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Preflight Interview

Wendy Lawrence Interview

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A couple of weeks prior to scheduled launch, STS-91 Mission Specialist Wendy Lawrence took some time out from training to answer questions about the mission.

Q: Wendy, you spent about six months as the Director of Operations in Star City, Russia, and you spent about a year, a little more than a year there training in Star City. You were training, though, to be the sixth American to fly on the Mir. That did not happen, but you did get a trip to the Mir. How did all that transpire and how do you feel about that now having gone there and now ready to fly to the Mir again?

A: Well after the Progress resupply vehicle collided with Spekir, it became apparent to both the Russians and the Americans that if Spekir were to be repaired it would have to be done through a significant number of external spacewalks, and possibly internal spacewalks as well, and so it made a lot of sense, operationally, to have three crewmembers on board who all fit and were qualified in the operation of the Russian spacesuit. As part of my waiver to train for a flight on board Mir, the letter that Valery Ryumin signed, stated up front that I could start the training contingent upon me never being slated for a spacewalk because it was clear to everybody involved, myself included, that I really did not fit the Russian spacesuit well enough to go out and do a spacewalk. So the decision was made in late July of '97, to replace me with my backup; Dave Wolf. What wasn't known to most people at that time is part of all these discussions was a discussion of me staying on STS-86 and taking over the role of an MS op and down, assisting Dave with the preparation of his laboratory, and then flying as the flight engineer on STS-91, so I knew when I was replaced that it was very, very likely that I would get two trips to Mir, and to me that was a great arrangement. I was very thankful to Bob Cabana and Frank Culbertson for making sure that not only did I get one flight but that I would, in fact, get another flight to Mir, and a flight on which I get to participate much, much more in all the activities. So to me this has been a wonderful experience. I'm participating in the rendezvous, I'm looking forward to going back to Mir, and certainly picking up Andy who is a classmate of mine. It should be a great trip.

Q: Was the Russian Mir space station what you expected it to be when you got there?

A: I had had an opportunity to talk with Shannon, and to John, and to Jerry, and a little bit with Mike Foale via e-mail, and so I knew that Mir was not going to look like what I had seen in Star City, that the mock-ups were generally correct in the functional layout, but after 12 some years of operation, certainly there was a lot more gear up in Mir than what the trainers reflected. And I had an opportunity to watch Mission to Mir before launch, but I made a decision not to because I wanted my first impressions of Mir to really be pristine. I was prepared for Mir not to look the way I thought it would look, based on my experiences in Star City, but I don't think anything really prepares you for seeing another spacecraft from your own. The external view of Mir was such a remarkable view, and I'm really looking forward to seeing that again, and the interior ... Shannon's description in the Mission to Mir movie, I think, is really the most accurate: she says, imagine living in a house for 11 years and not throwing anything away. And that's your initial impression of Mir, is that, wow, there really is a lot of stuff up here!

Q: You are about to make your second trip to the Mir space station in eight months' time What are you most looking forward to, going back to Mir?

A: This time I actually have an opportunity to participate in the rendezvous and play an important role. Last time, on STS-86, I merely observed and I did most of the photo documentation. You're kind of the outsider, watching what's going on. This time I'm really looking forward to it because I'll be a team player and the rendezvous is a very dynamic process. I marvel at our pilots' ability to bring these two spacecraft closely together, and so precisely, and then dock them under the conditions that we must meet, and they do it so well. It really, really is exciting to participate in that process. And what I still remember so much from STS-86 was the dramatic view of the shuttle approaching Mir, and what a remarkable sight that was. Mir is just absolutely gorgeous from the outside, just this beautiful white module that glistens in the sunlight, and then against the black of space, or I remember a couple of times during the rendezvous and the flyaround we passed over the oceans and it was just really a dramatic sight, and I'm really looking forward to reliving that and getting an opportunity to experience it once again.

Q: Are there any lingering thoughts or regrets about not getting to fulfill your four-month mission on Mir?

A: Oh, I think in some ways I'll always have the regret of not knowing how I would have done in that situation. I can infer, because being a Naval officer I've gone out to sea, I have spent five months or so out in the middle of the ocean on board a Navy supply ship. I had my thoughts about how that would correlate to being inside of a spacecraft for that period of time, but now, you know, I can only hope that some point in the future I'll get that same experience and I can finally realize what that situation would be like. Not to have the capability just to step out on the flight deck and get a breath of fresh air when you felt like it, but to really be inside, as we say in the Navy, a "tin can" for that period of time and to deal with some of the stresses that would be involved, but I'm really excited about the opportunity to fly on STS-91. It's a great crew, it's a great mission. Like I said before, this time I get to do so much more during the flight. It's going to be a great experience. I think, all in all, my regrets are very, very few. I'm really excited about the way things have turned out.

Q: Your commander, Charlie Precourt, has already been to Mir twice and flown the docking once himself. Give me a couple of examples of how his experience and expertise has benefited your training in your preparations to return to Mir this time.

A: Well Charlie is really a remarkable guy. His participation in the Phase 1 program has been all-encompassing. It is very obvious to anybody who deals with him, particularly in the area of rendezvous, that this guy was involved from the very beginning in planning the missions to Mir. His responsibilities on STS-71, the work he did on STS-71,1 think, laid the foundations for all the subsequent missions to Mir. He probably is one of the true experts in the Astronaut Office on the rendezvous and docking with Mir, and I think that's been in some ways comforting, but even beyond that, to the rest of crew, is we know that we have a guy, probably the most experienced guy in the Office in this area, and he is a great teacher, he's really been able to kind of hit the highlights and pass on the key information to us in a way that is very easy for us to pick it up, and every time we practice a rendezvous we just learn more and more from him, so I think that has really helped us out in that we started training late, and everything has been compressed, and even the rendezvous flow, but Charlie has been able to kind of fill in the gaps and bring us up to speed more quickly so that at this stage of the game we feel very comfortable about what we're doing, and we feel very ready to do it.

Q: Let's talk more about what you're going to be doing on Mir this time when the two spacecraft are docked. The timeline calls for only four days of docked operations, and you have the responsibility of managing the transfer operations this time. Does the shorter time translate to more difficult operation, do you think?

A: In our case, I don't think it will. You have to keep in mind that we're only a single Spacelab module, so literally you have half of the logistics. What I saw in STS-86 with Vladimir Titov, who we nicknamed the "transfer czar," was that for the most part our transfers, the bulk of our transfers, were really done in two days, and the rest of the docked period was spent with just kind of fine-tuning it and tweaking the stowage locations, and certainly there are going to be some last-minute questions that come up about, can we take this item down, and working with control center Houston and Moscow to get permission to bring a couple extra items down, so what I expect to happen is in the first day or so, we'll have the bulk of the items transferred and the last few days I'll spend talking with Houston and Moscow about extra items that we might be able to bring down, and readjusting some of the stowage locations to make sure we meet all our constraints. I think we're going to be busy; having one less day will complicate it a little bit but, by this point in time everybody's so experienced in the transfer operations that I think my job is goe same thing on the American side, so I think it has helped us in our training flow, it has helped us operationally make up some of the lost time.

Q: Do you see any special significance to the symbolism of having the Russian director of the American/Russian program actually flying with an American crew?

A: Well I think it will be very beneficial in the future. My understanding is that he will probably go on to head their Phase 2 program, or at least be involved in a very key role, so I think any opportunity we have to give him first-hand knowledge of how the space shuttle flies, what its operations are, its capabilities, how our process works over here, I think that will help us immensely in the future when we encounter some more operationally difficult situations and planning issues that have to be resolved quite quickly. He'll have a better understanding of how our system works, who he needs to speak with, and hopefully all those situations will be resolved much, much more quickly because of his experience of flying with us.

Q: Since this is going to be the last Mir docking mission scheduled for the two spacecraft, you'll be present for the last hatch closing, the last undocking. What do you think you'll be feeling being a part of that last goodbye?

A: Well, I think it will be a little bit harder for me because I spent time training with Talgat and Nikolai. We did several Soyuz simulators together, and I really enjoyed spending time with them. Talgat's a great teacher. Nikolai has a lot of experience. Both of them helped me tremendously during the final phases of my training flow in Star City. Talgat is just a fun guy to be around, so I think it will be very, very difficult, emotionally, to close the hatch, say goodbye, and realize that it may be months before I see those guys again, or I may never see them again. Hopefully that won't be the case but I think it will be difficult to close the hatch and to leave them behind. I think there will be very strong emotions felt by all the crewmembers when we see Mir for the last time, and then do our separation burn and start preparing to come home.

Q: In your career you trained as an astronaut at JSC, saw Russian training in Star City from the point of view of NASA's Director of Operations there and then undergoing the training yourself, and now you've training at JSC with Russians for a shuttle flight. What can you say about relative merits of training methods, Russian versus American?

A: I think sometimes it's hard to compare the two systems because we are preparing for a different type of spaceflight. In the shuttle world, we know up front that we have a very short time in space and that every minute is very precious and it's critical that everything that we're timelined for gets completed in a very timely fashion, so I think we tend to put much more emphasis on the training of each and every task that we're assigned because we don't want to waste that time in space trying to figure out how something is done, whereas the Russians realize that, for a long-duration spaceflight, in most situations, there really is not a need to hurry through something, and that you can take the time to analyze the situation and figure out the best way to do that, so I think there's a little bit of a difference in what's emphasized during the training flow. Both sides have things that they do very, very well, and, and both sides have things that they don't do as well, and certainly the ideal system for Phase 2 ISS will be to take the strengths from both systems and to blend them together. The STS-91 crew, just this morning, practiced our bailout training. We were over at the Neutral Buoyancy Lab in the water practicing how to disentangle ourselves from parachutes and to climb into our rafts, and I was remarking that when I did the water survival training in Russia, it was extremely realistic: we went down to the Black Sea, they put the Soyuz capsule out onto the water, and of course there were waves and it was bobbing up and down, and we went through all our water survival tasks of being put into the capsule in our spacesuits and having to get out of those spacesuits and into all our protective gear, three people inside, one of them being Dave Wolf. It was really interesting. And then have to battle seasickness while you're doing this, and then to climb out of the capsule at the end and use all your survival equipment in the water. I think the Russians put a great deal of emphasis on making their survival situations realistic; we tend to accept the background of most of the people coming in, a lot of people have military background and they've gone through survival training many, many times. Sometimes it's hard to say which system is better. I think realism is good but our system, too, tends to put more emphasis on hands-on training in the area of certain systems which the Russian system does not. But I think the end result from both systems is you have an astronaut or a cosmonaut who is very well prepared for their mission, who has a very in-depth understanding of the systems and is able to function in virtually any situation that they'll encounter on orbit. But our real challenge, I think, in the future is to take the best of both systems and to blend them together.

Q: This is to be the last shuttle trip to Mir and when your wheels stop in June at KSC, Phase 1 of the ISS program will be over. As you look at where we are now in preparation for ISS as compared to beginning of Phase 1, what do you see as the lasting value, the legacy, of this cooperative effort?

A: Just that. The cooperation that we have been able to forge. I like to use the example, I'm a military officer. I've been in the Navy close to 17 years. I started at the Naval Academy in the summer of 1977. Through almost my entire career the Russians have been my enemy. Never did I think when I was enough in the Navy just out of the Naval Academy that I would have an opportunity to go to Russia and train side by side with Russian cosmonauts. I just couldn't conceive that. And I can remember one Saturday afternoon, Jim Voss, Colonel, U.S. Army, Army Ranger, we went down to Red Square to be tourists, and I looked at Jim and I said, "Jim, did you ever think when you were a second lieutenant in the Army that you would be in Russia someday." He looked at me and very seriously said, "Yes, I did; but I thought I would be rolling through Red Square on my tank after we had defeated them." Both of us just found it so hard to believe that we were now training side by side with people we had called enemies, and now that we could call them friends, and I think that will be the lasting legacy of Phase 1, is that we have brought no countries together who formerly were enemies and now they're partners, and in many cases those of us who have participated in Phase 1 can say, "they're not my enemies any more, they're my friends." And that's the legacy of Phase 1 to carry on into Phase 2 is we have brought the countries together, they are partners, and we are going to be cooperating for the future from here on out.

Q: Looking back at everything you've had an opportunity to do, from JSC to Russia to going to the Mir, what's the next big step for you, Wendy?

A: Well, that's hard to say. Well, actually the next big step is to finish STS-91, truthfully. We'll focus on launching on time, picking up Andy – he's made it very clear that he wants us to be on time – and we want to make STS-91 go very, very smoothly. I think the last flight to Mir should be, literally, a flawless flight, so I think that's my goal, is to, to make STS-91 the best of the flights to Mir, and once the wheels stop, I don't know. I think I'd like to take some time to just let it all soak in and marvel at the fact that I have been able to do so much. It was my childhood dream to be an astronaut, and when I watched Neil Armstrong walk on the Moon I said, "This is what I want to do," and it has greatly exceeded my expectations, particularly having an opportunity to dock with another space station. I guess the logical answer would be to say, well, I'm going to focus on Phase 2 and that will probably be the future, but for now I'm going to savor STS-91 and I'm going to do my utmost to make sure that it is as good a mission as it can possibly be.

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