space. I’d been an astronaut, but I’d

not flown in space. I felt I was perfectly capable of doing it, and no one had ever left the Astronaut Office and returned, ever. There are several examples of that. Dr. [Christopher C.] Kraft wrote a letter for me, assuring me that when my assignment to Headquarters was over, I would be permitted to return to active flight status without going through an astronaut selection process again.

Had he left the agency, the letter would probably have been worth nothing, and I was aware of that. When I did return he was still at the agency, and there was never a question. I went back and made certain my papers showed that I had returned to JSC one day before the Thirty-Five New Guys arrived, because I wanted to have some seniority on them. I had a one-day seniority in a sense.

George [W. S.] Abbey held a reception for them at that old pizza place on the corner of NASA Road 1 and Galveston Road [Highway] 3, the northwest corner. That building's still there. They were all there, bright-eyed and excited. He welcomed them and he said, "You know, you're actually a class of 36. This is Dr. Joe Allen, who's just come back as well. He got into some trouble before and had to get sent to NASA Headquarters for four years, but now he's back." And he said it straight-faced, they didn't even laugh. I'm thinking, "George, you're so bad." That's when I first met them.

I think since the first seven [Mercury astronauts] arrived, they have had a Monday morning meeting. It's a pilots' meeting and flight safety meeting, and they're fairly raucous. These are male fighter pilot meetings. They didn't change much when the women arrived. After the second one, I was with Sally [K. Ride] and Judy and possibly [M.] Rhea [Seddon] and I said, "You know, I came here some years ago also a stranger in a strange land. I was a scientist and

there were only pilots, so I felt a little bit out of place. I suspect you might feel a bit the same right now," kind of in an apologetic way, to cut them a little bit of slack.

They said, "Joe, what are you talking about? I've always been an only girl in my class, my entire life. This is no big deal." I realized that they really had, in being female scientists, led a pretty lonely life right up until then, and they were not bothered by what could be interpreted as male chauvinism. It really surprised me, and it stuck in my head. As a consequence, they were perfectly able of dealing with all of this and never had a bit of problem fitting in, as seen through their eyes, and, I dare say, through the eyes of those that ran the Astronaut Office.

ROSS-NAZZAL: Do you think there was some bias initially when they met with these test pilots?

ALLEN: I don't think there was any on the part of the test pilots, I think absolutely none. I'll say this for the professional military test pilots, when we came as scientists, there was open hospitality there. My wife, Bonnie, and I were almost adopted by Bill [William A.] and Valerie Anders, professional test pilots and military people. And Louise Shepard [wife of Alan B. Shepard] was just the most gracious of women. She was a Navy fighter pilot's wife and came out of a long tradition of military, but never any hint of "you're not really welcome here." I think the very same thing was offered to the females and the male scientists, in addition to the aviators that were in that class of 35.

That said, when we came in the summer of '67, the 11 of us, the first meeting we had was with Deke [Donald K.] Slayton. He said to us that the Astronaut Office really had not wanted to take us because they had too many astronauts already, and that if any one of us wanted to leave, there would be no hard feelings or anything. He was very fearful that we likely might never fly.

I'd left a perfectly good teaching job, and those positions were hard to get, so I said, "Well, I'm just going to stay and see." There was no end of good solid work to do, so I didn't feel as though I were just spinning my wheels. But several people did leave of our initial eleven, and that's how we gave ourselves the class name of XS-11, the "excess" 11.

A year later, the Manned Orbiting Laboratory [MOL] was cancelled. That's when Deke and the general in charge of MOL cut a deal, and Deke said he could not take all the MOL astronauts. He would take half of them, and they said, "How do you want to divide it?" He said, "I want the [seven] youngest." That was the dividing line, so that's how it came to pass that [Henry W. Hartsfield, C. Gordon Fullerton, Robert F. Overmyer], Dick [Richard H.] Truly, Bob [Robert L.] Crippen, Bo [Karol J.] Bobko, and Don [Donald H.] Peterson wound up in the Astronaut Office.

Of the [seven] people that did not come, one was a fellow named Al [Albert H.] Crews, who became a NASA pilot. The others became several star generals or admirals, they want back into real active duty. One of them was a guy named General Bob [Robert T.] Herres, who became the [Vice] Chairman of the Joint Chiefs of Staff. That's the history of the two space programs and what became of those.

The pilots' meetings—I will, to the end of my days, remember the first time—Deke was the chair, or sometimes Al Shepard. When Hoot [Robert L.] Gibson and Rhea Seddon stood up and held hands and announced that they were going to have a baby to the pilots' meeting, I could just see Deke squeeze his nose and say, "Oh my god, what's the space program coming to?" He didn't say anything to them, but his body language was so funny.

ROSS-NAZZAL: There were several of those women who ended up marrying colleagues, like Rhea and Hoot, and Sally married Steve [Steven A. Hawley]. What was that like in the class? Did that change the dynamics of the office?

ALLEN: No, I don't think so at all. I don't think so at all. Steve and Sally were married, and then they went their separate ways in a very friendly way. This was so funny—several years later he had been invited to give a science lecture at [the University of] California in San Diego, where Sally was on the faculty. He said, "Sally introduced me about all the space flights and so on, but never once in her introduction did she mention that we'd once been married."

Another factoid comes to mind that I find kind of amusing—and I'm laughing at myself a little bit. I love sports, and I learned sports from Mike Collins, mainly. He's a superb athlete in the sport of handball and squash. Both of them are sports that require a lot of finesse and a lot of learning. Handball's a sport where you use your hand to hit the ball, but if you learn it as an adult, it's kind of hard because almost everybody has an off hand. Very few people are ambidextrous. Mike was left-handed, but he had a very good right-hand shot as well. Little by little, I got an improved left-hand shot; I'm right-handed.

We had some wonderful games together. He almost always beat me, but not always. And in squash the same thing was true. I learned so much from him. He had learned how to play squash at the [United States] Military Academy [West Point, New York], so he really knew. I think he may have been on the team; he was quite good.

I learned rapidly, and, when Mike left the Astronaut Office, I became the champion of all the sports. My squash partner became Mike [Michael J.] Smith. He was a dear friend and extremely good. I only lost one game to Mike, and it was the last game we played [before Smith

died in the *Challenger* accident]. I have thought about that so often. I'm not a good loser, but I'm very happy that I lost that game. He was becoming better and better and better.

Kathy [Kathryn D.] Sullivan is a very good athlete, and the minute she arrived she looked at the ladder and saw my name at the top. She wasn't a handball player, but she was a squash player, so from day one she wanted to play squash with me. I said, "All in due time, Kathy, all in due time." About the eighth day she was there, we got in a squash court and started to hit it around, and I realized she was quite a good squash player. I think she'd played on a college team, possibly even up in Canada where she'd been a graduate student [at Dalhousie University, Halifax, Nova Scotia]. She was very good, and I, in my own way, judged. She's not that fast, but she's extremely strong. I wasn't terrified she was going to beat me, but I knew it would be a pretty good game.

In about the third game we played, she actually went for a shot in a way that I found unorthodox. You kind of learn how the other person moves, so you rarely bump into each other. You stay out of each other's way. After you shoot, you must give your opponent the right swing space, and people get very adept at that. There's never a collision. She had gone for a shot in a way I did not anticipate at all and ran right into me. And I sort of went like this [demonstrates] right on her breasts. She knocked me backwards onto my seat.

I began to say, "Oh Kathy, I'm sorry," but then I realized I was about to pass out. She had almost knocked me out. From that moment on, I said, "Okay, every man for himself," and that's exactly what I meant. We often played squash, and at one point she became nationally ranked in women's squash in the senior level, for which I took enormous pride because I was quite a good coach to her.

I got to know Anna very well, and we flew an incredible mission together. She was a key part to it because she was the operator of the robot arm. In those years we would have acquisition of signal/ loss of signal. You weren't talking to the ground very much, which was a great luxury. It was very sad when TDRSS [tracking and data relay satellite system] was invented, from the crew members' point of view.

I was on the robot arm, actually holding the satellite at one time, and she was moving me ever so gingerly. I said, "Oh good lord, it's a woman driver." She would cause it to shake ever so slightly, and say, "Joseph, you've never been in safer hands." She was correct, but we were kidding each other a lot in that regard.

ROSS-NAZZAL: How would you characterize her as a crewmate?

ALLEN: Just one of the crew. David [M.] Walker at the time was a bachelor. Central casting would send you David Walker if you were going to do another *Top Gun* movie. Not Tom Cruise this time, they'd send you the "Red Flash." He would be on Anna's case every so often. One time she squeezed his cheek and said, "David, I'm not going to turn you in for sexual harassment, but you're getting about a C-minus right now." I think he was just oblivious. Not a mean bone in the guy's body, he was just a fighter pilot.

There was an incident on STS-51A where two days before the launch we're being briefed in the crew quarters at the Cape [Canaveral, Florida] on the emergency landing sites in Africa. It may have been Libya. There was a runway someplace in northern Africa. The briefing was, "If you, *Discovery,* land there, do not get out of the spaceship. Wait until the military arrives. We'll keep you covered, and we'll get you out."

And David said, "But they're Arabs. We'll just trade Anna for four camels, and we're out of there. But Anna, they like virgins. Don't let them know about Kristin. And you're pretty thin." He wrote in his checklist, "Feed the M&Ms to Anna. Trade her for four camels." Rick [Frederick H. Hauck] said, "David, please. We've got important things to worry about."

When we came back, before they took us into the hands of the doctors, the ladies that ran the crew quarters had asked for and had been granted five minutes of our time. We went back to that same briefing room, sat down, and they stood up and announced that they had been very well aware of the camel plot that David Walker had hatched. And that we should know that during our absence, they had managed to trade the four male members of the crew for one camel, and here's the camel. It was a beautiful silver camel that they gave to Anna, beautiful thing. Laughter all around, and then we went into the standard debriefing.

After David's death [in 2001], we met in Houston to have his service. There at the Johnson Space Center I met Anna, and we came up and gave each other hugs. You could cry about David Walker, but not for very long because then you'd start to tell David Walker stories. I said, "Oh Anna, remember the story about the camel?" She said, "Oh yes, Joe, I remember it very well. What you don't know is that every year since then on landing day, I've gotten another camel from David Walker. And now I won't get any more camels," and she started to cry.

ROSS-NAZZAL: That was a special crew.

ALLEN: Yes, very neat crew. I think Anna and Rick are going to be here with Bonnie and me for when *Discovery* is here on the 17th and the 19th, so that will be fun. Dale [A. Gardner] is still working; he said he couldn't come.

I'll tell you a Rhea Seddon story. The Gibsons lived around the corner from us, and our daughter, Elizabeth, became their chief babysitter. She was 14 or 15, the epitome of a responsible individual. She still is to this day. When we returned from STS-51A, for the next mission the commander is to be Hoot Gibson, and it is a super-classified DoD [Department of Defense] mission. When we go as a crew to the Mission Control [Center] to debrief the mission with all the controllers—a very important thing to do—to our dismay, Anna and I are stopped at the door.

We do not have a high enough clearance to enter the now top-secret Mission Control that's been taken over by the DoD. As a consequence, we had to sit outside and debrief it on a telephone, which really aggravated me and I said as much. Then it was explained by the security officers that this was so important and the information was so critical, we couldn't even know the exact launch time. You couldn't know the inclination—which is total bullshit, because anybody with binoculars knows it the minute it launches. None of that was available, no aspect of the mission or how long it was going to be.

With my feelings hurt, I go back home on my bicycle. We lived right across the street there. Go in the house, going to get myself a beer, but there on my refrigerator is the entire flight schedule for Elizabeth from Rhea Seddon. It's underneath a Muppet Baby magnet. I'm thinking, "What a bunch of bullshit." Our government is so inept to go through all of that rigmarole, and the 14-year-old babysitter has got the whole thing. I have no idea who was ever aware of that, and he may have flipped out had he been.

ROSS-NAZZAL: You mentioned Kristin Fisher, and Anna had told us that because she was so young she would often take her with her to training sessions.

ALLEN: Sometimes, yes.

ROSS-NAZZAL: Do you remember that? Were there a lot of kids involved?

ALLEN: No, there were no kids, but there were others of the trainers that just liked to entertain a two-year-old girl for a while, so she wasn't underfoot at all for us. We were aware that she was someplace there.

ROSS-NAZZAL: Was it unusual to have kids go to training sessions? Did your children?

ALLEN: No, because their mom was at home. Often it was the case that the other parent would have been there, but maybe because Bill [William F. Fisher] was starting to train for other things they couldn't organize it. I remember it happening, but nobody made a big deal out of it.

Now, let's see. Shannon [W.] Lucid was there. I never got to know her very well, other than she was obviously an extremely capable individual. She wound up being of the longest time space flyers, she held the record for the American female for duration of space flight. She was there [aboard the Russian *Mir* space station] for some months with two cosmonauts whose names were Yuri [Yuri I. Onufriyenko] and Yury [Yury V. Usachev]. It was like a sitcom movie or TV show. All of us in the office just took for granted that Yuri and Yury were pretty much outmanned. There's no doubt in our mind that she was more than up to that, and she proved that she was.

Judy Resnik and I were extremely good friends, I mean really good friends.

ROSS-NAZZAL: Can you tell us a little bit more about her and her personality? We've heard different bits and pieces from people, but I'm curious how you would characterize her.

ALLEN: She had a fighter pilot sense of humor, and she'd obviously been around some rough-and-tumble engineers and physicists. She had come from a broken family, and the kind parent, in her mind, was her dad. For some reason, she'd had a falling out with her mother and never spoke highly of her. She also had a half sister, who would come around from time to time, very nice individual, and a brother, Chuck [Charles S.] Resnik. Chuck and I served on the *Challenger* [Center for Space Science Education] Board of [Directors] for decades. He's still on it. He's a physician, a radiologist in Baltimore. They were extremely close, brother and sister.

Before she flew, she fell in love with a guy named Frank [L.] Culbertson, and they were kind of a duo. Frank's a wonderful individual; he's with Orbital Sciences now. He actually is an ersatz family member, stood in for Chuck on various recognitions of Judy after her death. He went up to Akron, Ohio [Resnik's hometown], and they had the Judy Resnik [Elementary] School there. He was there on that dedication, and he unveiled a bust of Judy that sat outside the school. He came back, gave me a call and said, "Joe, I got to tell you this. I've got to tell somebody. I had a very hard time not smiling when I unveiled the bust of Judy, because Judy always wanted a bust." She was quite flat-chested, so he and I had sort of a grownup smile together on that.

I'll tell you, we were extremely good friends, to the point where they were in quarantine —and in an incident I'll forever be thankful for—she violated the quarantine and came outside the day before they went to the Cape and gave me a squeeze. We told each other that we loved

each other, and I wished her well. Mike Smith also came out and I shook his hands, which is not according to protocol, but I didn't have the flu and I didn't have a cold, so I got to see them both before they went.

ROSS-NAZZAL: Tell me a little bit about Sally. I've heard some stories from people that there were some discussions about who was going to be the first [woman in space]. Was there any surprise that she was selected?

ALLEN: I don't think so, but I have no idea how that was selected. Was she the oldest?

ROSS-NAZZAL: No, Shannon was.

ALLEN: I do not know. That was, I'm certain, determined by George Abbey.

ROSS-NAZZAL: Was there any surprise in the office when they announced that she was going to be the first?

ALLEN I don't think so. She was a very good first American female in space and wore it with a certain amount grace, although that was not her cup of tea. She's not an outgoing public person so much. As I look across the others, I'm not certain who else would have enjoyed it more. I'm not sure anybody would have enjoyed it more, because these were very professional individuals their cup of tea is not out on the speaking circuit. But she did a good job.

On Sally's second flight Marc Garneau was aboard, the first Canadian ever to go to space. Bonnie and I went out to welcome the crew back at Ellington [Field, Houston, Texas], and it was pouring rain so they pulled the airplane into a hangar and the crew got out. It's a great big open hangar, and as they came down the ramp a wave of newspeople went towards them. Sally sort of reacted, "Oh no, here it goes again."

Then to her astonishment and mine as well, the newspeople went around her and right up to Marc. They were all Canadians. They wanted to talk to Marc and they didn't want to talk to Sally at all. She was old news, she had flown before. Sally sort of popped out with a [shrug], and I went up to her and gave her a hug and said, "Fame is fickle." She said, "Oh Joe, thank god it really is." It really is.

ROSS-NAZZAL: What can you tell us about Rhea? You mentioned the babysitting.

ALLEN: Rhea struck me as a very charming lady, and an able physician I'm sure. She's certainly a hero in Tennessee, and I think they live in Tennessee again.

ROSS-NAZZAL: I did want to ask you, do you think that the Astronaut Office changed with the inclusion of women?

ALLEN: I do, I absolutely do. It became a much more gentle place, and you could just see it happening. In my view as a grandfather, it was one of the best things that happened to that office in making it more civilized.

ROSS-NAZZAL: Can you share with us some details?

ALLEN: It just got more orderly and the language got more polite, sort of in spite of themselves, and that's a good thing. I think it really did change it, and to my view much for the better. I was there to watch it for a while, because I saw it '78, '79, '80, '81, '82, '83, '84, '85, and by the time I left, in the meantime other females had come in. When did the next class come in, Jennifer, in '80?

ROSS-NAZZAL: In '80, yes.

ALLEN: How many females came then?

ROSS-NAZZAL: Two, Bonnie [J.] Dunbar and Mary [L.] Cleave.

ALLEN: Good memory, good memory.

ROSS-NAZZAL: Tell us if you would, was there ever any discussion about working with professional women? There weren't many professional women onsite at JSC, and most of you had worked mainly with women as secretaries. Was there ever a discussion about, "This is how you should treat women"?

ALLEN: No, but there were some female scientists on the site. Carolyn [L.] Huntoon was one, and she was right near the top. In the life sciences labs [laboratories] there were professional

females, and also I think in the dietary places, in the food prep [preparation]. That in itself wasn't an experience one had to get used to, we were kind of used to that. Some of the physicians were female as well.

ROSS-NAZZAL: You mentioned that the Astronaut Office became more gentle with women coming onboard. There was some discussion about that when Sally was selected, and the press wanted to know if things were going to change in space. Men certainly couldn't open doors for women in space, but if they were going to follow protocol that was common on Earth, or if things were going to be just as loud and rambunctious and rowdy. Was there any discussion about that with having women flying?

ALLEN: No, I don't remember it at all. I don't think it would have been an issue to any one of those first six, because as they told me, "Joe, we've always been the only girl in a class. What's your point here?"

ROSS-NAZZAL: How did your crew deal with things like privacy?

ALLEN: Well, sort of like you do on a camping trip. In fact, it's very much like a camping trip. I don't know if you've ever done whitewater rafting, but many of the raft masters are females and quite good. Their day job might be physical therapist, but they're crackerjack. I've recently been on a raft trip, and the raft master will say to everybody, "Potty break, avert your eyes." She'll take down her pants and urinate over the side.

The zero-G potty does have a small little door. Every one of us used it to give the others some privacy and ourselves some privacy, so it wasn't a big issue. It's just like a camping trip. And we'd been training in some close quarters before, so space wasn't our first exposure to that. We'd been in the 1-G trainer for hours at a time, and other things.

ROSS-NAZZAL: You had mentioned that Anna Fisher was the first mother to fly in space, and there was a great deal of attention for that first. Was there any discussion about fatherhood? It doesn't sound like it based on what you've described from the press conference, but was there any interest in the rest of you who had children?

ALLEN: No, never. The press never picked up on that at all. John [H.] Glenn would have been the first American parent in space, but he was never asked about that I don't think.

ROSS-NAZZAL: I don't think so either. I find it interesting.

ALLEN: It's curious, it's curious. Almost as though the society expected the chief caregiver of a baby girl to be the mom, and the mom was going off on this dangerous mission. "How could you even think of doing something like that?" I think they were accusing her a little bit of being an irresponsible mother. Not in so many words, but you could almost read that into their questions. It didn't take her long to turn it back around, to her credit.

ROSS-NAZZAL: Tell me about the crew. It was quite different from the STS-5 crew. You guys were all born in the '30s, and then on this crew you have some members who are born during World War II.

ALLEN: Right, yes. Vance [D.] Brand, far and away the oldest member, the Marine fighter pilot; Vance and Bob [Robert F.] Overmyer were two Marines, then Bill [William B.] Lenoir, engineer, and myself, physicist. Bill and I were the first mission specialists ever assigned. Once, after George had had several glasses of wine, which was a frequent occasion, I said, "Mr. Abbey, I know why you put me on the STS-5 crew."

He looked at me and said, "Why?" I said, "I'm an impedance matching device between the world's smartest engineer and the two Marine fighter pilots." An impedance matching device is an electronics device that enables one circuit to talk to another; it's technical jargon. I did enable Bill to be able to talk to the Marines, because he was a hard guy to get along with and I think he probably was the world's smartest engineer. Mr. Abbey didn't even smile. He just looked back at me. But I think it amused him, and I think I'd uncovered a bit of a secret of that crew selection.

[On STS 51-A] with Rick and Dave and Dale—professional Navy people—Anna and myself, I was probably the oldest on the crew. The others were probably all about the same age. I never thought about that so much, but we fit together very well. We really got along famously, and we will forever be the fastest of friends, no question about it. Several times we've been up to Maine and just hung out together with the others that have gone up. We really have good fun together.

ROSS-NAZZAL: I have just a couple more questions. When these first women were selected, what role do you think they played in laying that path for future selections of women, and even the women test pilots who came along much later?

ALLEN: They came in as professionals, trained as professionals, and flew. Over the years I sat on several selection boards, and I'll say this for the selection boards: we really, to a board I think, had uncommon success in selecting good people. Not the world's most brilliant or the world's most talented, but very reliable, well-focused individuals. I don't know of an exception. They fit right in, and then when they performed exactly as earlier astronauts had performed, it just made the whole thing a nonissue going forward, a total nonissue.

Did it blaze the trail? It sort of did. Did it pave the way? I think the way had already been paved when NASA caved in and said, "Well okay, maybe we should take some females." I even think NASA itself had become a bit more adult, and clearly it had when they began to take some scientists. Although initially I think that the National Academy of Sciences had put NASA under huge pressure because NASA was trying to articulate the reason for going to the Moon is scientific. Then the science community said, "Well, where are the scientists?"

The reason for going to the Moon was a weapon in the Cold War, period. Make no mistake about it, that was the reason. That was the underlying reason for the Apollo program. But then the public affairs officials had to put additional compelling arguments on the table, and they came up with science—which was a good argument, but NASA would have been very happy going to the Moon with test pilots and never thinking a thing about it until the National Academy started getting involved. There were hearings on the Hill, "NASA really should have

some scientists," and NASA did take some scientists. If you look at the mix right now of space flyers, over half are scientists aren't they?

ROSS-NAZZAL: Probably, there's probably more mission specialists now than there are pilots.

ALLEN: In the olden days, if you wanted to be an astronaut, go become a test pilot, period. Now if you want to maximize your chances, probably become a scientist. Although who knows, since we're not using astronauts anymore.

ROSS-NAZZAL: Yes, big issue. What impact do you think that the selection of women had on NASA or the Shuttle program?

ALLEN: None. Well, the fact that females were flying in this remarkable flying machine may have given those that built it a certain feeling of satisfaction. It really was a national transportation system to take humans and cargo to space, and it could do it. I'm sure they felt good about that.

ROSS-NAZZAL: I was curious about your time as AA [assistant administrator] for Legislative Affairs. Were you kept in the loop at all—since you were an astronaut in management—about what was going on at JSC?

ALLEN: Not much, but I was still on flight status. Chris [Kraft] had said I was, so about every three weeks an Air Force officer would come up from Langley Air Force Base [Virginia] and

bring an Air Force T-38 [aircraft], which I would then fly. That Air Force officer was a man named Fred [Frederick D.] Gregory. He later become an astronaut and the deputy administrator of NASA.

Was I aware of what was going on at Houston? No. It was a very interesting assignment. At JSC there were lots of things that were done and there was no reason for it, it was just a government regulation. I got up to NASA Headquarters and I began to realize, "Oh, that's the reason for that regulation, and that's the reason for that." It was very educational to me, extremely educational.

One thing I learned was that every piece of mail that NASA gets from a member of the Congress or the administration is to be officially logged in a log at NASA Headquarters. While I was still just a journeyman astronaut in Houston, I had been detailed to the White House in 1972 to an office of a man named John [D.] Ehrlichman. [President Richard M.] Nixon had gotten very upset with his science advisors, he'd fired them all, and the White House was without any technical expertise on anything. The President said to various administrators, "Send me a couple of technical people." Dr. Fletcher sent me to the White House to work, and I worked in the old executive office building.

John Ehrlichman seemed increasingly preoccupied because Watergate was starting to unfold. I became very good friends with a man whose name is Dr. Frank [Franklin R.] Gannon. Frank Gannon was a White House fellow, as was his girlfriend, [L.] Diane Sawyer. It was Frank and Diane that went with the Nixons to California when he resigned. I told Dr. Fletcher, who had brought me up here when the Watergate got so thick, "Dr. Fletcher, I'm not doing anybody any good here. Just detail me back to the Manned Spacecraft Center." He said, "Okay, I agree." So I went back.

That July, when Watergate was really boiling, at the Paris Air Show the Russian supersonic transport tried to do a pull-up, and it stalled and crashed, killing several people. It was an unmitigated public disaster, a huge black eye to the Soviets. I'm not sure they ever built another supersonic transport. It was terrible.

I wrote a letter to Dr. Gannon in the White House. "Dear Dr. Gannon, The White House seems increasingly pressured. Fortunately, I'm in a position to offer you a different job"—he was in the public outreach and public affairs for Nixon—"the publicity officer for the Russian supersonic transport has just become available. Would you be interested?" A week later, I got a letter back in our mailroom. Our mailroom often just opens mail and even signs your name if you want, but I said, "No no no, I'll open my own mail." I got a letter back that came from the White House that had been opened, which really surprised me. I didn't know why, but I later learned. I opened it.

"Dear Dr. Allen, The President has instructed me to write to you to tell you he did not find your letter the slightest bit humorous. He has asked me to tell you to never write to him again, and he means it. Sincerely yours, Dr. Franklin R. Gannon." It was signed on White House stationery. So someplace in NASA Headquarters, to this day there's a big black mark against me because you could read it and not have the slightest idea that this was written in humor. When I got to NASA Headquarters, I said, "Oh my gosh, this could be terrible," but I didn't do anything about it.

ROSS-NAZZAL: Were you at Headquarters when that hubbub broke out about the firing of the EEO [Equal Employment Officer], Harriett [G.] Jenkins' predecessor, Ruth Bates Harris?

ALLEN: I knew her, and I knew Harriet Jenkins. There was a guy there whose name was Peter Chen for a while, who was from Puerto Rico I think. Peter was a head EEO officer for a while and was brought to my office to meet with myself and my deputy, who was a very interesting lady. She'd graduated from St. Mary's College in South Bend [Indiana], and she is an individual I would call a "feminazi." She had been appointed to be my deputy by the White House.

She had worked on the campaign, and she had no experience at all. Her name was Judy [Judith] Cole. Extremely nice individual, but on the first day she had taken the NASA deputy [administrator], Alan [M.] Lovelace, up to meet a senator. She'd taken him over to the House [of Representatives] side, she'd taken him to the wrong side. I was not without my difficult assignments.

Dr. Chen had come in to sit down. Josie [A.] Soper, a wonderful lady who was at NASA Headquarters, a kind of aide to the NASA Administrators for years said—she always called me Dr. Allen—"Dr. Allen, I'll bring in coffee."

"Now Josie, you don't have to do it."

She said, "No, in this case, I think I should." She came in, said, "Dr. Chen, would you like coffee?" She went all around taking coffee orders.

I said, "Thank you, Josie."

"Dr. Chen, how do you like your coffee?"

He looked at her and he said, "Just like my women, light brown and sweet." I thought Judy Cole was just going to get up and choke him on the spot. This was from an EEO officer at NASA. "Light brown and sweet," isn't that terrible?

ROSS-NAZZAL: You have some interesting history.

ALLEN: I found that that was such an educational job to me, and I made friends that are still dear friends. Don Fuqua and I are best of friends, and he and I have served on a number of boards since then. He was the head of the Aerospace Industries Association for a decade after he left the chairmanship of the [Science and Technology] Committee. I made some very good friends, and there's some nice stories I like from those years.

Bill Proxmire had a person that worked with him a lot, whose name was Birch [Evans] Bayh [Jr.] from Indiana. [Birch Evans] "Evan" Bayh [III], his son, was the Governor of Indiana. There was a senator from Indiana for a number of years, recently left the Senate saying, "It's just a zoo. I can't do this anymore." Senator Bayh would always side with the chairman, and they would vote against NASA all the time.

I'm from Indiana, and it hurt my feelings. I did some research, and it turned out that the lady that ran his office had grown up in Rockville, Indiana, all 3,000 people. I knew Rockville, I'd grown up 40 miles away from it. Also from Rockville, Indiana, was a NASA test pilot whose name is Tom [Thomas] McMurtry. He was one of the test pilots out at NASA Edwards [Air Force Base, California]. A wonderful individual, who sadly very recently has suffered a stroke. Not unlike Gordon Fullerton, which I find extremely sad because the two of them flew a lot together.

We were about to do the [Approach] and Landing Tests. The *Enterprise* had been fitted to the top of 747 [Shuttle Carrier Aircraft], and there were some terrific photographs of the *Enterprise* and the 747 flying in various places. I got one of those, a great big photograph, and I took it up to Senator Bayh's office and unwrapped it at her desk.

She said, "Oh Joe, I don't think the senator wants this." I said, "Martha, this is actually for you."

She says, "For me? Why?"

I said, "I think you know the pilot that flies the 747. His name is Tom McMurtry, and he's from Rockville, Indiana."

She said, "Tommy McMurtry?"

I said, "Yes."

She said, "Golly, I remember when Tommy's daddy wouldn't let him drive the Buick." That picture went up on the lobby of their office, and the senator never voted against NASA again. That's how politics is done. I have many happy memories from those years and from the way that NASA Headquarters works.

We were to land on Mars on the Fourth of July [in 1976], but there was a dust storm on Mars so the first Viking landing was delayed about 20 days. When the landing time was decided—by the way, the individual responsible for setting that was a guy named Tom [A. Thomas] Young, who later became the president of the Martin Corporation. He was a NASA Langley [Research Center, Hampton, Virginia] aerodynamicist and just a fine gentleman, a real leader of people. He was involved in the responsibility of when are we really going to land?

This was decided in an Administrator's meeting. I raised an objection because the next day we had our yearly hearing in front of Senator Proxmire when they were going to mark up the appropriations bill. I thought it showed a little too much self-confidence to try to land and possibly lose the spaceship the day before Proxmire marked. NASA, in its halcyon days, decided, "No, we know what we're doing. We're going to go ahead." NASA did do it, and the landing was extremely successful.

The next day when I came into the office to get ready to take Dr. Fletcher and Dr. Low up for the hearings, Tom Young himself was in my office and he had a small box. The box was filled with smiley faces, and underneath the smiley face it said "Hello, Mars." I took those pins up to the Hill, and Senator Proxmire himself pinned one on, if you can believe it. He was justifiably proud and said so, said that was an incredible accomplishment. Go figure.

ROSS-NAZZAL: Did you ever get a sense, when you were working with Anna, that she approached things from a different way than some of your male colleagues, or did you notice any gender difference?

ALLEN: You know I couldn't, but I don't think I would even have ascribed it to gender. She's a physician, and physicians think about things differently than a physicist or than an engineer. She's a very well-educated physician and had I noted a difference I would have ascribed it to that, not to a gender.

I have one more about Anna that's quite a good one. Because of our successful rescue of the satellites, NASA allowed us to accept an invitation to come to London and be entertained by Lloyd's of London. They gave us a great party, because they were the chief insurers of those satellites. We made them lots of money, a huge amount of money. They arranged for us to meet Mrs. [Margaret H.] Thatcher, the prime minister, at 10 Downing Street.

That was a memorable meeting. We were taken into her office and given coffee and cakes. She came over and sat down and said, "Thank you for taking time to come see me. I'm just thrilled to meet you, such a great mission. Anna, I want to start with you. Do you know how much we have in common? You and I were both chemistry majors." Oh my gosh, I had not

known Anna had been a chemistry major, nor definitely not Mrs. Thatcher was a chemistry major. Mrs. Thatcher made us feel so at home, in large part because of Anna.

The spouses would come, so Bill Fisher came on that trip. They would always have official meetings for the crew, and then there would be the spouse excursion. Some of our hosts over there were always surprised when Bill would line up with the spouses, and then they realized Anna was on the crew. It was a bit of a shock to some of the Brits. Bill had the time of his life; he was more than up to the occasion. He was with Dolly Hauck and Bonnie Allen and Sherry Gardner, who later became extremely ill. Dale is remarried, very very happily remarried. But that was another interesting female [connection], something that I would not have thought of.

We were given the Lloyd's of London medal for [Meritorious Service]. That was given to us in the Oval Office by the Ambassador from Great Britain, but President [Ronald] Reagan was there standing by. Jim [James M.] Beggs was the Administrator, and before the medal was presented to us, Mr. Beggs said, "Mr. President, first of all, I have something I want to give to you. These are your spurs that were taken on the very famous Space Shuttle flight with Sally Ride, and here they are back to you." I'm standing beside Rick. I nudge him in the ribs and kind of smile. Rick rolls his eyes. He was the pilot on that flight, and Beggs didn't even remember it.

The Ambassador gave us the medals, and he said, "Dr. Fisher, you probably suspect this is the first medal given to a female. It's not. Let me read to you an account of an earlier one." He had a yellowed piece of paper, taken probably from the *London Times*, from about the 1870s or '80s. It's an account of a ship that is saved singlehandedly by the captain and his wife in spite of terrible storms. Other seamen are lost, but they lash themselves to the masts. They save the ship and bring it back to England. They, the both of them, are awarded a Lloyd's of London

medal. She, the woman, was an American. So there are two American females that have that, and I think they're the only females and both American. Isn't that a funny story?

ROSS-NAZZAL: That is funny.

ALLEN: Rebecca, you have a question?

WRIGHT: You've been talking about the changes or the differences in the Astronaut Office when the women came, but the biggest change during that time period was the fact that you were moving into a different spacecraft, the Shuttle.

ALLEN: Exactly.

WRIGHT: Do you feel that contributed to some of the changes in the Astronaut Office because everyone was having to switch to a different type of spacecraft and learn those systems?

ALLEN: You know, I'm not sure. The veteran astronauts had learned how to fly simulators for Mercury and then for Gemini and then for Apollo and then for the lunar module and then Skylab simulators and then Apollo-Soyuz docking simulators. Now they are learning quite a new simulator, the moving base for the Space Shuttle, which is an airplane-like machine. That's a very different kind of a machine. You're not going to land on the water, you really have to reenter it. And you may have to reenter it in an abort to orbit or return to Earth as well. It's

much, much harder to learn how to do that, so there was an enormous amount of learning on the part of those that were going to fly it.

How do you do the housekeeping and operate it once you're there? That falls to the mission specialists, and it was very Skylab-like in that way. I don't think that was much different. It's an interesting question, and it may have disguised the fact that there were now females there as well. Maybe some of the change that we attributed to a different machine should have been attributed to females in the office. But then again, maybe not. Hard to know, I don't see how one could parse them apart.

WRIGHT: You have [sparked] my curiosity [about] why you got three Golden Fleece Awards.

ALLEN: You know, I can't remember. One of them is for the scientists—these were principal investigators. They were not NASA scientists, but they were being funded by NASA money [to study] the clenching of the teeth as an indication of inner frustration or anger. It seemed kind of dumb to me too, but NASA was funding that.

I think another one was for the search for extraterrestrial intelligence. Proxmire came down on that as totally ridiculous, the first NASA funding of the SETI [search for extraterrestrial intelligence] stuff that was going out to the West Coast. I don't know what the third one was, I forget. So does the world.

I'll tell you one more story, and this is more about me and it may not even be that flattering. I really did enjoy working on the Hill, and I began to realize that the way you do politics is learn everybody up there, literally everybody up there. The lowliest of secretaries can be as useful to you as the chairmen of the committees, and they often were.

There was some considerable intrigue. I had an individual who worked for me that was Latino. His name is Joe [Joseph] Del Riego, and later became very successful with Hughes [Space and Communications Company]. He's from California. He was unmarried, extremely good-looking, and he had more than one girlfriend on Capitol Hill. We had G-2 information, private information, as to what was happening in the secret markups before the markups were finished, and they were coming to us from Joe Del Riego's various friends on the Hill. The guy was invaluable.

He was subjected once to sort of an unkind remark, but it was not meant to be unkind. Jim Fletcher made the comment, "Joe, you're extremely good at your job. You know, as I think about it, you're Latino. We hired you before we were supposed to hire Latinos." Fletcher was kind of surprised that Joe had come in. He was lucky; he could speak fluent Spanish. Poor Joe wasn't given the full credit he deserved by Jim Fletcher.

We got a new Administrator, Dr. Bob Frosch. He had come to us from Woods Hole [Oceanographic Institution, Woods Hole, Massachusetts]. I was to take him up, maybe his second day in the office, to meet the chairman of the Space Committees. I was going down the Rayburn Building big hall, and out came Helen Lee Fletcher, who was [Olin E.] "Tiger" Teague's office administrator. She was a wonderful lady. She was kind of a Tugboat Annie of a lady, older than I, not by much.

She said, "Joe, I haven't seen you forever." She put her arms right around me and kissed me on my mouth. It was sort of a social kiss, but right on my mouth. Then she stepped back.

I said, "Helen Lee, I'd like you to meet Dr. Frosch, the new NASA Administrator."

"Oh Dr. Frosch, the chairman's expecting you. Yes, please come right in." She turned and scurried in.

I turned to Dr. Frosch and said, "Dr. Frosch, my job is to get to know everybody on Capitol Hill. I'm very good at my job."

He was not very particularly amused. I think he thought that was inappropriate. I don't think it was, but I thought, "Oh boy, I'm getting off on a weak foot here." But he had a good meeting with Chairman Teague, so I suspect he forgot about it.

As you realize, it's fun for me to think back again. I have many happy memories, many, many happy memories. You've had the interesting assignment of thinking about a great agency of the world during the golden years of the agency, and I had the good luck of being there during those golden years.

ROSS-NAZZAL: Well, I thank you for your insight and for sharing part of your morning with us.

[End of interview]