

**NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT
EDITED ORAL HISTORY TRANSCRIPT 3**

J. MILTON HEFLIN, JR.
INTERVIEWED BY JENNIFER ROSS-NAZZAL
HOUSTON, TEXAS – 15 AUGUST 2017

ROSS-NAZZAL: Today is August 15, 2017. This interview with Milt Heflin is being conducted at the Johnson Space Center for the JSC Oral History Project. The interviewer is Jennifer Ross-Nazzal. Thanks again for spending some time with me this afternoon, really appreciate it.

HEFLIN: Glad to be here.

ROSS-NAZZAL: I wanted to ask you about your time as deputy manager of the JSC Projects Office. I really couldn't find anything about that organization.

HEFLIN: Where to start? Interesting. When I talk about some of this today, I am not positive why certain things happened the way they did. I wasn't privy to some of that, but I'm going to give you an opinion or two. I'll try to couch it as an opinion of what I think happened.

There was a time I think perhaps in the Agency, certainly here at the Johnson Space Center, where leadership wanted to try to find a way to have some consistencies in how all projects at the Center went about doing their basic boilerplate business, from a budget standpoint, reporting standpoint.

The idea came along to establish a JSC Projects Office. I think this was when George [W. S.] Abbey was Center Director. It's very close to that time. I think it's when George was

Center Director. Larry [Lawrence S.] Bourgeois, former flight director and former chief of the Flight Director Office, was asked to be the manager of this Office.

I was in the Flight Director Office at the time as a flight director, and I was at the point where I think it was time that I considered something else. Larry asked would I come over and be his deputy. Said, "Sure." I'd been in Operations all my career, so give me a chance to grow in another area. So I came to work for him.

At the time there were three projects under the JSC Projects Office responsibility. One—and it's a little bit shocking for me to remember this—was the Orbiter Project Office. Jay [H.] Greene was the manager, I think, at the time. Another—don't remember the name of that particular office, but it was the office that was dealing with establishing relations with the Russians, relative to what was in our future with working with the Russians. Then the other project had to do more with some of the crew systems stuff particularly EVA [extravehicular activity] capabilities, hardware, and budgets. Those were the three areas that would go under Larry Bourgeois's responsibility.

It was a very awkward time. I'm going to fast-forward to the end of this because it will perhaps be clearer as I mumble my way through this. Probably one of the best things that ever happened to the JSC Projects Office—and it's the first time I'd been involved in anything like this—Larry Bourgeois and I decided that this Office didn't need to exist.

ROSS-NAZZAL: That's probably why I couldn't find much information.

HEFLIN: This Office did not need to exist. It was because, I think, of the fairly painful year we went through in trying to take these three different projects and mold them such that they would

all conduct their business sort of the same way. It just wasn't working. Let's face it, some of it had to do with the people involved—even on our side, Larry and my side—but some of it had to do with the players involved who were involved in these other projects. It was short-lived. It was at least a year, I'm thinking, and then I'll just say we had the guts to stand up and tell Center management that we don't think this needs to exist. So it went away.

ROSS-NAZZAL: Management was fine with that decision?

HEFLIN: Yes. Yes, they were. I know we're going to cover this maybe even next, but one thing that came out of this was the EVA Projects Office, came out of doing away with the JSC Projects Office.

ROSS-NAZZAL: How did that come out of it? I know you were deputy manager for EVA Integration. I was wondering how that also went through and if that changed things at all.

HEFLIN: Yes, I was. As it turns out, the smaller office that was under the JSC Projects Office umbrella—the smaller office and its leader was not at all happy that in the head office, the JSC Projects Office, there was a position “EVA manager.” That didn't go over very well, either.

I would say the most awkward period of my career started during that time and lasted until we decided that we no longer needed the JSC Projects Office then going and falling into the EVA Project. It's interesting, Jennifer. My first journey from Flight Operations—all my career over to the nine-story Building 1—my first journey in existence over here was pretty rough.

ROSS-NAZZAL: I can imagine.

HEFLIN: It was pretty rough. I learned a lot. Having a title in Larry's office of deputy manager for EVA. The other person here who had the other office relative to EVA stuff, I felt for him. It was very awkward. We both had some rough times. It was professional rough times; nothing got ugly about it. When we disbanded the Office and eventually the EVA Projects Office was established—as I look back on that time, I felt pretty bad for him. Just knowing what he was doing, he was an extremely capable man and doing super work.

I'm at the point where maybe segueing into the EVA Projects Office might help tie some of this together. So we disbanded that Office. Before I get there I took an off-ramp, because it's very important as to why I became the deputy manager of the EVA Projects Office. The JSC Projects Office went away, so I was out of a job. So was Larry. On a Friday I got called up to Mr. Abbey's office, and he said, "Milt, I got something I want you to do." He wanted me to be the deputy of the—I'm not sure what it's called today, nor am I sure of the exact title back then. It was the IT [information technology] directorate.

ROSS-NAZZAL: Now it's the Information Resources Directorate. I'm sure it was something else at that point.

HEFLIN: The directorate that deals with all of the IT sort of stuff. There was a wonderful lady running it at the time, I wish I could remember her name. I racked my brain coming over here trying to remember her name. She was the director and George wanted me to be her deputy. It's

a Friday, so I asked George, “George, can I think about it over the weekend and tell you on Monday?”

He said, “Well, sure.”

When Mr. Abbey wants you to do something, first of all that’s pretty important, and you got to be careful about how you tread at that point. I thought about it over the weekend. I thought, “I’m really not into this sort of stuff; this isn’t really me” especially information technology. But to his credit, he was wanting to see me advance, become increasingly involved, have greater leadership roles. I appreciated all that.

So I came back in on Monday prepared, ready to tell him that I would rather not do that. In fact, something I said either Friday or Monday was probably exactly what he wanted to hear from me. I said, “George, I know absolutely nothing about this.” I thought about that. I thought, knowing George and how he is really good at looking at a problem. We all know George and how he operates, but by golly, that man was brilliant when it came to solving problems in all kinds of environments. So I’m thinking he wanted me because he was aware of my operational savviness. The fact that I was the person who got things done.

He probably thought you don’t necessarily need to know much about the details of this thing. I just need somebody who can have a perspective to help get things done. I played right into his hands by telling him, “I don’t know a thing about this.” I told him that and I said, “I would rather not do that, but Mr. Abbey, would you consider me as the deputy manager of the EVA Projects Office?” He said he sure would.

He had something else in mind for me, but I was able to [ask to serve in a different organization]. In fact I really thought that might be a really cool thing to do in the EVA Projects Office. So I asked him if I could do that. Don [Donald R.] McMonagle was the first manager,

and I knew Don well. Had worked with him when I was a flight director and he was a commander and a pilot on the Shuttle. So I knew Don. I didn't ask Don ahead of time, but Don was fine. That is how I became the deputy manager of the EVA Projects Office.

ROSS-NAZZAL: That's a good story.

HEFLIN: So here we are. Why did we need an EVA Projects Office? A good sound bite answer is the fact that we had this wall of EVAs in front of us to build the [International] Space Station, and that was an awful lot of EVAs. Going to take a lot of people, a lot of hardware, a lot of time. Much, much more than what we would do periodically on a Space Shuttle flight, [where] every so often [we were] doing EVA.

I think the real reason that one was established—and this was another awkward organizational trial. A number of these things I'm talking to you about today are things that I have thought about over the years when I was done doing this job that I didn't particularly think of at the time.

The discipline of EVA here at the Johnson Space Center existed in several places. The Engineering Directorate from a hardware standpoint, Mission Operations from an operations standpoint. Flight Crew had their cadre of EVA folks. Here in Building 1 was this EVA-related Crew Systems office over here. So there were four different places that EVA had a hand in what was going on.

The EVA Projects Office, what the deal was was to try to get our arms around all of that, and make some changes from a standpoint of the organization, move some people around, but find a way to make sure that we had all the thoughts and resources for trying to get ready for the

wall of EVAs under control here at the Johnson Space Center. The two areas that I'm most familiar with, Engineering and Flight Operations—clearly good people doing really good things in both areas, but [both] had different ideas on how to go about getting certain things done. That sort of thing had to be resolved so that we would end up, hopefully, with an organization that could really find a way to focus all that energy to be sure that we're going to be able to meet the challenge of the wall of EVAs.

ROSS-NAZZAL: Can you explain what you mean by Engineering and Flight Ops had different [ways] of accomplishing this goal?

HEFLIN: I think a simple way to answer that is in Flight Operations the major focus is getting the job done. In the Engineering side of it they have that idea too, getting the job done, but they also, to their credit most of the time, like to branch off into other areas, R&D [research and development]. Flight Operations is not R&D. Flight Operations is doing the job. Engineering is doing the job too, but they like to play in the R&D world. And they probably still do today, and that's not all bad.

It's an interesting thing I've watched over the years. The Engineering Directorate here and that talent over there has done marvelous work over all these years. But somehow you need to have a referee and you need to have a boss along the way that can figure out, "Okay, look folks"—and I'll pick on the Engineering side just a little bit—"there comes a time where you've got so many people and the resources are limited. We need to get this done, so we need to be sure you are applying your resources and your time to meeting this goal." That's the difference that I see.

ROSS-NAZZAL: That makes sense. Just curious about that comment; thought it was interesting.

HEFLIN: Yes. In other words, Engineering could go do all the stuff they needed to do to come up with the wild ideas. Flight Ops can figure out how we're going to use it. The crew is going to get trained for that. But you had to have somebody that was looking ahead to the future and saying, "Okay, five years from now I got to have 25 suits. How am I going to get those done?" All that came under the purview of the EVA Projects Office. We had contractors building our spacesuits, and that was their primary objective at the time, too.

Don McMonagle was the first manager. Greg [Gregory J.] Harbaugh took over, I don't remember exactly when. I served as the deputy for both those guys. That office was broken up this way—it had an EVA Integration and Operations area. Interesting, there's the word operations. That didn't sit too well with the Mission Operations side.

We had Jim [James V.] Thornton who we brought over from Mission Operations. We basically took a subset of people from Engineering working EVA [and] from Mission Operations working EVA. We brought them into this office with the idea being that in that office they can help Engineering and Mission Operations be a part of this bigger picture to get all this done. That was EVA Integration and Operations. We had, looks like, about eight or nine people. We had EVA hardware development, so there's the engineering side. We took some people out of Engineering and brought them over here to be the EVA hardware development, again tying back to Engineering. We had an advanced R&D group with two people that could focus on the wild and woolly things that might come later. Then we took a handful of people out of Business Management and brought them into the office. We took somebody from SR&QA [Safety,

Reliability, and Quality Assurance] over here as well. So that office with that makeup—and some of the bits and pieces were some of the stars—from the other organizations, [we] brought them into that office to focus that entire energy of getting ready for the wall of EVAs building Station basically in one spot.

It didn't work perfect. Operators are going to be operators, because I've been one. An engineer that's really good at developing and coming [up] with wild ideas on how to engineer something, they're always going to do that too. I don't care where they are, what organization they're in, they're going to still be that way because that's the talent that they have.

So if you take a person that's really, really good in engineering and take him out of that and put him into another office, well, he's still pretty good at that. What or she had to do at that time was to be looking forward a great deal, instead of looking at the here and now and what's coming up shortly. They had to really begin to think years downstream on how we get this done.

I was the deputy manager of that and learned a whole lot. I think that was probably the first time [I was] a manager except for the projects I had when I was in Landing and Recovery, when I was a project engineer, sort of, and I had my own little thing that I did. I didn't really control people back then. So this was probably the first time that I really got my taste of being a real manager dealing with people.

I learned during this time that not everybody's cut out to be a people manager. Over my career I think I ended up figuring out that I wasn't as good at that as I thought I could be. The lesson that I learned and I pass on to anybody today that asks me, is that if you're going to come to work and you're going to be in some discipline where you're pretty doggone good at what you do, [sometimes they want to make you a manager]. It's interesting that whenever you're pretty good at what you do—whether it's in operations or technical, whatever it is—and you're

recognized as being really good at doing that, sometimes they want to make you into a manager. They want to kick you upstairs a little bit.

I tell people today, “Well, okay. A good thing about that is you’ll probably get more pay by doing that.” Unfortunately, sometimes that’s the only way you’ll get more pay. Over the years I’ve struggled with that because you ought to have some kind of a ladder that people who are really good at what they do technically can make just as much money. We struggle with that.

If you want to be an office manager and have a bunch of people, the most important thing you’re going to have to do is never get behind on any of the people issues or problems. That was, I think, one of the things that I learned the most about. When you have a people issue of some sort, you need to deal with it. You need to really deal with it right away. It took me time to get to that point. [That]’s a long way of telling you that was probably my biggest lesson learned in being the deputy manager of the EVA Projects Office.

ROSS-NAZZAL: Want to elaborate on that people issue? Or is it too—I don’t know, too sticky? Too raw?

HEFLIN: No. There comes a time when you’ve got to tell somebody, “I want you to do that; you need to get that done. You need to stop doing this. I want you to march down the hallway there, go into that person’s office. I want the two of you to go down here, I want you to sit down, I want you to talk.” Those kind of things. As a manager you learn when you’ve got these little conflicts and things going on like that. I wasn’t as good at that as I thought I would be, making that happen.

That's the kinds of things I'm talking about. You've heard this too I'm sure, "People is hard." You've heard that. That's a little catchy phrase, "People is hard." By golly, that's right.

ROSS-NAZZAL: Not everyone can be a manager. Some people are better at it than other people, that's for sure.

HEFLIN: Yes. My message to anybody who's looking to become a manager, I make sure [to say], "Okay, you are now the chief of something, and you're doing it. The technical little things that you were really good at, you got to quit messing with those. You got to focus on the people." You got to do that, and the worst thing to do is to recognize, "I got two weeks to get 12 performance appraisals done here in my office." You got to have a way throughout the year to keep notes, take records, write people's appraisals daily, weekly. You got to find a way to focus on your people so that you can be sure that they have all the opportunities that you've had.

ROSS-NAZZAL: I understand. That all makes sense. When you took that position, you mentioned that one of the challenges you were facing was you needed 25 spacesuits. What were some of those other major challenges that you were facing? You knew that you had this wall of EVAs, like you said, but what were some of the other obstacles that you had to overcome?

HEFLIN: I think probably the biggest obstacle was we needed to be able to get people ready to do this. We had to train them. That ended up being a pretty good story because we ended up with the Neutral Buoyancy Laboratory [NBL].

ROSS-NAZZAL: Yes, I was going to ask you about that, if you want to talk about that.

HEFLIN: I mentioned the hardware that you had to get built, the spacesuits, tools. “Okay, we’re going to build Station, we’re going to take this and put it with this. What do we need to get that done?” Those are the things you had to decide. “What are the unique tools I have to get made in order to be able to do this? I’ve got to build up an Operations group that is ready to take on this and have enough people to be able to work in training the crew.”

They’ve got to get a cadre of folks that need to be picked that are going to be eventually part of the crews either on Shuttle or on Space Station—initially on Shuttle. As we get the parts up there and put it together, we’ve got to get that done. It’s anything to do with EVA from a hardware standpoint, operations standpoint, people support standpoint, facilities standpoint. All that stuff had to be done.

[NASA] Marshall Space Flight Center [Huntsville, Alabama] at one time had a water tank over there for Skylab, primarily to get ready for the Skylab operations. They had a water tank where we’d done training with our astronauts, and we had some of our spacesuits and hardware over there to prepare for missions. Even early Shuttle missions, we had the water immersion test facility, the WETF [Weightless Environment Training Facility], in Building 29 over here, which was the old centrifuge building. We had that smaller water tank over there to use.

Along came the Neutral Buoyancy Laboratory, and that was huge. It’s huge anyway. I don’t mean huge, that’s a big place. Having that capability, that did it. I think that allowed us to be able to have the resources and the places to get all this done at one time. That was an

awkward period, too. When I was in the EVA Projects Office I had the wonderful job of, as a JSC person, trying to get the Marshall Space Flight Center facility over there shut down.

ROSS-NAZZAL: That's an awkward position to be put in.

HEFLIN: I said shut down just for emphasis. We recognized we couldn't have resources to support two places. With the Neutral Buoyancy Laboratory coming on [line], we got to get all that stuff that we've supplied to them, because they had spacesuits over there. We had to get them back here so we would be able to get them refurbished and being able to rotate them in and out of the training system. I had the job of being the guy from JSC to effect that, make it happen. Actually it wasn't as bad as I thought it was going to be. I had worse times here at JSC. I'm not sure how all that happened, but it worked out much better than I thought. Going over there, meeting with the people, explaining what we need.

That is perhaps one of my strengths that I've had throughout my career. Maybe it came out of fear in a way. I recognized a long time ago that I can't do everything, and I can't be the [go-to] guy all the time. I have got to figure out a way to recognize who are really the folks that get things done, and I need to find a way to get them on my side. I got to find a way to get out of their way and let them get their work done. That was the way that I went about this thing with Marshall. I developed some relationships with folks over there, good relationships, and they understood. They didn't like what was happening, but they understood. They worked with us, and we eventually got that done, got that hardware stuff moved over here.

ROSS-NAZZAL: There was an article in the *Roundup* talking about your role in the Operational Readiness Inspection committee for the NBL. Wonder if you could talk about that position.

HEFLIN: Jerry [L.] Ross was the chairman, and I was the cochairman. That was a hoot. That was really a nice assignment to have. Gosh, I don't remember the number of meetings that we had, but it was basically a review board that would stick our head into how they were doing getting ready to bring the NBL online. We would have sessions with the team. They would present how they were getting things ready, things being the system for the breathing hardware out there, for what they would use underwater, all that system, the tank itself. The whole building, everything in the building, was reviewed by the Operational Readiness Inspection Team.

It went very well. I'm trying to think of the time period—I think we were able to get it online when we said we would. We didn't miss [the deadline] by much. Either we hit it pretty close or we were just a little bit late but not much, getting the approval to start using it.

ROSS-NAZZAL: I understand that the film *Armageddon* was used pretty soon after. Was that a driver as well?

HEFLIN: One of the tests that we did, Jennifer, was—I wish I could remember the exact number. Typically EVAs are done with two people, but the system over there at the NBL was able to get—oh gosh, I want to say, and I could be wrong with this. As big as that place was, they had stations along the way. You could be down here at this end with two people in the water and all the air supply stuff they needed there. Then in the middle here's another station. You could

have another twosome going on. You could have one down this end. So they actually had, I'm thinking, at least three places at each of these [stations]. They had enough places to get quite a few people in the water at the same time.

Armageddon, the fact that they were also doing some stuff in there for that, we decided that a really, really good test for this system was, "Let's run a test to where we have got every umbilical that can supply air to a crewman in the water." I think we ended up with nine people in the water at a time. There's a picture over there in the NBL, Jennifer, of them all lined up together. I could be wrong, maybe more than that, but at least nine. We did a stress test on that. We had everything cranking over there at the same time to see how well it would do. It came off very, very well. The *Armageddon* piece I don't really remember too much about, but that activity was going on as well, not necessarily during that particular time when all nine or so were in the water. The fact that they had to deal with that, all the stuff that was there for *Armageddon*, it was just a burden on them. So that was a real stress test that we did.

ROSS-NAZZAL: I didn't want to miss this opportunity to ask you—you of course were the lead flight director for the Hubble Space Telescope repair. Did that influence in any way the way you approached this position? Because you had done so many EVAs for that flight and really focused on that aspect for the mission.

HEFLIN: I suspect that my experience with EVAs during Shuttle, being in the EVA Projects Office, being very much involved with trying to combine our resources, i.e., get the stuff from Marshall over here—probably just natural to be part of that. Jennifer, I can't remember. When I did that I can't remember what job I was in, because the ORI [Operational Readiness Inspection]

cochairman was just a part-time thing. So I can't remember where I was at that time, whether I was chief of the Flight Director Office, I don't know. Do you remember the year that that was done?

ROSS-NAZZAL: That was '97. So you were still in your position at the EVA Projects Office, because you went back to MOD [Mission Operations Directorate] in '98 to be deputy chief.

HEFLIN: If it was '97 then I was still over in EVA Projects Office. So I think that answers the question. Jerry Ross was picked because of already his interest in EVA and experience in that, then EVA Projects Office was going to supply the cochair. I just became a natural to do that I think, but the fact that I had the Hubble experience didn't hurt, I'm sure.

ROSS-NAZZAL: I'm sure.

HEFLIN: Yes, I'm sure it didn't. Because that's where we really—as somebody used the term recently—EVA stuck its head out of the closet for the first time, with the five back-to-back EVAs that we did.

ROSS-NAZZAL: Yes, there weren't many, then all of a sudden there was a huge jump. Were you looking at anything like virtual reality? I thought you had used some of that on STS-61. Was that also another issue you were looking at?

HEFLIN: Yes, virtual reality, what a marvelous tool. Yes, man, yes. In fact, I think the crews really fell in love with that. I can understand why. That was well done. The little outfit, the guys and gals that ran that thing, that lab was over, I think, in Building 9. It was one of those things that you walked in, and it looked like my garage. It was just helter-skelter. They had a small team over there that was remarkable in what they could get done, on a very slim budget, very slim budget. You talk about a group of people that got stuff done, they were really a great group.

ROSS-NAZZAL: What are your memories of that first Station mission? Jerry Ross was on that mission, STS-88.

HEFLIN: Gosh, you tell me.

ROSS-NAZZAL: I just wondered if it made an impact on you. I know you've been involved with so many missions. After a while it's probably like everything else, [it] just kind of melds [together] unless there's a specific memory.

HEFLIN: Jennifer, I don't know that I had any—occasionally I get asked a question like that and it's like I don't know that there's a point that I pause and I say, "Wow, look at that. Look where we've come from." I don't really remember doing those things. So I don't have a good answer for that.

ROSS-NAZZAL: You decided to go back to MOD, and became deputy chief, which I find interesting based on our previous discussion about management. So you must have felt pretty capable of handling management issues.

HEFLIN: Feeling more capable. The thing I told you about a while ago, I think in EVA Projects Office I learned a lot about that. I don't think I recognized that I learned a lot about that until later. Jeff [Jeffrey W.] Bantle was the chief of the Flight Director Office, and he asked would I be interested in coming back to be his deputy. It's interesting—I alluded to this a while ago. For quite a while after that, when I got over there, people probably got tired of me saying this, but often I said, "I escaped Building 1."

ROSS-NAZZAL: Then you came back later.

HEFLIN: Yes, I came back later, but I escaped it for a while. Looking at my career, it's obvious. A number of moves that I made weren't my idea. They just came along. Larry Bourgeois asked me would I come over and work in the JSC Projects Office, George asked me to do something, and I asked him could I do something else. I got away with it over there.

Jeff Bantle asked me would I come back. To be asked to come back and be deputy chief of the Flight Director Office was like, "Oh man, I can't get there quick enough," mainly because it was the Flight Director Office. At the time I didn't have aspirations of being the chief, but I wasn't dumb either. I knew that, "I come back to be the deputy, maybe one of these days I can run the office." That's probably the only management job that I actually thought that I would really like to do someday, be the chief of the Office. Jeff asked me to come back, and I did.

ROSS-NAZZAL: What do you do as deputy of the Office?

HEFLIN: What do you do as deputy? In any business, in any endeavor, there are major things that you're dealing with, and then there are minor things you're dealing with. A lot of times the minor things can be many, and they can cause you more overhead than they need to. Jeff dealt with the big-ticket items. I typically paid attention to—I would call it noise. Any of the things where it looked like we had an issue here.

I'd walk down to the Flight Director's Office, sit down, close the door, and we'd talk about it. "Tell me what's going on." I'd give the person some ideas on how we might work this. Go over to the Astronaut Office, visit with some folks. If there was something going in Engineering, I could walk over there, get on the phone. I tried to take off of Jeff's plate any of those sorts of things, so I stayed pretty busy with that sort of thing.

I loved Mission Control, of course, so I would spend time sticking my head in during simulations, listening to our flight directors and the team working. That's pretty much what I did.

ROSS-NAZZAL: You ever spend any time on the MOD console?

HEFLIN: MOD console—what we call the Mission Operations Director—yes, I did that position. I didn't actually do that until I was chief of the Office. I don't recall sitting there as MOD until I was the chief. Jeff Bantle as the chief of the Office would do that. It's interesting. Once you've worked over there it's hard not to want to go back over there, especially during a mission.

It's really hard to serve as MOD, because you're hearing what's going on. You're thinking like a flight director, because you've been one. You're thinking like that, so as the flight director on duty is doing their job, you're sometimes second-guessing them. Kind of hard, because you want to stay out of their way. Turns out that's fine.

There was only one time in my career—in fact I was actually serving as MOD—only one time that I had to do something that I was really uncomfortable with. After the fact I had to talk to a flight director in a way that I really was not comfortable doing, because I was not pleased at all with what had been done. I sure won't tell you who that is, but I really, really was unhappy. Very unhappy. That was something I did not do easily or as well as I thought I could. Although in this case it wasn't hard at all doing it, in this case.

ROSS-NAZZAL: Some of that assertiveness training you took part in?

HEFLIN: Yes, there you go, right. It came late.

ROSS-NAZZAL: You mentioned that you started thinking that maybe you'd like to be chief of the Office. Is that something that all the flight directors come together, and they choose their rep? Or is that something you put forward an application and you're selected?

HEFLIN: Usually director of Mission Operations will start the process and [is] the selecting official. In that case one of my greatest mentors, greatest friends, rest his soul, Randy [Brock R.] Stone, was director of Mission Operations when I was selected to be chief of the Office. He selected me to run that Office.

ROSS-NAZZAL: What were some of your goals when you took over that office? Were there certain things that you wanted to see achieved?

HEFLIN: Interesting, in the office there are really two groups of flight directors. There are the certified ascent/entry flight directors. They believe that they're right here [demonstrates]. Then there's every other flight director who works the on-orbit stuff, and they believe this other group is down here [demonstrates]. So a little competition going on between the flyboys and girls, the ones who are involved in ascent and entry and those who are just working on-orbit kind of things.

So one of the things that I was interested in doing was to try to break that down a little bit. Typically, it was rare for a lead flight director to also be the ascent/entry flight director. But these people, they didn't just do ascents and entry. An ascent/entry certified flight director would work an orbit shift on flights, too. By being a lead, your stature is a bit above others, because you are the lead flight director. I never saw any friction between a lead flight director and all the other flight directors working that flight. I typically saw, if there was any tensions, it was between ascent and entry guys and gals and those that did the orbit stuff. That was one thing that I was after.

I wanted it to be easy for anybody to come in and talk to me. That was one thing I think I was fairly successful at. I don't think anybody had any problem in the Office, but I wanted to be sure that as chief of the Office I wasn't so distant, out of touch, that they felt inhibited coming in, closing the door, and talking frankly to me. I was successful in getting that done.

I was really fortunate timing-wise. I was fortunate to be able to be the selecting official for a new class of flight directors.

ROSS-NAZZAL: Can you talk about that?

HEFLIN: Yes. So I got to be the selecting official for a new class. It's an interesting story here. When we went over to talk to—I think Mr. Abbey was still Center Director. I and at least one or two others went over to talk to Mr. Abbey about the size of class that we wanted, looking at the future. I think we came to the number of six or seven that we wanted to select. We told [him] that, and George shook his head, and he said, "No, you need more."

ROSS-NAZZAL: That's not a bad thing, right?

HEFLIN: No, not a bad thing at all. Again, there's an example of how that man was in touch. We actually wanted more, but we thought well [we cannot ask for that many]. Perhaps we should have gone in with even more and then come down, but we lowballed it a bit. We ended up getting nine.

I am so proud of the outcome of this thing. Sometimes it's awkward to talk about diversity. This class was one of the most diverse classes ever, and that's the way it came out. Sometimes I think when you talk about these things or see how they came out, "Well, they had to hire so-and-so." You know what I mean, "They had to do that." No, that's not the case. I got to select the first African American to be in that position—outstanding. Our class was three ladies. Of the nine we had two with Hispanic background, and we had the first African American. I

really felt good about that, and that's just the way it came out. I was very happy for that. As far as being in the Office and being the chief of the Office, that's what I feel best about.

ROSS-NAZZAL: It's a pretty proud moment, seeing a very diverse group of people coming in.

HEFLIN: There's an article out there somewhere. The new class was interviewed by some magazine, and there's an article out there. I'll send it to you if you're interested if I can find it.

ROSS-NAZZAL: Yes.

HEFLIN: Part of it says—and I can't remember which flight director it was that was one of the first interviewees in the article. He said, "We came in the office"—I'm paraphrasing—"We came in the office for our first meeting, get-together. We all knew Uncle Milty. We came in and he closed the door. Basically he scared the living daylights out of us."

ROSS-NAZZAL: What'd you say?

HEFLIN: In so many words I said, "You have entered something that is very special, and I need to tell you I don't want to see you pounding your chest for anything. There are a lot of people out there that could be here in your place. It just so happened that you're the ones we have selected. No way do I want you to take this position as a flight director and make it"—these aren't the words I used. Basically, you aren't the king of the hill. You're going to have to find a way to be humble but fearless when it comes to running this operation and being in Mission

Control and being behind that console. It wasn't anything I wrote down. It's just what I felt and said at the time, but it scared the living daylights out of them. In the article, whether it's true or not, one of them said, "I couldn't sleep that night."

ROSS-NAZZAL: Oh, no. Did somebody secretly pass you that article just like they gave you that *Congressional Record*?

HEFLIN: I guess the assertiveness training I had back in the early days must have helped. It showed up again.

ROSS-NAZZAL: That's right. We've talked with people in the Astronaut Office about how they pick crews. How do you determine who's going to be a flight director for missions? You also had Station missions now in addition to Shuttle missions.

HEFLIN: We did. My deputy and I would get together, "It's time to look at the list for supporting each mission." Ascent/entry was fairly simple because typically we would have two to three certified ascent/entry flight directors and rotated them as far as who would do that with a simple rotation. You do this one, and three missions later you do the next ascent/entry.

It was similar for flight directors. You would look at what they'd done. Let's say the flight director has done two EVAs, and we really got a flight coming up here that's got a pretty squirrely EVA. Let's put that person there. There was some thought that went into what they had done before, what was coming up, relative to are we going to deploy something, grab something, fix it, do an EVA while at the same time being sure that everybody was periodically

showing up in the manning list. That's as scientific as it would get. That's just what we tried to do.

ROSS-NAZZAL: Was it challenging at all moving into Station where you were working 24 hours a day nonstop? When you had Shuttle missions you knew we've got a start date, we've got an end date. Now with Station you're constantly having to cover. Did that complicate your position?

HEFLIN: It made it, I think, a little bit more—well, staffing up the office making sure that we had enough people, and then of course laying out the shifts and the things that they were going to do. Once we started 24/7, we had a cadre of those who had focused more on Space Station stuff than Shuttle. We, of course, utilized them more than the others to do this 24/7 sort of thing. Of course we didn't get there fully until we were manned. We had people on Station of course. I've lost what year that was, but yes.

The main thing, Jennifer, was to just be sure that we had the right number of people, flight directors, certified to be able to handle the load that we saw. So you looked ahead to what was coming and tried to be sure that if it was time—this was after my time—but if it was time to hire another class, you made sure that that was done to support what you saw coming. And attrition [was another issue]—people would move on.

ROSS-NAZZAL: Did you have a relationship with other Flight Director Offices, say in Russia or Japan? Did you get a chance to go over there and look at their control centers?

HEFLIN: Oh gosh, yes. In fact, I think the absolute best relationship we ever had between an American flight director and a Russian flight director was Bill [William D.] Reeves. Bill Reeves really struck up quite a relationship with his counterparts over in Russia. This goes back to the Shuttle-Mir days. So it started back in the Shuttle-Mir days. Then it grew, and I'll have to say that Joel [R.] Montalbano was also a flight director who really was good at establishing relationships with them.

We had an outstanding relationship with the Russian Flight Director Office. Japan, we found a way. One of the missions I worked—I can't remember which one it was—I had a Japanese flight director-in-training follow me around in preparation for that mission, and he sat with me on console during that mission. So the relationship at that level was never a problem at all. I think there was a lot of mutual respect between the two, just talking to the Russians and Americans. There was a great deal of respect between Russian flight director and American flight director.

ROSS-NAZZAL: Did you get a chance to go over?

HEFLIN: Yes, I had been through Russia. I've been twice. I want to say it was when I was serving as Mike [Michael L.] Coats's Associate Director, Technical. It was twice, and I think it was while I was with him. I went over for a launch and a landing. Very eye-opening. Great experience, great experience.

Going to Kazakhstan—I'll share this with you, it's kind of an off-ramp. We landed in Kazakhstan in Baikonur, and we're in this jet that took us from Moscow over there. When I got off this plane, I'm looking at the tires on this plane. I'm thinking "Thank you, God." Looked

over to the buildings there, it looked like a movie set. It was an old control tower that was abandoned. Curtains were flying out of the window.

Went through customs, which was really weird. Needed to go to the bathroom, pointed, it was there. I'm looking over there, and it's about 100 yards away. It's a lean-to shed. So I go over there to the bathroom, relieve myself. Get back over and get on the bus that thank God it survived to when we got to the hotel there. Get there at 1,000 miles an hour by the way.

Driving onto the facility [Baikonur Cosmodrome] and seeing weeds, abandoned buildings. It was just absolutely like a movie set of a former war zone. This is where we launched from. I'm thinking, "We're launching out of this place." Fast-forward, and we get to the place where they roll out the vehicle to the launchpad. They roll this thing out like the day before and stick it upright, and it's gone. We have a vehicle on the pad for weeks; they roll this thing out on the train thing.

When this building [with] big doors opened up and this vehicle comes out horizontal on this flatbed, on this train, and it's moving—there's all these Russian engineers in wonderfully pressed khaki slacks, knit shirts, bright lights. It's a clean-room area. All around us is busted buildings and broken-down places. All of a sudden these doors open up and it's like "Whoa, look at that, that looks really good." Rolls out to the launchpad to where Yuri [A.] Gagarin launched from, Sputnik was launched from. That was a heck of an experience. Just to be in this place that at one time was like the equivalent of the [NASA] Kennedy Space Center [Florida] with all the buildings. With very few buildings still with people in them. Just unbelievable.

ROSS-NAZZAL: It's amazing too because we've been flying a lot of Soyuzes, too. I don't know what year that was.

HEFLIN: I don't know, that was my launch experience. I was there for a landing in the control center in Moscow for one of the landings and met the crew when they were helicoptered back into the Moscow area, or they landed in the Moscow area. Trying to think—today I guess we'd bring the American back right away. The American comes back pretty much on one of our aircraft all the way back to the United States, I believe. These crews would end up back in the Moscow area before leaving. That was a good experience to be able to walk around their control center and meet the people and see how they operated. Control center, it looked a lot different than the launch site did.

ROSS-NAZZAL: You would hope so?

HEFLIN: Yes, you would hope so. But my visit to Baikonur and to Kazakhstan, getting off that plane and seeing what I saw for the first time, it was like "Holy cow." Unbelievable.

ROSS-NAZZAL: Paints a quite interesting picture in my head.

HEFLIN: Yes, "If you want to go to the bathroom it's out there."

ROSS-NAZZAL: It's crazy.

HEFLIN: I'm not sure it was a real customs thing, but we got through customs pretty quick.

ROSS-NAZZAL: That's good. I wanted to ask you about 9/11 [terrorist attacks of September 11, 2001] and being here at JSC. What are your memories of that day?

HEFLIN: I was chief of the Office then I think.

ROSS-NAZZAL: You were, yes.

HEFLIN: Yes, I was chief of the Office then. Every morning Mission Operations Directorate would have an 8:00 telephone tag-up [with] the office chiefs, division chiefs from around the area. We're sitting in this meeting when we get the word that the first plane has struck the building. We get the word, then of course it's not long after that that the second one happens.

Kind of a blur here, but we were doing a simulation that day. In fact, John [P.] Shannon was still a flight director. He was running a simulation. So I went over to the control center and talked to John, and I told him, I said, "We need to shut this operation down, this simulation. I want it shut down. I want you folks out of here."

I can't remember the exact timing. That was still probably before noon here when I got over there. We'd already had a tagup or two with—back in those days the chief of the Flight Director Office was considered senior staff. Oh gosh, who was our Center Director?

ROSS-NAZZAL: Was it [Roy S.] Estess at that point?

HEFLIN: It was Estess, it was Estess.

ROSS-NAZZAL: I think so, yes.

HEFLIN: It was Estess, yes. Rest his soul. One of the nicest [men]—a true gentleman.

We'd already had some tagup there. The chief flight director was part of those tagups typically. There was some discussion, "Okay, we don't know what's going to happen." At that time I don't know whether the Pentagon had been hit yet or was it Pennsylvania? I can't remember how all that happened. But anyway, we were concerned about "Okay, here we are in Houston, Texas. Could we be a target?" That sort of thing. We had that [discussion] early on. Then that's when I went over and told John, "Let's shut this down, I want you out of the building."

Let's see. We had the early stages of Station in position. We had a small team. We were manning 24/7 with Station. So went and talked to the flight director there. Don't remember exactly who was on duty. Went and talked to the flight director and told him, "We're going to figure out a way how you-all can do what's needed to do, but you're not going to do it here in this blockhouse, this iconic building here at the Johnson Space Center."

We already had begun talking a little bit amongst ourselves in Mission Operations [about] what we might do. We were able to pipe the data from Mission Control over to Building 5, where the trainers were. Architecture at that time allowed us to take the consoles in Building 5 and set them up such that the flight controllers and flight directors could move from Building 30 over to Building 5, and they could conduct the operation out of Building 5.

ROSS-NAZZAL: Didn't know that.

HEFLIN: Wonderful thing to do. So we got the people out of that building, they were already uncomfortable in that building. By the time we actually got that all done, [it was] somewhere in the midafternoon timeframe or late afternoon. We got them out of the building, we got them set up over at Building 5, where they could do what they needed to do, and stay there for a while. I don't remember how long it was there, but that's what we did.

ROSS-NAZZAL: Did things change as a result? I remember being here that day, and the Center closed for a day. Were you involved in discussions about how we were going to safely bring people back onsite and changes to security, safety?

HEFLIN: No, I was not involved in those sorts of things. It was our job, "Okay, we're going to shut down things here from a training standpoint. The only thing we're going to be doing right now is operating Space Station, and we're going to be doing it from Building 5. That's all we're going to worry about is getting that done." That's what we did.

ROSS-NAZZAL: I think fairly soon after that there was a new guard shack put outside of the entrance to Building 30. I was curious if you knew the reason behind that.

HEFLIN: Of course, if you think of what was done around the site, we had all of those—what do we call them, big iron posts put into the ground.

ROSS-NAZZAL: Oh yes, those barriers.

HEFLIN: If you think about it, a close-in perimeter was established at Mission Control specifically to be sure that it was protected from any threats like that in the future. Yes, there was a guard shack put out on both sides of the building over on Building 30, both of them.

ROSS-NAZZAL: That's right, I forgot about that.

HEFLIN: Yes, to enter the parking lot on either side you had to go through the guard shack. Clearly 9/11 caused that to happen.

ROSS-NAZZAL: Yes, and now we're not operating them anymore. That happened fairly quickly.

HEFLIN: That's right, the barrier is still up. Yes, I think that makes sense.

ROSS-NAZZAL: I also wanted to ask you about Hurricane Lili, which happened the next year, because it was so unusual. It's my understanding that was the first time a flight was delayed because of weather here in Houston. You had to close down Mission Control. You want to talk about that?

HEFLIN: For Station, was it?

ROSS-NAZZAL: Shuttle got delayed because of that.

HEFLIN: Shuttle got delayed. So this is the one where we packed up and went to Austin area or something like that—no.

ROSS-NAZZAL: I read you transferred over to backup in Moscow.

HEFLIN: Oh yes, that's right. There was another weather event another time where we ended up shutting down the Station. We weren't flying Shuttle, but Station was up, and we ended up taking a team over to somewhere over near the Hill Country and setting up operating remotely from there.

ROSS-NAZZAL: Was that during your tenure as well?

HEFLIN: I think I might have been working for Coats at the time as Associate Director, or I could have been the deputy of MOD at the time. I don't remember. But no, you're right, there was a time when we handed over control. To Moscow is a little bit misleading because we had our people over there.

ROSS-NAZZAL: Right, yes, there was a backup American team.

HEFLIN: Yes, we actually had people over there that could work with the Russians there. In fact, we always have them there. Even now we have a small team, I think, still over there. I don't remember being involved in the decision process to do that. If I was working for Coats at the

time I would have known about it, and I would have nodded my head, said, “It makes perfect sense to me to do that.” Yes.

ROSS-NAZZAL: With Lili were you involved in that decision to shut things down and power things down and transfer control?

HEFLIN: When I was on Coats’s staff I sat in on all the meetings where we had briefings during hurricane season, when we were considering going to different levels of protection. I sat in on all these meetings, but I didn’t need to say anything. I wasn’t involved. I didn’t actually have to be. If I heard something I questioned, I could do that, but I wasn’t actually a voting member to say, “We’re going to shut down the Center.” My position wasn’t such. I was welcome to say anything anytime I wanted to, but there was no need for me to, so I wasn’t involved in the decision to shut the Center down.

ROSS-NAZZAL: I did want to ask you about [Space Shuttle] *Columbia* [STS-107 disaster] because you had some involvement immediately after the accident.

HEFLIN: I did.

ROSS-NAZZAL: Were you working that Saturday morning?

HEFLIN: That Saturday morning I came in, was in the viewing room behind the entry team, sitting with Ron [Ronald C.] Epps, one of our division chiefs in Mission Operations. Just the

two of us in the viewing room. Facing the room, and to the right there's what's called the Center Director's Suite. It overlooks the room there. It's a smaller area, but it's for the Center Director, program managers. The Center Director, program managers, and a handful of other people—project managers, program managers—were gathered there. Ron and I were just sitting there talking about anything but space. We were just visiting. We're good friends, been around a long time. We saw the ground track coming across the States.

There was a point where I know Ron and I both looked at each other, and we weren't hearing the sort of chatter going on that we typically heard. We were still visiting, so we stopped. Paying more attention, then we began to catch on that something's not right. Hearing the conversations going on. We're still just sitting there.

LeRoy [E.] Cain was the entry flight director. Behind him, John Shannon was serving as Mission Ops Director, MOD. John reached down into a cabinet and pulled out this white binder, and I knew what that book was. That was the contingency procedures when you have a contingency, have something bad happen to you. I knew what that was. He grabbed the book, got up, walked out of the room, and I knew where he was going. He was going to come up to the Center Director's Suite. He had to pass behind [us], had to come through the viewing room up there. So he came through the viewing room. I think I said, "John, what's happened?" He was walking real fast.

He said, "We lost them." All he said.

ROSS-NAZZAL: The second crew that you had lost.

HEFLIN: He said, “We lost them,” and went right into the room. So of course that certainly got our attention. It wasn’t long, probably just a few minutes later, I got up and went down, went inside the room.

Went over to LeRoy, and basically just stood there to see what I could do, if there was anything I could do. Paid attention to what he was doing. He was going through his checklist to secure the room, secure the data, tell people, “Don’t make any phone calls.” He’s doing all the right kind of things. I just hung around there for quite some time really doing nothing except listening to what was happening. Then we got close to the time when we did the press briefing. Myself and [Space Shuttle Program Manager Ronald D. “Ron”] Dittmore were involved in that.

ROSS-NAZZAL: You want to talk about that? I was curious—did you make that decision, [or] did LeRoy Cain decide?

HEFLIN: Yes, I did. What the heck was I doing at that time? What year was that?

ROSS-NAZZAL: That was in 2003. So you were still chief of the Flight Director Office.

HEFLIN: Oh yes, because then I got another duty after that time, Ombudsman. Public Affairs. I can’t remember if [Public Affairs Officer] Rob [Robert A.] Navias was in the room or Kyle [J.] Herring, I don’t remember who was in the room at the time. We’re getting to the time where NASA needs to say something. Somebody’s deciding we need to have a news conference and tell people what we know.

I can't remember how I was approached but I was standing there. I could tell that there was some interest in getting LeRoy. At this point somebody else had come into the room. We were getting ready to relieve—LeRoy has done what he can, so let's let LeRoy step aside, and just do what he needs to do for a little bit. They were interested in LeRoy coming over and talking and I said, "No, I'll do that." I didn't want LeRoy to do that. That's how I got involved.

ROSS-NAZZAL: I was curious about that.

HEFLIN: I said, "I'll do that." Nobody offered to take my place.

ROSS-NAZZAL: I imagine that was a pretty difficult press conference then. So many what-ifs.

HEFLIN: Yes, I regret something I said early in my opening statement. I wish I had said something in reference to the crew and the family. Ron spoke first, I believe, and he had made that comment I think. He said something. I think my first statement was something to the effect that, "I'm glad I live in a country where when we have something bad happen, we go fix it." Something like that instead of saying something first about the family.

The way I talk about these things between [Space Shuttle] *Challenger* [STS-51L tragedy]—I was here for the Apollo 1 fire in a very different role at that time. Here for of course the loss of *Challenger*, we've talked about that. This one really did indeed happen on my watch.

ROSS-NAZZAL: Yes, that's a difficult pill to swallow then.

HEFLIN: Oh, yes. Did we talk about that last time?

ROSS-NAZZAL: No, we haven't talked about *Columbia*. We talked about *Challenger*.

HEFLIN: The thing I think that really got to me, the reason I say that, is I had been really perplexed with the fact that I, as the chief of the Flight Director Office during this [mission]. As chief of the Flight Director Office I attended all of the daily MMT [Mission Management Team] meetings sitting in the front row. I paid attention to all the stuff. Occasionally I might interject something to the MOD or to a flight director, typically just to an MOD [rep].

My style as a manager is very approachable. I thought that I was very approachable. It troubled me. I would walk through backroom. Every day I'd show up over in Mission Control, I'd make sure I walked through the back rooms, walked through the Mission Evaluation Room, the MER, and just walk through and shake hands and talk to people. Make myself available, visible if anybody wants to talk to me about anything.

We had stuff going on, as we have learned in the investigation. We had people who were concerned about *Columbia*'s condition. In our backrooms we did. Not a single person came up—I'm not blaming them—not anybody came up to me and pulled me aside and said, "Milt, Milt, come here, my gut is not right." In MMT meetings, there wasn't anything contentious relative to anybody pounding the table and saying, "We need to go do this or that."

It troubles me. I've often thought, "Well, why didn't somebody do that." Now had they done that, would I have been able to do anything? I don't know. I'm not sure what I would have done. I really don't know what I would have done. I think if somebody had pulled me aside, those who really actually as it turns out pretty much nailed it—just thinking of that collision with

that foam and what it might do, could do to the wing. I think they really had something. That would have been—I'm not sure—been a tough thing to deal with.

ROSS-NAZZAL: Yes, I can imagine. I know we talked with Arnie [Arnold D.] Aldrich, and he thinks about the *Challenger* crew every day.

HEFLIN: Oh, I'll bet.

ROSS-NAZZAL: Yes, and what he didn't know, and the call that he made, which I can't imagine.

HEFLIN: Yes. It's interesting. All three of those—Apollo 1 fire, *Challenger*, *Columbia*—there's a common thing in each one of those. And it is there were people that knew that we were doing something we shouldn't be doing. Going all the way back to the Apollo 1 fire. There were people that were uncomfortable, knew we should not be doing something. So I wonder, Jennifer, have we really learned our lesson.

ROSS-NAZZAL: I guess we won't know until the next [accident].

HEFLIN: Won't know until the next time.

ROSS-NAZZAL: Yes, unfortunately.

HEFLIN: If there is a next time with a similar sort of thing, i.e., some people were nervous in the background, knew something, felt uncomfortable, and they were right on, but they weren't recognized.

ROSS-NAZZAL: We have about five minutes. I don't know if you want to talk about some of the time that you spent out in East Texas and Louisiana, or if you just want to stop here.

HEFLIN: No, I can go ahead. Since I'm in that mode now, let me. So maybe it was a couple of weeks after, of course the recovery operation was under way. Have we talked about this yet?

ROSS-NAZZAL: No, we haven't. We've been going chronologically through things.

HEFLIN: We haven't actually talked about this. We haven't talked about the trip that some of senior staff took over to Barksdale Air Force Base [Bossier City, Louisiana].

ROSS-NAZZAL: No.

HEFLIN: It must have been a couple of weeks after the accident. [Center Director] General [Jefferson D. "Beak"] Howell [Jr.]. General Howell had a dozen of us, I guess it's about all the plane could hold, the NASA plane that we had. About a dozen of us from senior staff and Program go over to Barksdale, and then up to near the Dallas area. Basically stop by, see the troops doing work, cheerlead for them, pat them on the back, see how things were going. Just to show the flag, show the interest in the Center management.

So we went to Barksdale Air Force Base, which was one of the gathering points for the debris, in Louisiana. Jennifer, it was probably a weekend. Miserable day. It was cold, wet, cloudy. It wasn't unsafe to travel or anything, but it was just really a drizzly, terrible day. We landed. It was cold. We got out, got into a bus. Again just dark. It was middle of the day, lunchtime roughly. It was just dark clouds and stuff, no violent storms, just that kind of day.

Went over to the hangar, the old I would say World War II vintage hangar, that had been not in use. It had been cleaned up and was the gathering place for the debris. Went to the security checkpoint there to go inside. As they're checking us in, I can see wall and doors over here. I can see just through cracks in the doors. I can see just bright lights, just bright, really bright.

So we walk into the hangar. This goes back to the thing I talked a while ago—it's like another movie scene. It's like I walk in this and there's xenon lights all over the place, bathing the floor of this hangar in that. On the floor are pallets arranged in very precise rows and walkways between the pallets. These pallets already have lots of stuff on them. It was the debris from *Columbia*. We all dispersed. I ended up walking by myself. We just walked around looking at the stuff in there, and I characterized it as a morgue of high-tech hardware.

ROSS-NAZZAL: That's a good description.

HEFLIN: I've said that more than once in public speaking, a morgue of high-tech hardware. I walked down there, and it was like walking through a cemetery in a way, because of the very precise rows, a path this way, take a turn here, go down. I walked by, I would look at this—I'm very familiar with the Orbiter. Used to be a flight director, used to be a flight controller.

I knew the hardware. I'd see a black box—what we call a black box, electronic box here. I'd look at the tag on there, and it'd be a power control assembly. I know what a power control assembly is, I used to be involved in that when I worked as a flight controller. So I'd see all this stuff. That was pretty moving.

ROSS-NAZZAL: I imagine.

HEFLIN: Yes, it was, it was really pretty moving. We had some people there, of course there were people around there we didn't know. We had lunch there, got on a plane, went on up to the Dallas area. Don't recall where that was now in the Dallas area, to see a similar [location].

ROSS-NAZZAL: Carswell [Air Force Base, Texas]?

HEFLIN: Maybe it was, might have been. Stopped there, did the same thing. Weather was a little bit better up there. It didn't have the same feeling to me as the Barksdale thing did. We visited with folks up there, really neat to see all the people.

Fast-forward a bit. I really wanted to go to East Texas and be a part of that troop, but I also felt a need to stay here. So I encouraged any of our flight directors, anybody who wanted to go to East Texas and do any of that, "Help out, please do," but it always bothered me. I wanted to be there doing something.

I did get John Shannon assigned to a couple of tasks, which I was very happy to do. So John got involved doing that, and I felt pretty good about that. One of the things that we looked into was could we have possibly put together a rescue mission with another Shuttle. So John

basically headed that up. I was glad that I was here while he was doing that, while it was going on.

One thing I did was—probably several weeks had passed. If I've told you this, you can stop me. Maybe we haven't. The people that came from around this country to be over in East Texas, all these groups, Johnson Space Center made sure that they were aware and knew that before they go home, when their time was up, if they wanted to and had the time, we would welcome them down here at the Johnson Space Center and give them a tour.

I told whoever was keeping track of all this over in Public Affairs, I said, "Okay, there's only one person that's going to meet and greet these people for the Mission Control Center tour, and that's me." I was fortunate to be able to do that a few times. I wanted to do it because it gave me a chance to meet these people and thank them for what they were doing.

It was also something that helped me. Before we would go into the old Apollo [control] room, I would have them line the wall of the hallway right outside there and I'd walk by and shake their hand, each one of them.

ROSS-NAZZAL: That's nice.

HEFLIN: And thank them. That was good for me to do that for sure. I got to do that a lot. What that did for me was—and any time I do any public speaking I make a point to tell people. That reminded me of the true grit and backbone of this country, people just like them.

Another short story I'll tell you. Who's the lady that's running our small team out here that deals with people problems?

ROSS-NAZZAL: Jackie [Jacqueline E.] Reese?

HEFLIN: Jackie Reese. Why I should forget Jackie Reese, because I've known her for a long time.

Before I left the control center on the day that we lost *Columbia*, Jackie Reese came up and got in my face. She wanted to go into the Space Station control room and tell the people in there, tell them that she is available, and give them an initial briefing on how they can deal with this. Do her normal thing. I said, "No. No, no. We're not going to do it. Not going to do it."

I started to walk away, and she got in my face again. So she told me again this is what she wanted to do. After about 10 minutes of trying to shoo her away—and I love Jackie Reese, I've been involved with her more than once helping individual employees get through some stuff. So she won me over, and I went in with her. It was the best thing I could have done.

ROSS-NAZZAL: You think it helped people?

HEFLIN: Oh, it helped them for damn sure. I heard that later from them, yes.

ROSS-NAZZAL: It was a good decision.

HEFLIN: Yes. But it took a little bit for me to get there, to get to that point. Jackie, she did a good job.

ROSS-NAZZAL: You are supposed to be tough, right? That challenges that.

HEFLIN: That's where these tears come from, see. Tough, yes.

ROSS-NAZZAL: I understand. It's hard losing your friends and colleagues.

HEFLIN: Again, I heard afterwards that people in there really appreciated that.

ROSS-NAZZAL: That was a good decision.

HEFLIN: It was good for her to want to do that, too.

ROSS-NAZZAL: Yes.

HEFLIN: Yes, absolutely.

ROSS-NAZZAL: I think this might be a good stopping place for us.

HEFLIN: I think it might be, too.

ROSS-NAZZAL: I know it's a more emotional interview than expected.

HEFLIN: There's a cold beer in my future.

[End of interview]