NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT
ORAL HISTORY TRANSCRIPT

ANNE L. ACCOLA
INTERVIEWED BY REBECCA WRIGHT
WASHINGTON, D.C. – 17 MARCH 2005

The questions in this transcript were asked during an oral history session with Anne L. Accola. Ms. Accola has amended the answers for clarification purposes. As a result, this transcript does not exactly match the audio recording.

WRIGHT: Today is March 17th, 2005. This oral history with Anne Accola is being conducted for the NASA Johnson Space Center Oral History Project at NASA Headquarters in Washington, D.C. The interviewer is Rebecca Wright, assisted by Sandra Johnson.

Thank you for coming in and talking with us again today. We enjoyed the visit with you yesterday. Before we move on with your responsibilities and roles with Space Station Freedom, are there any subjects or anything else that you would like to talk about that we didn't maybe have a chance to visit about yesterday?

ACCOLA: Yes, I did want to add a couple of things. One with regard to the Schedules and Flow Office that I ran for a while. I didn't want to leave the impression that that work had not been done or done adequately before I was given that responsibility. Buck [Richard E.] Simms had been doing that work to pull together all the disparate aspects of the products for every flight, but the [National Space Transportation Systems] Program Office had gone to the individual elements to ask them to do things. He did pull it all together.

When I was given the job, it was to sort of reorient it so that the integration was done as a project within the [Mission] Operations organization, rather than being done by the Program Office, and I never got any impression that there was any dissatisfaction with his work. It was

just that they wanted somebody to make a dramatic change quickly, and brought somebody from outside in to do that, which was me.

Someone I wanted to return to, because I think I mentioned him in several contexts that weren't too happy for me, was Bob [Robert K.] Holkan, who was my section head for a while, and then branch chief and a division chief. To me, he was just a real wonder. I've told a lot of people he's the smartest man I ever worked for. He was just really savvy at analyzing people and situations, and figuring out motivations and what to do, and looking at things from a different perspective. So I did want to include some praise for him, because I think he was a real asset to NASA while he worked there.

Then there was another thing I wanted to add, because probably nobody else will provide this, but as a sign of the times, back in the early eighties when I was a section head, a law was passed about sexual harassment, that defined it and made it unlawful. Training was supposed to be provided as part of the law, and NASA hopped on it very quickly, because it was just a few months after it was passed that JSC had its first seminar on sexual harassment. And in MOD, the Mission Ops [Operations] Directorate, the Administrative Assistant, who was there for decades, Cecil [E.] Dorsey, called me up to have me go to the very first one. And I thought, "Why me? Has somebody complained about me, some of the guys that worked for me?"

And he just said, "Well, everybody is going to have to go." And I later found out that a lot of the guys were claiming scheduling conflicts and didn't want to. So I went ahead and went, and, honestly, that seminar could have been the subject of sexual harassment charges because of the behavior of one or two of the guys in it. They just made all kinds of rude and crude remarks about women and why couldn't they take it and what was the matter with saying this and that. The fellow who conducted it was excellent. He was a consultant from California. And I haven't

heard or been taught anything since then that changed anything he said. He had a really good handle on it. His interpretation of it has proven out over time.

Then the interesting thing was that I got called a second time to go, and I said, "I've already been. No thanks." And they called me a third time, and I had to say, "If you call me to take this again before everybody else at the Center has taken it, I'm going to consider my own charges," and I never got called again. I thought that was really interesting that in the very first session on sexual harassment in that time frame, they picked the *only* female supervisor in the directorate to go to it.

WRIGHT: Amazing. Amazing.

ACCOLA: Yes. And another thing I wanted to add, back in training, because I think I talked some about the nitty-gritty of what we did, but not necessarily sort of the underlying philosophy and principles we adhered to, was that we never knowingly or purposely did anything that either the crew or the flight controllers could not get out of. We didn't do something just to show them that if you do this, you'll die. Never, ever did we do that. There was sort of a camaraderie and a trust that they understood that we only had their best interests at heart. We could, if we got mad, really do something to make somebody look bad, but nobody ever wanted to do that, and they knew that we just had their best interests at heart, because we were committed to the program's success and wanted everybody to succeed and look good in the end.

So it could be a bad situation, and, in fact, a guy I went to high school with was an airline pilot, and in the airline industry I don't think they have necessarily that, but he really hated going to the simulator for training sessions because he felt like he was being tortured by the instructors,

and he told me this when he found out what my job at NASA was. I don't think the flight controllers or the astronauts ever felt like they were being tortured. I think they felt like they were being assisted in their learning and developing their proficiency. And there is sort of a trust. The astronauts especially, because their lives are on the line, tend not to take anybody at their word unless they know without a doubt that they are totally the expert and know everything. So if you give them an answer, they'll go check with somebody who's more expert than you are to find out if that is right, and they'll check with a third person. So you can't ever take a guess or make up an answer, because you'll be found out and then they'll never trust you again. So there was a real issue of trust there, which was imbued in everybody that worked in that area, and it was passed on from one group to the next. When I had somebody new that came into the section, I had a standard spiel I gave them, and that was part of it.

I was sort of amused, but also pleased, when I had left training and was working somewhere else, and they had the return to flight after *Challenger* [accident, STS 51-L], there was an interview with an instructor who was a new hire when he came to work for me, and I left not long after. He, in this newspaper interview, had said practically what I told him the first day he showed up for work.

WRIGHT: Do you remember a lot of what you said? Could you give us some of those points that you passed on to the new hires?

ACCOLA: Well, a lot of it was what I just said.

WRIGHT: Okay. That had to be a nice compliment for you to be able to know that it passed on,

that standard.

ACCOLA: That it had been carried on, yes. Since then, quite a bit has changed. At the time I hired on, NASA employees did almost everything, and contractors were used in a support role. At the time I was a section head, that had changed to the point that we had more contractors than civil servants, and we also had Air Force officers working, and we were no longer able to make much in the way of distinctions. Lead instructors were still civil servants and simulation supervisors were still [civil] servants, but the other positions could be contractors and they were virtually interchangeable. In the years since, that's changed and it's been pretty much handed over to the contractors altogether, so that's been a big change in the NASA environment, from how things worked then.

I think when we left off yesterday, I had finished pretty much talking about the Schedules and Flow Office, and I had mentioned that I had been approached about a position in the Space Station Project Office here at JSC. In fact, I applied for it not long after I took the Schedules and Flow Management Office for a couple of reasons. One, it offered a promotion, which was nice, and I had already, I felt, given myself two concussions on Gene [Eugene F.] Kranz's glass ceiling, both for a traditional line management promotion, as well as the ops [operations] line promotion, and it would be something new. I could see that the position I was in was going to be repetitive, over and over the same thing, so this would be something new to do.

So I was selected for it and started that in March of 1985, at the beginning of Phase B of the Space Station Program. There had been a task force and a working group that had worked on Space Station, so a lot of things had already been decided in terms of the structure of the program and the management of it. There were four work packages to develop the hardware and

the ops capability. [NASA] Marshall [Space Flight Center, Huntsville, Alabama] was work package one; Johnson [Space Center] had work package two; [NASA] Goddard [Space Flight Center, Greenbelt, Maryland] had work package three; and [NASA] Lewis [Research Center/Glenn Research Center, Cleveland, Ohio] had work package four. The Program Office that was overseeing it all was at JSC, and it was level two; we were level three. I'm sure it's been documented other places why they chose that. They had what sounded like good reasons; it really didn't work out. Within the JSC Projects Office—Clarke Covington was the head of it—it had several offices. One was—I think it was SE&I, Systems Engineering and Integration, but it included a little operations office. There was another office that Jerry [W.] Craig had, that was sort of a projects office within the Projects Office, and within his office was the Operations Capability Project, and I had that.

We were about six or seven people who had projects, and there was always a lot of tension between our office, which was projects within a project, and the other elements of the Project Office, over who was doing what, how it worked out. The way it more or less ended up between me and the Ops Office in the other part of the Project Office, was that I was responsible for seeing the operations capability in the form of Mission Control and training capabilities being developed, and I worked, I think, more closely with the other Centers, the other work packages, on what they were doing, and somewhat the level two office; and the other Ops Office was working more with the analysis and operations organizations here at JSC, who needed to do studies and analyses of various things, and to figure out how they would do operations once they had the capability. It wasn't a great situation, but it worked out.

So the main thing with regard to operations capability was we had two contractors who were competing against each other for the work package, and they each were to propose

operations. Operations had several aspects to it. It wasn't just what we think of at Johnson as a Control Center and the astronauts; it also included Logistics, which was in yet another office within the Project Office, and depending on which organization you were talking to, it could include Payload Operations, the science aspects of it.

But the main thing that I focused on, aside from the contractors, and we had monthly meetings with them and reviews to see what they were proposing in all these areas, and then periodic reviews with the Centers to compare notes and get synchronized by the Program Office, the main thing was development of JSC's operational capability. The first thing that happened, not long after I came in, was there was an announcement for C of F, Construction of Facilities, which is how you do any modification to an existing building or justify a new building on site, so this was the announcement for Space Station for all Centers. If you wanted any major construction done, you had to turn in a request for that.

So I sent it on to Mission Support Directorate that did that and told them to check with Mission Ops, and what came back was—I don't remember the exact figure, but for Mission Control for Space Station, it was about $98,000 and the same thing for Building 5, the simulator building. At the time I thought, "Well, I know what my townhouse is worth. That's not much; $98,000." So I called up and I said, "Well, what can you get for this much money? What are you talking about?"

They said, "Oh, you could move a couple of walls."

I thought, "We're going to have this Space Station in orbit for who knows how long, staffing is going to be around the clock, there's going to be a lot of training going on. Which walls do you think you can move and fit a simulator for this huge thing that's being proposed? And if it takes the size of the operations wing of Building 30 to run Shuttle, which doesn't fly

that often, how are you going to do it by moving walls?"

They said, "Well, oh—." Well, anyway, finally I got through; they got the message. Then they came up, of course, with new buildings, huge things. So we then spent the next—let's see. That was in the spring of [19]'85. We spent a year refining it, getting it beat down, where it could be totally justified, and we got it through. Of course, now they're both built and running, and they are a lot bigger than moving a couple of walls in existing buildings. So that was a very interesting process to go through, to come from something that people were just obviously not thinking to getting to something that was right. So that was probably the most interesting aspect of that job, getting the C of F through for those two major construction projects.

Then the other thing I've already talked about was the organizational tension, not only within the Project Office, the fact that we had project managers like me, and that there were people working the same things elsewhere in the Project Office and there were countless meetings to try to sort out who's doing what and why it was okay to be organized like that, but there was also a lot of tension between the projects with each other, and with the Program Office here at JSC. The JSC Project Office really had no respect or use for the Program Office, and they also didn't like the way the projects had been divided up between the Centers, so they really just wanted to take over the whole program. So there was a lot of behind-the-scenes work going on that just made the whole thing sort of tense for me.

In the fall of [19]'86, [NASA] Headquarters [Washington, D.C.] created a Space Station Operations Task Force to go off and figure out how to do operations and then to have enough people across the Centers imbued with whatever came out that they could go back and steer things that direction afterwards. The task force was chaired by Peter Lyman from [NASA] JPL [Jet Propulsion Laboratory, Pasadena, California] and Carl [B.] Shelley at JSC, and it started out

meeting at Headquarters and then it just moved around to the Centers as we needed to. There were four panels on the task force, and each project office was asked to name somebody to represent the work package, then it was filled out with other people from the Centers. There were four panels. One was Program Management, as I recall; one was Logistics; there was one on Payload Operations; and then Space Operations.

I was named the JSC Work Package Two Project Office member of this group and I was put on the Space Operations Panel that was chaired by John [T.] Cox. It had some subgroups to it, but I was sort of the assistant or organizer—not really secretary—for the group. We were required to write a report at the end, so it was going to be my job to pull the report together. Everybody on the panel had assignments to write various things, but I had to pull it together to make certain it read coherently from start to finish, it didn't have contradictions in it, and things weren't left out. So I served as a coordinator. So as we had all these meetings, I would point out that "When we write this report, we're going to have to answer this question. What do we think about this?"

It went on through the fall. We traveled and met periodically, and then beginning in January, we went to Cape Canaveral [Florida] at the time the Shuttle Program was standing down because of *Challenger*. As a result, a hangar that had been converted into some payload operations center for some testing group was available, so we set up our operations there and were there pretty much full-time until April, when we completed the report.

What came out of that was we looked at a lot of different things, and one unusual aspect of the Space Station that had to be dealt with and hadn't been before in Manned Space Ops was just supplying the thing. It was going to be up there continuously, continuously manned, so we would be sending up new scientific experiments to work on, and also all the food, all the

propellant, everything that was needed was going to have to be sent up, and then things brought back, in addition to getting the crew back and forth. So that was one thing that was different, and the other was that before we'd always just planned for a seven- or fourteen-day flight; it had a beginning, an end. Now with Space Station, we had a continuum of time stretching from the start to who knew when, and how do you break that up and do planning and work crews. So that's where we came up with a concept of an increment as being the period of time from the arrival of one Shuttle to the arrival of the next Shuttle. At that time that was the plan; there would be only Shuttles, that would be the only time that you could change out a crew and bring up stuff that would actually change the configuration of the Space Station.

So we settled on increment. So there would be a plan and an increment manager for each increment, who would follow the details of that, planning what needed to go up and seeing that the activities got accomplished, and there would be what we called a tactical operations plan that would be two years' worth of increments at a higher level, and the program, at the program level, would put together this tactical operations plan. Then people would be planning ahead, using the program's tactical operations plan and developing the increment in more detail, based on what the increment within that plan was.

One of the reasons for taking this approach was that we had international partners. We had Japan, which was planning to build its own module; we had Europe, which was going to build a module; and we had Canada, which was going to use the U.S. module. And what we didn't want was Japan coming up with a plan and saying, "Okay, this is what we're going to do in our module for this period of time," because we didn't have that many crewmen; it was a limited number of crewmen. In fact, I've forgotten at what point we went from six down to three, but it was much later during the time of the task force. We were trying to say, "The

crewmen have to do everything. They aren't representing only their country's science and only working in their lab; they have to be able to do whatever needs to be done, and we're going to have to, for efficiency's sake, ignore nationalities and geographic locations on the Space Station and just put together the most sensible integrated time line." So that was another reason that we did that. We didn't want the partners going off building their own, and that was a big source of tension throughout the program until later.

WRIGHT: Tension within developing the program, or between the partners?

ACCOLA: Between the partners—the other partners and the U.S.

Then by the time the task force was—well, really almost by the time it was begun, but not long after, it had been decided that it was a mistake to have the Program Office at a field center that also had a work package; that it needed to be closer to Headquarters and operate more like Headquarters rather than a partisan field center. So while we were doing the task force work, we knew the Program Office was going to be moved to the vicinity of Washington and that it was going to be basically started over again.

So while we were working on the task force down in Florida, decisions were made, and a lot of people at JSC—I actually think maybe they could have transferred if they wanted to, but they were happily ensconced in the Houston [Texas] area, so chose not to. John Cox, who was the head of the panel that I had worked on, was made head of Operations and Utilization Office in the Program Office, so while the task force was going on, he was trying to staff the office, and he did pick a number of people from the panel, since we had been through the experience of studying operations and utilization, and he asked me to work for him. He had four offices within

Ops and Utilization. One was Utilization; another was Logistics; one was Space Operations; and then the fourth one, which I headed, had two different names. At one point it was called Planning and Analysis, and then another time it was renamed Mission Integration; nothing changed except the name.

The other three offices were more focused on the design of the Space Station, the hardware and flight software, and on actual capabilities or Control Centers that would be required for it, that needed to be developed and built. For example, the Logistics Office had to worry about things like how would they get the crew back and forth. At that time they were talking about maybe something other than Shuttle. Then the logistics carriers, how many and what type of carriers would be built, and all the spare parts that would need to be procured during the development of the hardware so that they could keep it maintained later. So that's an example of the type of things they were focused on.

My office was to develop the capability and figure out how to do all the planning and scheduling and operating once it was there, so we actually had to design the tactical operations plan, an increment plan, and the software for what was needed to create those things. So it involved pulling together the payloads, the logistics, all the crew activities, and space ops, and putting it together. So it was an interesting challenge because it was just a couple of terms and a concept, and trying to make that real and do it with the coordination and understanding of four Centers' work packages, who all had their own vested interest, as well as the three other international partners. So it was nothing but contentious for a long time.

In the meantime, we kept going through redesign after redesign of the Space Station. I had a small office; I never had more than three people working for me. I did have contractors, and I think there were about twelve or thirteen of them. I had a very good counterpart on the

contractor side that did a lot of the work. But because my office covered the whole spectrum, we ended up serving almost as a presentation mill for John Cox, because, in particular, I had one really sharp guy, Greg [Gregory J.] Williams, he's at Headquarters now in the Earth Science area, but he was a whiz. So between the two of us, we ground out presentation after presentation for John Cox to make on ops things related to the budget.

That was another thing that we did—the budget. It seemed like if we weren't redesigning the Space Station, we were redoing the budget. There was a big effort to define operations costs for the Space Station. That was actually one of the first things we did. The office, when it started to get up and running, was actually located underground in L'Enfant Plaza, across from the drugstore, in some leaky, mold-infested office space. That was where we did the first operations cost assessment for the Space Station, because the program and Headquarters wanted to know what it would cost. So we went around and did it and scrubbed it, and it held up pretty well for a number of years. I'm sure it's been blown now. So we did that and they decided on the location as Reston, Virginia, for the office. We moved in in the fall of [19]'87. So that's what we did, redesigned the Space Station; met with the partners; redid the budget; and planned how to do operations on the Space Station, which just kept slipping into the future.

WRIGHT: Did you feel at any point in time that you were never going to get this Station off the ground? You'd worked on Apollo, where you saw things come together quickly to reach a goal, and here you were now on a new venture.

ACCOLA: Yes, well, I was starting to wonder, and every time we redesigned it, more got left out, and then more came into question about why are we doing this. By 1992, I was getting sort of

tired of it, although we actually by then had developed some software, and we thought we were close enough that if you look out at the point that we planned to put out the first tactical operations plan, we were not that far from it—maybe a year or so.

So we decided we needed to do a rehearsal, a run-through, and actually do a tactical operations plan and an increment plan. So we did. We pulled in all the partners, people from the Centers; gave them the set of conditions. The software wasn't in good enough shape to use, but we did have some things that we could work with, and basically locked them up for a week or two, I've forgotten, and they came out with one, as well as an appreciation for what it was going to take to put it together. The partners at that point realized that they couldn't do one on their own; they needed to be part of the overall one. So they were rethinking all of that.

But at the time, as I say, I'd been doing the same thing for several years, and you can tell from my history, I haven't done something too long. When I get bored, I've managed to move on, or been offered an opportunity, and that's sort of what happened in this case. George [W. S.] Abbey, who at that point was Dan [Daniel S.] Goldin's Assistant here at Headquarters, called. I had seen him at an aerospace event a couple of weeks earlier, and he asked what I was doing. I said, "Same old thing I've been doing for years." So he called and said there was a job he thought I'd be interested in, and would I come down and talk to him about it.

So I did, and it was to be the Deputy Director of the Office of Space in the Department of Energy. [Richard H.] Dick Truly was the administrator of NASA, and a former Navy admiral headed up the Department of Energy at the time, and they had been talking back and forth and there were several cooperative ventures between the Department of Energy and NASA. Of course, the Energy labs were the ones that had been providing the nuclear isotopes for the propulsion on some of our outer-planet missions. They were also doing research on power and

propulsion and solar energy cells and arrays.

So the idea was that the department, the agency, and also the Air Force would cooperate on projects. The office was set up in the Department of Energy, and the head was [Dr. E.] Fenton Carey, who worked for the Department of Energy. The Deputy was to be from NASA, so that was what George was talking to me about. And the Technical Assistant or Manager would come from the Air Force. There were a few civil service employees in the office, and the Energy labs supplied some people.

So it sounded interesting. It would be a change. It would be a one-year detail and then after that, we would see how it went. At the time there was already speculation that the Space Station Program Office was going to be moved back to Houston, and a couple of things that the office did didn't serve its existence well. It was more like putting nails in their own coffin.

So I took him up on it and went there. By the time it was all accomplished, however, it was after the election in [19]'92, and [President William Jefferson] Clinton replaced [President George H.W.] Bush, which caused a lot of uncertainty—nobody knew what was going to happen, we had to go through the transition, and then have all the new people come in. So meanwhile, it was good; I got a real education on what a Cabinet department is like. NASA may have turned into a big stodgy bureaucracy, but it's still pretty lively and animated and working compared to a Cabinet-level department that's just got these—they call them stovepipes, these offices that pay no attention to the rest of the department. So that was interesting.

WRIGHT: What time span was that? Was that just like about six months?

ACCOLA: I was there about seven months. I went over towards the end of November. I'll get to

why I left, but I left in July. But the other thing was that in order for me to get up to speed on the Department of Energy and the labs and what they did, we took a couple of trips, one trip to Oak Ridge [National Laboratory, Oak Ridge, Tennessee], and on that trip we swung by Huntsville, Alabama, where the Army also had a lab. And another one went to New Mexico, saw Sandia [National Laboratory, Albuquerque, New Mexico], Los Alamos [National Laboratory, Los Alamos, New Mexico]. And another time to California, to [Lawrence] Berkeley [National Laboratory, Berkeley, California] and [Lawrence] Livermore [National Laboratory, Livermore California]. So they all put on a dog-and-pony show for us, so I got to see everything that they were doing that related to space or had some connection. That was a real education.

The budget actually came from other offices, but we were sort of the technical sponsors or overseers of activities at some of the labs, so we kept up on that, came up with the ideas, but it wasn't too long before the new Secretary came in —well, it was obviously after the inauguration that she came in—and, based on their transition work, put out a reorganization of the Department of Energy and abolished the Office of Space. The incoming administration had no interest in Energy spending any time or people power on space.

So we went—this is an interesting Washington story, because we were on the top floor of the [James] Forrestal Building, facing the Mall, so we had a great view of the Mall. You could see the Capitol, if you leaned far enough, and when the office was abolished, we were moved to the basement, next to the storage area for the—what is it? PCBs [polychlorinated biphenyls]?

WRIGHT: Carcinogens?

ACCOLA: Yes. We were moved into a basement suite of offices, next to the storage area for

them. It sort of tells you—you can tell your status in an organization by your location. [Laughter]

WRIGHT: Got thrown in the dungeon.

ACCOLA: Yes, but we soldiered on, and it was a few months later that I was told that they were terminating, because Energy was paying my NASA salary, that they were going to terminate my detail, so I had to come back to NASA. At that time we knew that the Reston office was not going to be around much longer. It hadn't been officially announced, but it was a foregone conclusion, so it didn't make a lot of sense to go back there. I could have gone back to JSC; they offered me that. One of the complicating things by that point was that I was an SES, Senior Executive Service, and there aren't a lot of those positions around. I was offered to go back.

I wanted to stay here partly—well, for several reasons. I don't think you can go home again; it wouldn't have been the same. It would have been different people, different organization, and it wouldn't have been what I remembered from before, what I experienced before. As I've said a million times, I'm sure, I loved the people, I loved the work, but I never liked Houston. So that was actually a factor in why I took the job, left JSC in the first place, when John Cox offered me the transfer to Reston. I thought, "Ah, I can get back to four seasons and some variation in the terrain." So I wanted to stay in Washington.

So George, again, who was still Goldin's assistant, said he had several ideas for me to think about. But then suddenly I was not thinking. I was assigned to be Special Assistant to [John R.] Jack Dailey, who was the Deputy Administrator. There was a new program management initiative under way. NASA's recent history at that point had been really large,

expensive missions that went over budget, behind schedule, and some of them failed. These were in the unmanned area. Aside from the Space Station just going over budget and behind schedule every year, these were unmanned scientific missions. So Goldin was putting in this "faster, better, cheaper" plan, the idea being if you do small science projects, you can do more of them, you can do them faster, and if one fails, you haven't lost the whole mission. People were putting in ten years and pinning all their hopes on this thing, and then it didn't work. If you did just small things, if one failed, you'd still have the others coming along. That was the philosophy behind it, and there's a whole argument that rages today whether that was good or bad, whether he was a genius or insane, but that was being put in as part of a solution to that problem.

The other thing was to oversee the programs so that they don't get totally out of control before somebody knows that there's a problem. So that was the program management aspect of it that they were putting in and that was being carried out under Jack Dailey. It had several aspects; one was to create a Program Management Council of all the relevant associate administrators, who would meet on a regular basis to review the status of the programs, and that status would have to be more informative, substantive, and honest than it had been in the past. Then to put in place a whole set of program management policies and procedures as to how a program was to be managed by the Centers, so that hopefully they wouldn't get into trouble in the first place.

Jack already had someone working for him on that, Don Gerke. So as usual—I don't know how NASA manages to do this—it was a "Who's doing what" sort of question. But Don ended up working mostly with the offices at Headquarters on their program status, their reports, what to put in them, and I was more on a level of seeing to it that what Jack wanted got done.

Also, he set up a little task force to decide the format and content of the reports, and Jerry [Fitts], who was the Deputy AA in the [Office of Space] Communications code at the time, Code [O], was the head of it. So we had this little task force, and I worked with the task force to see that it reflected what I knew Jack and Goldin wanted, and reported back to them on our progress. So we did come up with that and presented it. The Program Management Council got up and running, and Don did things like the agenda, coordinated the details of the meeting.

Then there was another task force of people from Headquarters and centers that was put together, and they actually worked out of some office space in Reston to put together the Program Management Handbook. I was not officially on that task force or assigned to any work, but I went out there frequently and reviewed what they were doing and told them whether it was conforming to what Goldin and Dailey wanted or whether they still hadn't got the message about how things needed to be changed. They did put that together. It was later rewritten by the Centers.

We also developed the information system. The people here at Headquarters developed a system whereby the people in the Program Offices could input their program status information and so then it just automatically happened as a presentation and it did some checking.

So I think overall that had a positive effect at the time. I don't know whether it's lasted or not, but at the time it did get everybody thinking more seriously about managing their programs and worrying about cost and schedule and having to get called on the carpet, before the Deputy Administrator to explain why things weren't going well.

But six months into that I got a call from George Abbey again, saying that I had to do this other job, that I needed to start working as combination Staff Director and Executive Secretary for the NASA Advisory Council. I've forgotten the specific issue with regard to the council and

whatever, but it ended up on the front page of *Space News*, which wasn't viewed as a good thing to happen so the responsibility was taken from my predecessor and given to me. Also when Goldin became Administrator, he didn't make any changes. He just allowed the current membership to stay on, and apparently a couple of them, at the dinner they have on the first day, had had a few too many drinks and told him what they thought of him and he stopped holding meetings. So the decision was, changes need to be made, so I was brought in to do the changes. We replaced almost all of the members of the council, which was a very touchy thing to do.

My predecessor's assistant declined to continue in the job under me, so I had to find an assistant as well as learn all this work, which is under the Federal Advisory Committee Act, and it's just a whole lot of bureaucratic procedures. So we had to appoint a lot of new members, go through everything that took, and then let the others know they weren't continuing. In the meantime, the new members were having to be selected, and we were coming up with lists of people for him to consider.

WRIGHT: Did you do all of that research as well, come up with the list?

ACCOLA: Quite a bit of it. Other people came up with names. I've forgotten. I'd have to think back now on it. At the same time, he already knew who he wanted to chair the council, and it was Brad Parkinson of Stanford University. So Brad also came up with names of people that he wanted to serve with him on the council. So that was in early [19]'94. I think January of '94 is when I started that. So we had quite a job just to learn all the procedures, go through all our files, understand what we had, and get them organized.

Underneath the council were a number of committees that reported, and at the time, under

Al [Albert A.] Gore [Jr.] and his Reinventing Government Initiative, they had decreed that the number of committees had to be reduced, and then you couldn't add any more. NASA had decreased the number of committees and, in fact, that was how my predecessor had gotten in trouble, because one committee was being folded into or under another one, and those people were not happy, and it was how she'd responded to that that got her in trouble.

So we had to go through this, clean up our paperwork with the Office of Management and Budget about the committees that we had and get them chartered, redo charters, because— well, for one thing, there had been a Space Station Committee, but it had been advising on the redesign of the Space Station. While I was at Energy and then doing the program management at Headquarters, there had been yet another redesign of the Space Station Program, and this is the one that brought the Russians into the partnership and there had been this committee overseeing that. So that committee had to be rechartered, renamed, and in fact, it started from scratch; most of the people did not carry over.

There was also the aspect of the job of watching over all these advisory committees and going to their meetings to make sure that they operated according to the Federal Advisory Committee Acts, because there are people here in Washington that go around and are just ready to jump on you if you don't comply. Those committees were supposed to conform to the rules and regulations and have all their members support it, so we had a constant flow of paperwork, with members being appointed, having to submit their financial disclosure forms, getting those reviewed and approved by the [NASA] Legal Office. So it was just a real paper mill. And then keeping track of who was on a committee. They were appointed for two years, so then you had to get them to make a decision whether to take them off or reappoint them, and make sure their paperwork was correct.

The person who turned out to be my assistant was Patty Hutchinson. When I first was moved into Headquarters working on program management, it was two doors down from the Office of Exploration, which had been abolished. [Dr. Michael D.] Mike Griffin had been the head of it, and he was waiting to figure out what his next assignment would be at the time, and his secretary was Patty, so she sort of came into taking care of me, and then when I got moved to this Advisory Council thing, she became my assistant.

So we had a ton of paper and things to keep track of and we needed a system to do it, so we got the Headquarters Information System people to work on it. Sat down with them, explained what we needed, what requirements, and they developed the system, and initially we had a few problems with it, but it was in fairly good shape when I left. She actually had left a year earlier, so I hadn't had much help for almost a year.

But anyway, to wrap up talking about that job, it was fascinating, because I got to learn everything that was going on in the whole agency. And even though administratively, part way through the NASA Advisory Council thing, they created an Office of Policy and Plans, I had been sort of parked in External Relations prior to that, and they took care of me administratively, but other than that, we operated independently. But they created an Office of Policy and Plans, and the Advisory Council function was put in that office. On an org [organizational] chart, it reports to the Administrator, and the NASA ex-officio member of the Advisory Council is the Deputy Administrator, Jack Dailey. So since he was at all the meetings, he was the one that, after I got the agenda put together, I coordinated with him, and I could use his name to get people to do presentations. So on paper, it looked like I worked pretty high up; organizationally I was actually in another office. But because of that I could walk around the building and tell people I needed a presentation, the council wants a presentation on something, they want to

know how this is going, and they had no choice but to say, "Okay," and put it together. Because the council was overseeing virtually everything that NASA does, I got a really big picture of everything that was going on at NASA, whereas, when you work in a particular area, you just see that one part of it. And I got to meet a lot of people.

After the first year, year and a half, Brad wanted to alternate meetings, one at Headquarters and then one at a field center, so we traveled to some field centers and we would devote half a day to letting that Center tell us all they had going on and were working on. So you got to see a lot of different viewpoints within NASA.

WRIGHT: Did you come back to JSC for one of your meetings?

ACCOLA: We did. We did go to JSC for one of them. We went to Huntsville, to Marshall, to JSC, and to [NASA] Ames [Research Center, Moffett Field, California] while I was there. I don't recall getting to any of the others with the Advisory Council. So that was a lot of fun, but the people that were appointed are all really, really bright, hardworking, and interesting individuals, in my experience.

At one point we were given the job of reviewing the Augustine Report [issued by the Advisory Committee on the Future of the U.S. Space Program, December 17, 1990] and all their recommendations in determining whether NASA had or had not implemented the recommendations, and offering advice on that. So that was quite an endeavor, too, to go through that, and then put all that in a report.

The council would get interested in something and then not let it go, and sometimes it was obvious that NASA wasn't going to do it. So that was frustrating for the council members.

Other times the council had what I thought were good recommendations, and NASA just sort of ignored them, didn't do anything about them. After a time, it got where I think they got tired of revisiting the same thing, just as people at NASA were getting tired of revisiting the same thing. You know, the Space Transportation Plan, I don't know how many different groups have looked at that, come up with recommendations. They put together something they're going to do, they go off and do it for a couple of years, and then they're back at square one. So all of that Space Transportation effort was going on when the council was making their recommendations, and the issue was whether single-stage-to-orbit was the way to go or not, and it went on and on. It was about ten years ago and we still don't have any way to get into space except for the Shuttle.

Like I said, there was a lot of paperwork and data entry and work that should have been done by a secretary or that level, and instead was falling to my assistant, who was a couple of levels up from that. Then as a result, I was spending more time doing things that she really should have been doing if she had had the time to do them. So it was really a total waste for an SES to be doing a lot of what I was doing; I should have been telling somebody what to do and then seeing how they did it. And there was no end in sight. Headquarters had been scrubbed down. There were no support contractors anymore, so we had to do it.

My supervisor at the time, a political appointee, although he had a big NASA background, just wasn't really into dealing with it. They would ask, "Why does it take an SES full-time?"

He'd say, "I don't know," and he'd ask me.

And I'd say, "It doesn't. This should not be a full-time job for me; this should be about a 10 or 20 percent time job for me, and I should be working on other things, if we had the right staffing." But because of the downsizing at Headquarters, he wouldn't ask for additional staff,

and we couldn't provide it with what we had.

They offered the buyout. They offered the buyout, but actually I had looked around Headquarters, thinking, "I need to find something else to do. This is not tenable much longer." And there really wasn't anything. I only found one job I was interested in, that I thought fit my background and my interests, that I would enjoy doing. It was on an announcement, a vacancy announcement, and I applied for it, interviewed, and didn't hear back. Then in the context of my job, I talked to the guy and he told me that he had picked me, but that somebody above him wanted to promote a GS-15 minority into the job and was having trouble getting that done, and so there was nothing happening, but the job wasn't available to me.

So I thought, well, I didn't see a job here at Headquarters I wanted. I just still thought going back to JSC wasn't for me—I'd been called within the six months earlier about going back again by somebody, and I said no. So I took the buyout, early retirement. I figured I had a good time. It was a good time while it lasted. I had a rocky start and didn't have the happiest of endings, but there was a long period in the meantime where I had a huge amount of fun, met a lot of good people, I think I accomplished a lot, and totally enjoyed my career.

WRIGHT: Sounds like it. Well, let's take a break for just a minute.

[pause]

WRIGHT: Before we close, I was going to ask you a couple more questions about two areas that you were very much involved in, the first one being as a Sim Sup [Simulation Supervisor] and being so involved in training. You were creating simulations to create experiences that had

never happened, so that if the astronauts or the software or the flight controllers got into those incidents, that they would know how to react. Could you share with us, maybe walk through some of that planning strategy of how did you take nothing and turn it into something, when you had nothing to base it on?

ACCOLA: Well, we had a lot of help. We learned everything we could about the vehicle and the software, and there were other people that were writing procedures and time lines. So we started with a simulator that eventually worked and represented the vehicle and the flight software and a set of things that the crew was going to be doing and the procedures for doing them. The flight controllers had analyzed the systems as well for what could happen, so there were a lot of malfunction procedures, so "If this happens, you do that."

So some of what we did was simply exercising those procedures, creating the situation that caused the crew and the flight controllers to go through a certain malfunction procedure, and then see if it worked right. Other times it was trying to think of something that they hadn't thought of, that they don't have this situation covered. A lot of times it was putting together combinations so that a fault in one system interacted with the malfunction in a completely different system and gave them something that they had to sort through. That was where the real creativity came in, or disasters. Sometimes if they weren't well coordinated, if you put in a fault and then somebody put in another fault, it could create a really bad situation, or it could create something that destroyed what you were trying to accomplish with the first malfunction.

So on my team, it took a lot of coordinating between them and a lot of teamwork. When we first started working together - we called the list of malfunctions, the plan for the simulation, a script - so when we would have our first script meetings, they started off, "What do you want

to do?"

"Well, I don't know. What do you want to do?"

Then somebody would come up and say, "I want to have this failure."

Then somebody else, "I want to have that failure."

"Well, if you do that, then it won't work."

So we would spend a lot of time with them having to go back and figure out, "Well, if he does that, I can't do what I want to, so I'm going to have to figure out what I can do." Then it was me deciding, okay, this case is going to be driven around this major anomalous situation, and everybody else come up with things that fit either within that or play off of it. So I was telling them, "Don't just come here not knowing. Have an idea of what you want to do."

So then they would come in with these ideas and have trouble. So they finally figured this out. Somebody would come in in advance of the script meeting and say, "I want to run this in the case. Can I do this?"

So I'd say, "Okay, but it's got ramifications for the other guys. Work it out."

So it got to the point where they were working among themselves, and when we'd have the meeting, they'd say, "Okay, this is what we want to do," and the guy with the focus of the sim [simulation] would say, "Okay, I want to put this in." This is—well, not so much on launch, because that phase went so quick, but more in the on-orbit sims and long-duration sims, and, to a lesser extent, reentry. But he'd say, "Okay, this is what I want to do."

Somebody would say, "If he does that, then I'm going to do this." Then they would add in some other things to fill it out. So they were really working together as a team and coordinating everything.

The other SCA [Simulation Control Area] team never got to that point. They were still

doing more individual things, and the flight directors could actually tell which team—they told me, anyway—had written the scripts, because with mine, they were more controlled; everything was coordinated and worked well together. With the other team, they might have some really interesting, unusual thing happen, or it might be a total bomb. They might just not work at all; it was less predictable. So sometimes they had better scripts and sometimes they just had real duds of scripts, whereas mine were more predictable in the sense of nothing was going to spin out of control.

WRIGHT: Did you get much feedback from the astronauts after they returned from their flights on how the simulation training affected them on flight?

ACCOLA: Well, after the flight, the crew always had a debriefing with the training people, and so we did get that in a formal sense, where they talked about things they thought needed to be changed. It was after one of those that Rick [Frederick H.] Hauck told me we needed to do some serious work on the rendezvous training. But the crew did make the rounds of all the different groups, doing a debriefing, telling them what they thought was good, bad, or inadequate about the training they got. That was after the flight.

After the simulations, we were in such contact all the time that we would get instant feedback sometimes, because the crew is still sitting in the simulator after it's over, and they could say something. Every simulation was debriefed. They would set the simulator up. If we were doing launches or entries, they would be setting the simulator up for the next run while we were debriefing the previous run. So the crew always had a chance to say anything then, and so did the flight controllers, if they had any critique of the simulation.

There was one case. After the thirty-hour-long duration simulation, the debriefing was set up for later. Well, actually, the next week. I think the sim ended maybe on Thursday, and Denny [John D. Holt] was starting to put together—but the format for that debriefing, instead of doing it on console, was going to be over in the Building 30 auditorium. Somehow he got it set up that we were going to put together the time line of all the malfunctions and go through them, and he got that started and then announced that he was taking vacation the next week, going fishing, that he would come in for the debriefing, but I needed to finish putting the thing together.

So I got it put together, went over there, so there was Kranz, the Flight Directors, Don [Donald R.] Puddy, Neil [B.] Hutchinson, Chuck [Charles R.] Lewis, flight controllers, training people—the auditorium was standing-room-only with people at the back—and me, sitting at a table, on the stage, waiting for Denny to come and lead this debriefing, and he didn't come and he didn't come, and finally, after about fifteen minutes, Kranz says, "Denny's not here, Anne. Get this show going."

So I did; I went through it all. Denny showed up about an hour and a half later. It took most of the afternoon, because we had a lot of malfunctions and a lot of discussion. But he finally showed up, and I said, "Do you want to do this?"

And he said, "No, you're doing fine; keep on." So I've never figured out whether he did that on purpose or whether this was just Denny showing up when he got around to it.

So we had these long debriefings after the long-duration sims. The traditional format was the Flight Director afterwards would go through what they saw, how they handled it, whether they thought they should do it differently next time, what action items they were going to give themselves to go off and work on, and then the Sim Sup just confirmed that they had diagnosed

the malfunctions correctly or tell them, "Well, you missed this altogether. Did you consider this alternative?"

But because of the way this long-duration sim started off, it turned out to be a major production, and I'm not sure if Denny left before we did another one, after that thirty-hour. While that debriefing was a few days later, after that they happened immediately after it ended, so the sim went until, I don't know, about one or two o'clock, and there would be a ten-minute break and then we would go into this two- or three-hour debriefing, and then go out for the beer bust.

So I was having to put this handout of all the malfunctions together while it was going on on the console, or then, after work, going home at night to have it ready so that when we knew what we had actually done, because you couldn't finish it until it was over, you didn't know if you were going to have to take something that you'd planned out of the script because of something else that had happened, or because somebody hadn't reacted the way you were expecting, so you just had to be prepared for anything in those simulations.

But I was putting it together and then having copies made during the ten-minute break. Then we were actually going through the whole list, "We put in this fault this time," and then getting their reaction. Then after some of those, I thought, "This is not right. I don't know how we got in this position, but we're just spoon feeding answers to them," and by doing that, they were able, if they wanted to, to act as if, "Oh yeah, they did it for that reason," or gloss over things they may not have really gotten. This is a case of me not doing things the way I should have, probably. Instead of telling them what I'm going to do in advance and coordinating it, I just did it. So I announced at the end of a sim we weren't doing it that way anymore and they needed to do the debriefing and then we'd tell them how it was, and that upset one of them in

particular, Neil Hutchinson. I'm not sure about the other two or three. I think we had Tommy [W.] Holloway on board by then.

So at any rate, [M.] Pete Frank was the head of the Flight Directors Office, so the Flight Directors and my chain of bosses ended up in Kranz's office to discuss the issue with debriefings, and it ended up that he agreed that they should be taking the lead in doing the debriefings, and we agreed to provide them with the time line of the malfunctions that went in, so it worked out.

But those debriefings, if they didn't like something about the training or the simulator, they let us know then, pretty much. They would call up. I can't think of a time when they called up specifically to complain about training or comment about it. We pretty much took care of it at the time, during debriefings. Sometimes they would say what they wanted. They would say, "Well, I think we need to have more of this kind of sim," or, "You haven't given us a case that does this lately." But I think, like I said before, it was a very collegial atmosphere. I think that's probably the right word for it, how we got along.

WRIGHT: To change the time period, move you up to 1986, when *Challenger* occurred. Where were you at the time and how did you learn about the loss of the Shuttle?

ACCOLA: I was in the Space Station Project Office that morning, and I was in my office. Somebody walked by and said something about, "Launch in twenty minutes, Anne.

And I said, "Okay, I'll be over there." There weren't a lot of TVs around at the time, so we actually had to go into Clarke Covington's office. It was the only TV, and he was out, so people gathered around it there. So I had planned to go over there, but whatever I was doing, I

lost track of time, and the next thing I knew, that same guy came back and said, "Oh god." I can't remember what else he said, but something like, "Oh god, there's been a problem."

I said, "Oh?," so I ran over, and hearing what little I heard, I knew right then what had happened.

WRIGHT: Were you involved at all with the—

ACCOLA: No, I was no longer working on the Shuttle Program. I was assigned to Space Station. They did pull some people in from other parts of the Center that weren't working on it. One of the men in the Space Station Project Office was pulled off to work on one of the teams, but I wasn't involved in it. I had worked fairly closely with J.R., Judy [Judith A.] Resnik, because she and Steve [Steven A.] Hawley had been the Astronaut Office designees to follow training, the development, and keep track of everything. So I had worked with her and talked with her quite a bit. And Dick [Francis R.] Scobee and El [Ellison S.] Onizuka were both on the Astronaut Support Team at KSC [NASA Kennedy Space Center, Florida] for the second Shuttle flight, when I was there for two weeks, so I was around them. Prior to that, not much at all, but quite a bit for those two weeks that we were sharing an office as we all came and went and worked.

WRIGHT: Did you find a lot of difference in training Shuttle astronauts and the Apollo astronauts? Of course, I know it was the software and hardware, but I mean—

ACCOLA: I didn't actually train Apollo astronauts.

WRIGHT: Oh, that's right.

ACCOLA: It was flight controllers then.

WRIGHT: You came to Headquarters to work for a while and yet you had a lot of experience in the field center at JSC. What are the differences between working in the two different types of offices?

ACCOLA: It's just a world of difference on a couple of levels. In Washington, NASA is just another government agency, just another government job to a lot of people, and at the field centers, people, by and large, I think, go to work there because they want to work for NASA. They want to be part of the space program and that excitement, even at the lower levels. The most concrete example I can give is travel and the whole experience of getting travel orders and travel vouchers processed. At JSC, in the Travel Office, it was very efficient, it was very customer-friendly, and they felt like they were there working on the space program, contributing to the space program by helping us do our travel. I said something once to somebody and that's what she told me, "Well, we're helping you do these space flights." They had ownership in what the agency was about, and so everything was very fast and efficient.

When we moved up to Reston, we had to go through the Headquarters Travel Office, and everything was totally bureaucratic, took forever. People just were not doing their jobs in a lot of cases, and it's because—I think; maybe I'm wrong—it's just like any other job. They could be doing that for the Department of Treasury; they could be doing it for the Department of Labor. NASA's nothing special to them; it's just a paycheck. So, to me, there was just a whole

attitudinal difference between people at the field centers, who were all very pleasant and wanted to help you do whatever you needed to get done, whereas at Headquarters they don't care if it gets done or not; it's just a job.

Then there are a couple of other things that are different, and this is more at the technical or programmatic-type level of higher people. There is a real—it's true everywhere in Washington—a real status consciousness. So people don't necessarily want to talk to you if you're two levels lower than them, and if you go to some gathering, the whole time you're talking to somebody, they're looking over your shoulder or looking around the room to see if there's somebody more important or higher up that they could be talking to instead of you. This isn't just at the level I was at; you read about it. In Washington it happens everywhere, even at higher levels, VIPs. It happens probably to everybody except the President. But it's a very real thing; I've experienced it, where you'd be talking to somebody and then they'll look over and they'll say, "Nice talking to you. Bye," and they've zoomed off to talk to somebody that's more important or somebody that can do something for them. And that never happened, in my experience, at the field centers that much.

The other is a perspective. People at field centers are only thinking of their program, their project, and what's best for it, getting money, or doing it a certain way, and thinking only of it in technical terms. They don't realize there's a bigger world out there. So at Headquarters, people do, so they're thinking of other Centers. But they're also thinking in a political context, "If you do that, it won't sit well with this senator, who is on our committee," or you may think that, but you can't say that, because it's a no-no to say those things. So there's a whole political and more world-view thinking that needs to go on at Headquarters, and people at the Centers— there's a lot of back and forth, people coming and going, and I'm not saying that everybody is

like that, but I just had that happen at various times with people from field centers. You're talking to them and they don't understand stuff. Then when you explain that it's because of something going on in another program or in another part of the agency or in the political— they're always surprised. "Oh, I never thought of that. I never looked at that."

Everybody, I guess, does what they need to do and operates in whatever environment they're in. It's not to say that one is good or one is bad, although I do wish that some of the bureaucratic aspects of Washington and workers here had more passion for their job.

WRIGHT: That brings us back to where we started yesterday, you mentioned you went to work for NASA because you wanted to be around the space exploration business, and how at first you had to go home and watch what was happening on television, but yet as you finished your career, you were right in the midst of everything by being on the Advisory Council, knowing everything that was going on in every Center all the time. Can you look back on your career with NASA and find a time that you think is probably either, one, your most challenging time while you were with the agency, and, two, what you feel might have been the most significant time that you feel like you made a contribution to the agency? Maybe it's easiest to say what are you the most proud of that you've done while you were with them.

ACCOLA: That's really hard - to pick out one thing. The easy thing would be to say that I'm glad that I not just survived, but succeeded in Flight Control Division as the first woman. It probably was inevitable, but it might have made things easier than otherwise. I guess overall I'd just say, not one accomplishment, but most proud that I took on so many things that I had never done before and didn't necessarily know how to do, but I figured out what to do, how to do it,

and got it done. I think that's what I have the most sense of accomplishment about, is I actually did accomplish things, things that hadn't been done before, or people weren't sure what to do, or that were sort of broken and needed to be fixed. They gave them to me and I figured it out and got it done, and generally with less support than somebody else would have had.

When I left the Schedules and Flow Management Office, I didn't have anybody assigned to work for me. I was getting information from a couple of people and coordinating people. When they replaced me, that guy was given six people to do the job, to support him.

WRIGHT: Wow. As you mentioned, too, you did so many varied jobs, and so that must have been very challenging time for you. Every time you walked in, it was breaking new ground.

ACCOLA: Yes, it was very interesting, and I'm lucky that since I am the sort of person that after you figure out how to do something and you get it running and it becomes repetitive, then I get bored and want to move on, I've also been very fortunate that I've had the opportunity and options given to me to take on new assignments.

WRIGHT: Is there anything else that you'd like to add or any other aspects you can think of that we might not have covered before we close today?

ACCOLA: No, I don't think so. Going through this just fills my head with all sorts of memories and anecdotes and things, but for now I think we've covered all the basics...

WRIGHT: We thank you.

ACCOLA: ...of my thirty-one years.

WRIGHT: That's a lot of years. I know it's hard to do in just a few hours, but thanks so much for the effort.

ACCOLA: Thank you for the opportunity. I'm glad to be able to get this recorded.

WRIGHT: We are, too.

[End of interview]