

NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT

ORAL HISTORY TRANSCRIPT 13

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INTERVIEWED BY JENNIFER ROSS-NAZZAL
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ROSS-NAZZAL: Why don't you tell me what you wanted to talk about. You had mentioned training with Ellen [S. Baker].

LUCID: You asked me about the jobs that I was assigned to after I got back from Mir, and I CapCommed [Capsule Communicated] some, and I can't remember exactly what order. I was also the [International Space Station] Phase I rep for a long time. Then I was also assigned along with Ellen—one of the things that I talked to people about when I came back was that you need to have some training for people that are going to go on long space missions, because it's different than a short Shuttle mission. You need to train people in expedition behavior. Flying on the Space Station, it was an expedition, the same kind of expedition as all these guys had done going to the Arctic and Antarctic and all these different kinds of expeditions. If you looked at all these expeditions there were certain characteristics, certain things in expeditions, that would set up for a great experience.

One of the big things that Ellen and I were trying to push was that you could have somebody that's the leader or the commander, but you really need someone that understands the job of the commander is not to sit around issuing orders and saying what to do. The job of the commander is to just make sure that everybody has the resources they need so that everybody can get the job done and to make sure that you're a team that works together. That was the big

thing. It's not one person being a little superstar and everybody else. You had to work as a team, and that was the most important thing.

As I tried to tell people, the most important thing on a long mission are the people that you work with. Now you're not going to ever have an ideal group of people. So you need to help the people, the expedition members, to understand how you could work with people to make everybody flourish. That was what Ellen and I were advocating for.

Behavioral Science helped out some. We worked together and developed expedition training. It was really good because we read a lot of books and talked to a lot of people that had studied expeditions. We got all this information together as to what makes a good expedition crew person, and we put together a training session. I don't know whether it was for two days or one day. We would take a small group of people, go through this training with them, and go off-site somewhere. It was really good. We did quite a few of the people in the office.

But at that time most people didn't want to go on an expedition, they just wanted the short Shuttle missions. There was a big push in the office. A lot of people didn't want flights extended. They thought two weeks would be a max. But we were going into the Station era, so you needed people to be trained for long periods of time and what it's like to be away. Back in the early days you were really out of contact. You didn't have all the contacts that they have now like on Space Station.

There was a chamber; it was there on-site, and it had been used I think when they were doing some early chamber runs before Skylab. We got that refurbished, or we said that we could use it. For two or three days people would be in there, a group of people together. They would have no contact except somebody by radio contact, and they couldn't call their family. It would give everybody a feeling of what it's like to be on a Space Station.

The big thing, I thought everybody can be happy if you know what to bring with you to make yourself happy. I knew, and I happened to know this before I went up on Mir, that I would be happy and contented as long as I had books to read. NASA was very responsive, and they provided books. But I'm well aware that's not what will make everybody happy. A person needs to think, what would I really like to have. Maybe it's watching movies or listening to certain music or different things, whatever it is.

I was thinking well, okay, you have a ziplock bag. You can put whatever you want in this ziplock bag that you can carry with you that would make you feel good for the six months you were gone. That was in the chamber. People were supposed to be thinking about that. They were talking about how to interact. That worked out really well.

But we didn't do too many of those because I think it was too bland maybe, not technical. It wasn't fast-paced like a sim. But that isn't the way life is anyway. Always reacting to one malfunction after another is very different than being on your own and not having constant radio contact, etc. As a group you have to work things out yourself.

We did that several times. That would have worked out good if it had been continued. But then we set it up so that we could do NOLS [National Outdoor Leadership School] training. That worked out so good. The different groups of the office would go. I got to go on the first trip. We went to see if it was good training; you had to.

ROSS-NAZZAL: You had to try it out.

LUCID: Oh yes, I set it up. It got set up with NOLS. A group of us went, and we went in the canyons. Oh my goodness, we had such a good time, it just makes you feel guilty to think you're

getting paid for doing this. But the NOLS organization was really good, and they really had a lot of good expedition behavior training that they could do and talk to us. It was just an absolutely wonderful experience.

Then, and I don't know exactly why, I think we needed to do some kind of reciprocal thing with the Canadians. It was decided that we would do some kind of expedition training up at Cold Lake, which is outside of Edmonton I believe, and the Canadians used it for their training purposes. We would go up there. Of course I had to go find out whether it was a good thing to do or not.

It was such a good deal because it was in the middle of the winter, and I'd always wanted to camp when it was below zero. We were out, and all day we would hike across the frozen lakes and do everything, and then set up camp in the night. Just take care of yourself the whole time. It was super. Quite a few people were able to do that.

Ellen and I were real involved in that. That was just an absolutely wonderful experience. I thoroughly enjoyed working on that.

ROSS-NAZZAL: Was that something that you decided to carry the baton on? Or was that something someone had tasked you with?

LUCID: I think Ellen and I were agitating for it, and we talked people into it. There was a realization that maybe we needed to do something to train people for expeditions. I think Ellen and I were the ones that had ideas. We were just given a little leeway to get started doing that. It just worked out super.

Of course there was a person from Behavioral Sciences that helped us out because she was very involved. I think Behavioral Science had a little bit of money, and so that's how we could fund some of what we were doing. It's a little vague now, but it was just an absolutely super job. I thoroughly enjoyed doing that, especially getting to go hiking in the canyons and camping out in subzero weather. It was a very very good thing.

I think the value was seen, and then they started sending Shuttle crews on NOLS trips, when a crew was assigned together, to get to know each other and know how to work together as a crew. That worked out really good.

ROSS-NAZZAL: I know a lot of people have mentioned that to me, and I wondered when that exercise began.

LUCID: Yes. Now I'm not obviously involved anymore, but I think the Europeans have something set up and they do something similar in caves and what have you.

ROSS-NAZZAL: You mentioned expedition behavior. I wonder if you could give some examples. What do you mean by expedition behavior? What would be good examples or bad examples?

LUCID: Basically expedition behavior is just taking care of other people, and it's loving your neighbor as yourself, that's basically what it is. That's what you need to do. You need to be together as a team. You have your mission; everybody's working toward a common goal. Everybody needs to help each other accomplish that mission. You all have different things to do.

But you need to have it so that everybody is working together to accomplish the goal. There's no room for individual prima donnas.

ROSS-NAZZAL: That was not something that was offered before even to Shuttle crews to consider behavior on orbit? Was there any sort of behavioral training for Shuttle crews?

LUCID: No. Not that I know of.

ROSS-NAZZAL: You mentioned the chamber runs that you were doing. How long did that last? Were they there for a week, a month?

LUCID: No, I was trying to think. I think we were there for two or three days or two or three nights.

ROSS-NAZZAL: Was it only astronauts who were there or did you include other people from the Center?

LUCID: When we did the runs it was only astronauts. Of course Ellen and I and a couple other people did the test runs, and we had a couple people from Behavioral Science there to give their input and help design a good program, everybody working together.

ROSS-NAZZAL: Did you work with Mission Control? Were the runs like that?

LUCID: Oh, no. It was just totally separate. Now there was somebody that was in charge of the chamber to make sure that everything was functioning right, the airflow, and what have you. We could have called them on the radio. But we were on our own, and that was the purpose.

ROSS-NAZZAL: Were you working with the Food Lab to provide food?

LUCID: We did have food provided by the Food Lab, but it was just Shuttle food.

ROSS-NAZZAL: Did you end up issuing a report? If someone were interested in finding out more about this, did you write up something that you shared with folks, might be able to locate it?

LUCID: I don't think there was ever a report issued. We would have been glad to do that. Now I know Behavioral Sciences put together a notebook, expedition training. I might even still have that, because they took all of the inputs, so we had that. Then one thing that I thought would be very useful is for the first crew that was going up on Station, if they knew the Mir experience, because different people were being spread out between Russia and America and everywhere and you weren't together to hear each other's stories. I took the crew reports from Mir, all the crew reports that had been written by the crewmembers, put them on the Internet, and gave them to the crew.

Lo and behold, an hour after they were put on the FCOD [Flight Crew Operations Directorate] website they were taken off, and I was informed that they weren't allowed to be there on the website. I thought okay, but everybody would like to read these. It would be important. There was some negotiation, and finally I was allowed to take the printed copies and

put it in a notebook and give the notebook to the different crewmembers so they could read the reports, and then of course had to take the notebooks back up.

But I will say this; after her flight Susan [J.] Helms said that that was one of the most useful things, so she thanked me very much for being able to get that together and make an effort to do that. I just thought that was very interesting.

I can understand the viewpoint of administration, because they wanted to protect everything so that the wrong reports didn't get in the newspapers, because Station was always on the edge of being canceled, so you didn't want any sensational reports getting out. But this was exemplified in Phase I, when I was the crew rep for that. They had the fire on Mir, so I was talking to somebody about that, and then we were informed that there had been no fire on Mir, it had been an exothermic reaction.

Now technically from a chemistry viewpoint the fire was an exothermic reaction. But if things are burning down, you don't run around saying, "Exothermic reaction, exothermic reaction." You just say, "Fire, fire." There's a reason. I don't know. It just set me a little off to be told I couldn't use the word fire but say exothermic reaction. I understand. But just because you understand doesn't mean that you think that's necessarily the way it should have been handled.

Then the other thing that Ellen and I did which I thought was good, we actually talked the office into buying some books. We bought some books about different expeditions and had them in the Astronaut Library there. You could go check them out and read them. I don't know how many people ever did, but I think that was a very good thing to have—have an Astronaut Library of expedition books that people could read if they were interested.

ROSS-NAZZAL: You were very forward-thinking.

LUCID: The other thing Ellen and I did, and this was all sort of tied into the same thing—a lot of the people in the office, especially the '96 group, they weren't being trained for Station, they would have been at some point, but they were being put through some Russian training. They were being sent to the Black Sea to do water survival in the Soyuz capsules. Ellen and I, we traded off. She was there for a couple of the sessions, and I was there for a couple of sessions, watching. We were the astronaut rep there. If you needed somebody, we were there.

Now when John [E.] Blaha and I had trained for Mir we did the water survival and escaping from the Soyuz in a small lake that was close to Star City. I think I probably already mentioned that. I have never been so hot in my life as when we were inside with all the winter survival gear, etc., and then you had to change your clothes and get out.

That's what they were doing there on the Black Sea. There was a couple people that I saw, they were extremely thermally stressed. There were some people that were so thermally stressed that it was hard for them to know exactly what was going on. There was a flight doc there. I talked to the flight doc and I said, "Look, this isn't good. What are we going to do about it?" He was a contractor.

Ellen and I talked about it. We said, "Something needs to be done." But we had to give money to the Russians, and we had to do this, so no one wanted to interfere with anything that was going on. Then we were told, "Okay, the next group that goes, they're not going to get thermally stressed." I thought okay, everything's being taken care of.

I just happened to hear that somebody had gone, and they had a couple people that were overloaded with heat. I talked to Ellen, and we decided that something really should be done.

We talked to the NASA flight docs, and they were so receptive. The ones that we talked to were young, so they were beginning their careers, they were a little more receptive maybe. Lo and behold, they came up with this plan. It was so simple, because evidently a lot of the big high school football teams here in Texas, before they play—it's football, so you got to take care of everybody—they don't want them getting thermally stressed. There's a pill that they can swallow then you can get the readings and the temperature out. They can monitor how hot they are and take them out before they get overheated. Of course then it's just excreted and then it can be used again. They said, "Simple, we can just do that." So they did.

ROSS-NAZZAL: That's amazing.

LUCID: Those were some of the things that I was involved in.

ROSS-NAZZAL: That sounds like fun.

LUCID: Yes, it was. It was a wonderful job, and I just thoroughly enjoyed doing that.

ROSS-NAZZAL: I did want to go back because you mentioned this, and we didn't talk about it. I'm just curious if you can fill in. You mentioned the exothermic reaction on Mir. I wondered as the crew rep what was your involvement once that had happened. Was there an investigation? Can you talk about it from your perspective being here in the States and what impact that had?

LUCID: From my perspective it was kept under wraps a lot. The Russians were taking care of it. It was just hard to get data. It was downplayed a lot. A lot of what the crew had said was downplayed too. Later on I was on a PR [public relations tour] and Valeri [Korzun] was talking to me about it. He said, “Yes, we got burned, look at the scars on my wrists.” We were talking about how it had been downplayed to keep it quiet and not get too much press play.

ROSS-NAZZAL: Did you have any involvement from your side? Or you were just made aware of it. You didn’t have any.

LUCID: No. Because it was Russian, they were taking care of it.

ROSS-NAZZAL: What about the collision? Was that the same way, same response?

LUCID: Oh yes. The Russians were taking care of it.

ROSS-NAZZAL: That’s interesting. I just thought I would ask since I was thinking about it. I did want to go back and ask you one other question that is not Mir-related just because I was looking at another transcript today. It was about the crew bailout after *Challenger* [STS-51L]. You had made a comment that I hadn’t followed up on, which is that you participated in some of the—it didn’t sound like training exercises but maybe the verification that the methods that Steve [Steven R.] Nagel and the other guys were coming up with were valid. I wondered if you could expand on that a little bit. Or did I misunderstand?

LUCID: I wasn't all that much involved in it. The only way that I was involved in it is when they would run exercises over in Building 9 and they needed volunteers. Then I would go do that. I would be a volunteer and do what I was told to do so they could evaluate this. But no, I was not in big-time involvement with it.

ROSS-NAZZAL: I just wasn't sure if there were other things you wanted to talk about in terms of that. I think that's it. If you think of something else we can revisit.

LUCID: No, it was just important to talk about the expedition training. I can't believe I didn't talk about it when we were talking about it because that was such a big deal.

[End of interview]