

NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT

EDITED ORAL HISTORY TRANSCRIPT

CHARLES T. BOURLAND
INTERVIEWED BY JENNIFER ROSS-NAZZAL
HOUSTON, TEXAS – 18 AUGUST 2014

ROSS-NAZZAL: Today is August 18, 2014. This telephone interview with Dr. Charles Bourland is being conducted in Houston, Texas, for the JSC Oral History Project. The interviewer is Jennifer Ross-Nazzal. Thanks again for taking some time to talk with me on a nice cool day, when you could be enjoying the outside for a little bit. I wanted to get a sense of what was going on at the time of the selection of the women. One of the things that I thought was interesting is you were one of the few men at NASA who worked with a professional woman who was fairly high up in the civil service ranks, Rita [M.] Rapp. Do you recall any sort of training that was offered for men who hadn't worked with professional women before, when they started talking about bringing in more women?

BOURLAND: No, I don't remember any type of training. A lot of people that worked with Rita Rapp had a lot of complaints, particularly her boss, because Rita just worked on her own. She was out there by herself and didn't let anybody know what was going on a lot of the time. She was always good to me. She trained me, actually, when I first came there.

ROSS-NAZZAL: I thought that was interesting. So many of the people that we talked to, when the women came in, this was their first opportunity to really work with someone other than a secretary because, obviously, most women were secretaries at that point. Do you remember hearing

anything about the decision to select women or minority astronauts? Was that big discussion on-site?

BOURLAND: Not where I was working, anyway. I was in the medical sciences. Part of the time, I was with them, and sometimes I was with another group, but I was always in their building. The main concern, I think, when they first decided to select women, was how are they going to go to the bathroom?

ROSS-NAZZAL: Using the bathroom in space?

BOURLAND: In space, yes.

ROSS-NAZZAL: Were you working with some of the guys who were working on that problem and testing in the KC-135?

BOURLAND: I wasn't involved directly. Some of the guys in Building 37 were working on that and even kept some of their prototype molds that they were making in my refrigerator. Other than that, I didn't get involved with them.

ROSS-NAZZAL: You were working on the food at that point as well? On the Space Shuttle system food? Is that what you were primarily tasked with?

BOURLAND: Yes, we were doing the Space Shuttle food.

ROSS-NAZZAL: When the astronauts came for the first time down to Houston in January of '78, did you go to the Teague [Auditorium] to see who the folks were and to meet them?

BOURLAND: No. Most of them didn't have time to go do anything like that. In fact, I think they were just across the street from me, but no, I didn't do that.

ROSS-NAZZAL: How was the class received when it finally arrived? There were 35 of them. Did you get a sense of what people thought about this new group of astronauts coming in?

BOURLAND: No. I don't think there was any objection, not in our area anyway.

ROSS-NAZZAL: What was the status of the Shuttle food system in '78 and '79 at that point?

BOURLAND: We didn't have a galley in the beginning, so we were putting together a food system based on ASTP [Apollo-Soyuz Test Project], mostly, using that type of package. We had to develop a water injection system, a portable thing that they could take up there, so we were working on a lot of hardware and a lot of unknowns, trying to get the food system to go.

ROSS-NAZZAL: [M.] Rhea [Seddon] had told us that she was assigned to work the food system, but your email suggested you did not work with her when she was doing that technical assignment on the food system.

BOURLAND: Yes, she was assigned to the food system, and she came over and talked to us several times. We went over the food system with her, and she understood what we were doing and offered comments occasionally. We had a board that met once a week to review galley design, basically, but other hardware that went up there, life sciences hardware, was discussed at this board meeting. Rhea was always there at that board meeting. They were designing the galley, and it went through a bunch of modifications, and a lot of them were based on Rhea's input.

ROSS-NAZZAL: Can you talk about how it changed and what some of her suggestions were, some of the modifications she considered?

BOURLAND: I can't recall any in detail, but General Electric had the contract to develop and produce the galley. They had to be restrained. They were going off in wild directions, and Rhea always used common sense and set them on a straight path, so they had something that was simple and easy to work and not too complex.

ROSS-NAZZAL: Going back to those meetings, obviously Rita must have been involved, but was Rhea the only other woman at the table?

BOURLAND: Yes, she was the only one that attended these. She even went to Valley Forge [Pennsylvania] a couple times for meetings. I went up there one time, when she went, and they all respected her. When she made a comment or a decision, it was taken up and followed through. That trip to Valley Forge was a design review meeting. It snowed while we were up there, 8 inches, biggest snow they'd had in I don't know when. It shut the city down. Rhea was up there

with open-toed shoes. She came up in a T-38, and you know the luggage compartment is about the size of a shoebox, so that's the only shoes she had. She was walking around in snow with open-toed shoes.

ROSS-NAZZAL: That must have been miserable.

BOURLAND: I went up there with Dick [Richard L.] Sauer, and he rented a car. Rhea asked us the next morning, "Can I just follow you guys to the airport?" Dick had been up there a dozen times. We were talking on the way to the airport, and Dick wasn't paying attention to where he was going, and we ended up in a really bad part of Philadelphia. When we got to the airport, we asked Rhea how she liked the tour, and she just glared at us.

ROSS-NAZZAL: I can imagine. How would you characterize or describe Rhea, having worked with her?

BOURLAND: She was very practical, looked at things in a practical sense. I can give you an example. One time, at one of these meetings, this engineer had designed a soap dispenser, a real complex thing, for the shower. They had a shower on the plans. It didn't fly, but they were working on one. This guy went through all the descriptions of that soap dispenser, and then they asked Rhea what she thought about it. She said, "Well, it would be fine if you could produce it for the same price as a bar of soap on a string."

ROSS-NAZZAL: I imagine some of those things were pretty expensive. What do you think were some of her main concerns when she started working on the food system? Do you recall?

BOURLAND: No, I don't recall anything in particular. She was just the interface between the crew and if they had any problems, they went to her. Most of the time they didn't.

ROSS-NAZZAL: Did you ever fly with her on the KC-135? I understand she was up there testing some of the packaging you guys had put together.

BOURLAND: No, I never did go on the KC with her.

ROSS-NAZZAL: I found an article that I thought was interesting, from '79. It was a Weight Watchers article, of all things. Rhea said that she was trying to having the food system changed a bit because astronauts were given so many calories on orbit that the women, who were much smaller than the men, would end up eating too much and gain weight on orbit. She wanted to get smaller portions on board. She also mentioned wanting to add fruits and vegetables and getting rid of some of the cookies and puddings on board. Do you recall any discussions about that?

Bourland: Not precisely, anyway. I think she probably mentioned that a time or two. I think she understood, after they went to the menu selection, that the crews could select whatever they wanted. They didn't have to select pudding and cookies if they didn't want. We didn't change any portion sizes because that was too difficult. We'd have more items in inventory than we could keep track of.

ROSS-NAZZAL: She also had a background, I think, in nutrition. As a surgeon, did she ever weigh in on the nutrition being offered in the crew system?

BOURLAND: Yes, that was the reason she said she came over there, because she had an interest in nutrition. I don't remember her talking about it very much.

ROSS-NAZZAL: The women did face some immature comments or attitudes. Did Rhea ever share with you any difficulties that she might have encountered, working at NASA in the late seventies?

BOURLAND: Yes. When she first came to our group, she said that when they moved into Building 4 and walked down the hallway, the older astronauts just ignored them, wouldn't even look their direction, didn't speak to them. She mentioned John [W.] Young—I don't remember any others. She said the old guys just refused to acknowledge them.

ROSS-NAZZAL: That makes it hard to work with them.

BOURLAND: I would think so, yes.

ROSS-NAZZAL: Did you ever witness any of those immature attitudes or comments that she may have encountered?

BOURLAND: No, no. They always treated them with respect.

ROSS-NAZZAL: Did Rhea tell you how she reacted to those guys not looking at them, just basically ignoring them?

BOURLAND: I don't remember her saying how she countered that.

ROSS-NAZZAL: You didn't work in the Astronaut Office, but you worked regularly with the crews. Do you think that being female was an issue for the women?

BOURLAND: No. I never did witness anything that caused it to point that direction anyway.

ROSS-NAZZAL: I was looking through your résumé and I noticed that one of the other things that you were responsible for in the early part of the program was providing the medical equipment for Shuttle. Did you work with Rhea or Anna [L. Fisher] on those kits? I was thinking that they were involved early on in some of that discussion as well, so I wondered if you had worked with either one of them on those kits.

BOURLAND: Not directly. I had a guy working for me, Bill Seitz, and they probably went through him. I didn't work directly with them on the medical kits.

ROSS-NAZZAL: Would you talk with me about working with the women in terms of their crew assignments? There were a number of assignments—Sally [K. Ride] was first. Can you talk about working with them in training, sensory sessions, TCDT [Terminal Countdown Demonstration Test], or quarantine?

BOURLAND: Yes, I got a couple of stories I guess I could tell. When Sally Ride flew the first time, they sent me to the Cape [Canaveral, Florida]. We hired people to do the job down there, so all of us didn't have to go. I'd go down there occasionally. I went down there early and got everything set up. I had a friend at M&M Mars, who gave me some experimental mint M&Ms. They were almost addictive. He gave me 10 pounds of them, I think. I didn't know what to do with them, so I took a bunch down to the Cape and put a bowl on each table in the dining room. About the second day, Sally Ride came up to me and said, "Can you do me a favor?" I said, "Sure, what?" She said, "Can you take those M&Ms off the table and put them back there in the kitchen, where the astronauts go for their snacks? I just can't resist eating them, and I don't want to be eating them." I said, "Okay, fine." I took them back there, and nobody complained. They had a little area in the kitchen that astronauts could go and get a snack if they wanted one.

ROSS-NAZZAL: Those sound pretty good. Now I'm hungry for mint M&Ms.

BOURLAND: I was down there one or two times when Anna Fisher was a Cape Crusader; I guess she was down there. She was always really nice and didn't complain about anything to us.

ROSS-NAZZAL: Did you work very closely with each crew that came up? Would you work training sessions, for instance, or did you prepare those food for those sensory sessions, or was someone else working those?

BOURLAND: It varied. Sometimes I was involved in the training sessions; sometimes if we had help to do it, I didn't do that.

ROSS-NAZZAL: Did you have any contact with Judy [Judith A.] Resnik?

BOURLAND: Not a lot. I was at some of the training sessions, and she just acted like a trooper and didn't complain. Did what she was supposed to do. I did have one memory of her; I think it was STS-41D, probably. They were in the trainer, and we had to take lunch to them every day, a space food lunch. There's only two or three people who had access to the building. They wouldn't give a lot of access, and everybody was gone except me, so I had to take the food over there. When I went over there, the dietitian told me to ask Judy a question. I don't remember what the question was; it was something about a food item. When I asked her, she gave me the answer and then she said, "I can't believe they go to this kind of detail over food."

ROSS-NAZZAL: I understand she was a pretty special person. A lot of people have told me that she had a great laugh and a great sense of humor. Did you work at all with Kathy [Kathryn D.] Sullivan?

BOURLAND: No, very little. They all lived in my neighborhood. Kathy Sullivan and Sally Ride and Rhea Seddon all lived in my neighborhood. Sally Ride was just across the alleyway from me, in University Green. Rhea Seddon was about a block away. Kathy Sullivan across the street, across Broadlawn. They all had keys to each other's houses and when somebody was on travel, they took care of the flowers or whatever had to be done.

ROSS-NAZZAL: Did you develop any close friendships with any of the six women?

BOURLAND: No. Rhea Seddon was about the only one that was very friendly. Kathy Sullivan, I think, was friendly; I just never met her. Sally Ride was right out the back door. When I went out and got in my car and she was getting in her car, she just ignored me. Didn't speak at all. I would meet her in the grocery store, right down the aisle, and I had to force her to speak. I just made the point, I'm going to make her speak to me, whether she wants to or not. I didn't understand why she was so unfriendly with people. She didn't appear to be friendly at all—to me, anyway.

ROSS-NAZZAL: I guess Lynn Sherr's book [*Sally Ride: America's First Woman in Space*] definitely answered that question. That was just her style.

BOURLAND: Yes, I was reading that book, I finally figured out that part of it. At that time, I ran the same 4-mile loop that Sally ran, except we ran in opposite directions. I'd meet her about every afternoon when she was there running. She would wave or hold up her hand as kind of a runner's salute that everybody did there, but she still didn't speak, but she did raise her hand when I met her.

ROSS-NAZZAL: Some of the folks that I've talked to talked about how bringing in these new Thirty-Five New Guys really sort of reinvigorated the office. Did you ever hang out with the class? You mentioned you were a runner; did you ever go running with anybody in the '78 class?

BOURLAND: No. Other people rarely ran with them because they started from the astronaut gym, so nobody can get in the gym. You weren't there when they started, so I guess you could catch them and run with them outside.

ROSS-NAZZAL: How well did you know Shannon [W.] Lucid? Did you spend much time with her?

BOURLAND: In the early days, I didn't, but then later, I got to know her real well.

ROSS-NAZZAL: Would you talk about Shannon? She seems to be one of the women who was dedicated to work but also had a family and was dedicated to her children and home life as well.

BOURLAND: Yes. I was on a source evaluation board with her, and every time we took a break she'd tell us stories. We kept telling her that she really needs to write a book, but she said, "I'll never write a book about my friends." She had some stories that were really interesting. It was about the time that book *Dragonfly* came out. She had some comments on that, too. She said, "Don't ever quote them."

ROSS-NAZZAL: It's funny, she still says that. She still tells me she's never going to write a book.

BOURLAND: Yes. She's an avid reader, I don't know why she doesn't write a book, but she's got these fascinating stories about being up on Mir.

ROSS-NAZZAL: How would you characterize her? Did you spend much time with her before she flew, when she was in Russia?

BOURLAND: No. Not a whole lot, but we did do an interview after she came back from Mir, and she was very, very frank and discussed everything that we wanted to know about the food system.

ROSS-NAZZAL: Did you get a sense of how selecting these six women changed JSC or NASA, or was it just no big deal? Everybody thought it was going to be a big deal, and when they came it was like, "This is it?"

BOURLAND: I don't think it was a big deal because they all fit in and did their work. Most of them didn't want to stand out; they just wanted to do their jobs.

ROSS-NAZZAL: Did you get a sense of how they were able to meld in so easily with the guys? They didn't really seem to want to stand out. Did you get a sense of how they were able to do that?

BOURLAND: No, not really.

ROSS-NAZZAL: What do you think, if you had to think, their legacy is?

BOURLAND: I'd say they made a major change for women, particularly. They exhibited that they're equals. I forgot to mention Shannon made a movie for us, too, *What's Cooking in Space*.

You've probably seen that. I helped do the movie, probably wrote the script, but Shannon was a star for that.

ROSS-NAZZAL: Did that come out after Shuttle-Mir or was that earlier?

BOURLAND: That was before Mir, I think.

ROSS-NAZZAL: I'm going to have to get a copy of that. I haven't seen that. Did Rita ever talk about the women to you? Did she ever make any comments to you about those six?

BOURLAND: Yes, sometimes, I think. In particular, her boss, but she didn't make any comments about the astronauts. That was her power; if somebody didn't do what she wanted, she called John Young, and it would be done.

ROSS-NAZZAL: Yes, she sounded like an interesting character. I'm sorry I didn't get a chance to meet her. Do you have any other thoughts or comments on the women?

BOURLAND: I've got another little story on Shannon; she told us that I can tell this one. She said she was over in the WETF [Weightless Environment Training Facility] with the suit on in the water. When they get out, they take off the diaper. She said, "One day, just for kicks, I opened up a can of butterscotch pudding and put it in my diaper."

ROSS-NAZZAL: I'm sure that went over well.

BOURLAND: Nobody ever said, I guess, and they probably didn't know who did it.

ROSS-NAZZAL: That says a lot about her sense of humor, doesn't it? I sure wish she would sit down and talk with me on a recorder because she's told me some stories, too, and it'd be nice to record them. I think she's a little gun-shy because of the media, and all of their attention that they got when they were picked.

BOURLAND: I had one other comment on Sally Ride. We played tennis about every Sunday morning at University Green, and I never did see Sally at the tennis court. Yet she was almost a pro tennis player. I was surprised; I never did see her with a racket. George [W.S.] Abbey played up there and some of the old astronauts, that would have been good politically to go up there and play, but she didn't.

ROSS-NAZZAL: Did Mr. Abbey live in that neighborhood?

BOURLAND: No. I think he lived in Nassau Bay, but they came up there. That was the favorite court for some reason. Two or three of the other older astronauts, I can't remember who was up there, but they played, too.

ROSS-NAZZAL: You reminded me—in your oral history interview, you mentioned that Sally came to you guys because she did not like the crew menu for STS-7. She didn't like, I think it was

asparagus, and so she wanted an individualized menu. Can you talk about her decision and her role in bringing about that change?

BOURLAND: Yes, she was helpful in forcing us to do that. We were resistant, because they told us there were going to be 50 missions a year. We couldn't have individualized menus, couldn't keep up with it; we didn't have the staff to do that. We'd been resisting. She came over and talked to us, and then she turned us the other way. We ended up having individual menus. I was surprised that she went through all this work, had a big old handwritten spreadsheet. She'd worked out times and all kinds of complex things to prove that it was better to do that.

ROSS-NAZZAL: Did she also talk about crew morale? Was that part of her argument?

BOURLAND: Yes.

ROSS-NAZZAL: Had you approached the idea with Rhea Seddon before STS-1 flew, of creating an individualized menu? Or that was just off the table at that point?

BOURLAND: We'd talked about it. We just didn't think we could do it. Then, when we realized we weren't going to have 54 flights, it could be done. One other thing on Sally I was going to mention, when she first came there, they put out the word: "No pictures of Sally Ride and food." She didn't want any pictures taken with her and the food; she was not the cook. Everybody observed the rule and didn't take any pictures. When she came back, the first thing she did was

make a movie of her preparing food. I went and helped her with the movie. I took food in and helped her set up for it.

ROSS-NAZZAL: Do you remember the name of that movie?

BOURLAND: No. I don't think it was a movie. It was just a short clip of some kind. I'm sure you could find it. It's in the mock-up. She was showing how you prepare food.

ROSS-NAZZAL: That's funny that you said that, because I was rereading Mike Mullane's book [*Riding Rockets: The Outrageous Tales of a Space Shuttle Astronaut*] the other day, and he said that she had said the same thing. She didn't want any pictures or video of her preparing food or in any stereotypical female roles. I wondered if that was Mike Mullane's bias, but obviously not.

BOURLAND: No, they put out the word, no pictures of her with food. I don't know if it was her or she had a PR [Public Relations] person or what.

ROSS-NAZZAL: Have you read Mike Mullane's book, *Riding Rockets*?

BOURLAND: Yes.

ROSS-NAZZAL: What did you think of his portrayal of Sally? He basically said she was a very, to put it politely, a strong feminist. Did you get that sense from her?

BOURLAND: It's been so long ago that I read it, I can't recall. I remember him talking about him and Judy Resnik. He talks about they came in there one time and got a couple of beers and went out to the beach house or somewhere, but I was there when they came and got the beer. It's been so long ago since I read his book, I don't remember. I was surprised too that Sally Ride was an environmentalist. When she came here, she was driving this old Volkswagen Rabbit that smoked and had oil running all over the place, and every few weeks, you'd see it sitting alongside the road, it wouldn't make it all the way in to the office.

ROSS-NAZZAL: Speaking of cars, I understand that Rhea had a Corvette when she came to the office. Do you remember that?

BOURLAND: Rhea Seddon? Yes. I was surprised at her. When I drove out of my neighborhood, I went by the back of her garage and her garage door was always open with that new Corvette sitting in there.

ROSS-NAZZAL: Did Kathy have a car, or did she just walk in to work?

BOURLAND: I don't know what Kathy had. We used to see Kathy when we were playing tennis. She jogged in the neighborhood on Sunday morning, and everybody said, "There goes our linebacker." She looked like a linebacker running.

ROSS-NAZZAL: That's a statement. You mentioned being out at the Cape for 41D. What are some other memories that you might have of that Zoo Crew and being out there for quarantine and getting ready for that flight?

BOURLAND: It's been so long ago, there have been so many, I don't have any specific memories about that. When I read that book, I said, "I remember when he came in here and got that," because I was wondering how they got a break from the crew training.

ROSS-NAZZAL: Did you work out at the Cape when Anna Fisher and Joe [Joseph P.] Allen, Rick Frederick H.] Hauck, when they were getting ready to fly [STS]-51A?

BOURLAND: No.

ROSS-NAZZAL: Did you work [STS]-51D or [STS]-51G, any of those missions?

BOURLAND: I don't remember. Who was on 51D?

ROSS-NAZZAL: 51D was [Karol J.] Bobko and [E.] Jake Garn and Rhea was on that mission, along with Jeff [Jeffrey A.] Hoffman and [S.] Dave Griggs.

BOURLAND: No, I wasn't at the Cape for that. I don't think I was. I didn't go very many times later on.

ROSS-NAZZAL: Then 51G included the Saudi Arabian prince [Sultan Salman Abdulaziz Al-Saud] and Shannon Lucid.

BOURLAND: I don't think I was down there for that, either.

ROSS-NAZZAL: Any particular food that the women liked? Do you remember if anyone preferred a certain dish or anything like that?

BOURLAND: No. I remember Shannon Lucid had us send Jell-O up to Mir. Talked about that in that movie that she made. I think that's where she talks about it.

ROSS-NAZZAL: Rhea had told us that she helped devise some sort of, I can't remember if she wanted tea in space and so she had a particular drink straw that she devised, or if it was just the tea in space. Do you recall making that change to the food?

BOURLAND: Yes, it's that Earl Grey tea, probably, if I remember right. She just requested that we put it in a teabag. I'm not sure if that's the first time we did that, that might be. They could brew their own tea, although the water wasn't really quite hot enough to really brew it.

ROSS-NAZZAL: Any other recollections? You've given me some great detail, things that I didn't know, cars and playing tennis and running. Those are some good little anecdotes to work into a book.

BOURLAND: No, I can't think of anything else.

ROSS-NAZZAL: I sure appreciate it. The detail about Kathy, "There goes our linebacker," that's a great line. I sure appreciate you taking some time to agree to talk with me this morning, and I really enjoyed it.

[End of interview]