

*Fletcher Powell interviewing Jennifer Marshall in the conference room at the KMUW radio station.*

*Jennifer, just to start out with, let me have you say your name and tell me what your occupation is now.*

**4:16**

Jennifer Marshall, and I'm a structural engineer with Spirit Aerosystems.

*OK, and how long have you been with Spirit?*

I've been with Spirit since the sale in 2005, so, eight years now.

*OK, and before that you were with Boeing—*

Yes.

*And you started there when?*

In 1997. January of 1997.

*OK. And we'll get to how you got there in a minute, but, are you from Wichita?*

No.

*Where are you from?*

Well, I was born in British Columbia, Canada, lived there till I was nine, then we moved to Lawrence, Kansas, when I was nine years old and so I grew up there.

*Are your parents academics?*

No. My dad was an engineer working with NASA after college, my mom was a schoolteacher. They moved to Canada with a church group, lived on a Christian community farm for 11 years, where my sisters and I were born, then my dad got back into engineering in the early '80s and we moved to Lawrence for his job.

*What was in Lawrence?*

He works with Coleman Systems Research, which is a flight test company and his old boss at NASA had started that company, so he got in touch with him and they had an opening for him.

*And then you were in Lawrence until...*

Until I graduated high school in '92, and then I went to college at Missouri-Rolla, University of Missouri-Rolla, which is now Missouri Science and Technology, and then I came here after college.

*And you went there for engineering—*

Yes, uh-huh.

*And you just got your undergrad degree there?*

Yes, I got a bachelor's in mechanical engineering there.

*OK, and, so, obviously when you were growing up you were surrounded by things like aerospace engineering, were you aware of Boeing generally?*

In general, yes, I think, um, as far as airplanes, my dad worked on smaller ones, but in general, yes, I knew of Boeing.

*You at least knew that it existed. So, you graduated college, and then you came straight here to Boeing, to Wichita. How did that happen, did they recruit you?*

Yes, they did. Rolla is a very well known engineering school, and they came to—my final semester, I graduated in December, so my final semester in the fall, they came to that engineering career fair and I was part of the university's job search system, and I asked for an interview with Boeing, found out I didn't get it, went to see them at the career fair, and they told me, 'oh, no, there's been a mistake, we want to interview you, can you come for an interview tomorrow?' So, um, so, I got interviewed, I—so, fall of '96, they were gearing up for, I don't remember what program now, but they were hiring as many people as they could get their hands on, I got a job offer at the interview, so, um, I had a job in hand by September of my last semester in college and accepted that after I came for a, for a plant visit here in Wichita, and accepted that and came here in January.

*Were there things that were attractive about Boeing aside from the fact that they were throwing a job at you?*

I wanted to be in the aerospace industry—when I started college aerospace was in a downturn, and so I decided not to get my degree in aerospace but to get it in mechanical, that was a little bit broader base, I could get into aerospace if I wanted. So, I did that, but I really wanted in aerospace and I found out I liked the analysis side of things in college, and I had no idea that stress engineering or structural analysis was something you could do right out of college as a job, I had no idea until I went to interview with Boeing. The guy who interviewed me was one of the stress managers and was telling me about the job, and, so, they offered me a stress engineering position which was exactly the kind of thing I wanted to do but I had no idea I could do that out of college.

*Did you assume you would have to have more schooling?*

**8:21**

Yes, some experience in the field—I really didn't even know that type of job existed in the aerospace industry, so I was very excited about the kind of job I was hired for.

*Yeah. So, you got hired by Boeing, what was your entry-level position, what was your job title?*

I believe it was, like, 'Stress Analyst 1.'

*Uh-huh. What did you do? What were your responsibilities right when you first got there?*

I was put in a group that did sustaining engineering, which meant all the current production models had been out flying for a while, um... you constantly have issues come up in the factory, if something's not going together well or they've found a design problem, or the material they were using they can no longer get, or there's a cheaper substitute, and so, all of those manufacturing-type issues on current production models. Or, sometimes there was a new manufacturing method came along, is it ok to use? Will it give us the same type of strength and results? So, we have these smaller, just these smaller kinds of projects that you get and you take a look at the package and analyze it, you know, figure out if the material strength is compatible to make a material substitution. Is the design change ok? Is the part still gonna be strong enough for the loads it sees when the airplane is in flight or the environmental conditions that it sees? First, I was working in the nacelles, which are basically the engine case, it's what you see instead of the engine on an airplane. But, of course that gets hot, and then there's sonic environment from the vibrations of the engine, so you have to take all of those things into consideration when you're making the smallest change on a part. Um, or, say, a fastener, you can't get the same type of fastener, so is this fastener compatible? Is it, material-wise, will the materials react badly to each other, or, um, is it the same strength? So all those types of things you have to take into consideration. So that was what I did for my first two years on the job.

*OK, so, I've been over here at the university (at Wichita State) in some of their labs where they're doing things like stress testing, they've got these huge machines they're sticking stuff in and either ramming something against it or, or trying to break it, basically. Is that the sort of thing you were doing, the same kind of machines?*

There, I wasn't. That was more—that's what I do now. But, um, when—in stress engineering you do a lot of the analysis, the people do on the, um, on the structure using computer models or computer programs... um, I'm trying to remember it was still when we were with Boeing, but then I was put on the 787 as it was starting up,

engineering-wise, and we transitioned to Spirit during that time when I was on the program. But, as I was working on the 787, my job, I got into the structural test of things, side of things, um, which is still a part of stress engineering but it's a little more specialized where we do do that—um, when you have a new airplane program, you may be working with a new manufacturing method or new materials, new ways of putting things together, and so you have to prove to the regulation agency, which in the US is the FAA, you have to prove to them that, um, your analysis methods accurately predict, um, the way the materials behave. So you design a test program, starting with little coupons all the way up to parts and pieces all the way up to the full-scale airplane to show them that your analysis—you do a prediction analysis beforehand, then you test it, did it match what we said, predicted, or was it better, which is what you always want, but, so then we have a margin of safety there. But, so, you have to go through a whole testing process to prove that your analysis methods are accurate and can predict how the airplane is gonna behave, so then, you know, you do this test pyramid, and then, you know, the FAA will say, 'ok, yes, we agree that your analysis methods accurately predict this, so now you don't have to test every single part of the airplane, we certify that it will accurately predict what you say and the airplane's gonna behave the way you say it's gonna behave.'

*What's the typical time frame on that?*

**13:18**

It depends on the size of the change in the test pyramid that you have to do, but it's—for a new airplane, several years of testing. So, yeah, three to five.

*When you first got in there, did you feel comfortable just getting right in and working? Was there anything you found that surprised you when you first got there?*

I'm—for me, personally, now, some people feel very confident when going into a job, I feel like the dumbest person of the people I work around, I'm always a little bit skeptical of my own abilities when it comes to that. The guys I worked with—I started in the late '90s, and the guys I worked with were great, I worked with some that were younger, but some were older, I guess I felt really comfortable with the people I was working with, especially my lead engineer. He was probably around my dad's age and so I felt—I never felt discriminated, as a woman—engineering is very much a man's field, especially stress engineering, but I never felt uncomfortable with them, I always felt, you know, like they were taking care of me, never felt, you know... was offput that I was a woman, but I felt like he treated me like, 'ok, if my daughter was in that position, how would I want her treated?' I know there were some other women who were kind of intimidated by him, who didn't work for him but worked in the same area, but I never felt that way.

*How many women were there? I guess I don't know how many people you were working around, total.*

Well, in stress engineering, at that time, I think there were two or—I'm trying to remember one meeting of only stress engineers in Wichita, there were 200 of them, and for stress engineers, women, there were... three or four? As far as in design, the ratio is higher, maybe like four-to-one, three-to-one type thing, but um, in stress engineering—which, the ratio's gotten better now, but back then it was, yeah, out of 200 engineers there was three or four that were women.

*But you still felt comfortable.*

Yes. Of course, part of that, I was in engineering college and it was a four-to-one guy-to-girl ratio at my college and so I got really used to being one of the very few women. It's kind of funny, when I get around guys, you know, in a social situation, they'll complain they're the only guy in a group of women, I'm like, 'shut up, it's the opposite for me every single day.

*Do you work with more women now?*

Yes, there are more women in stress engineering. I think design, the ratio's probably about the same as it was, in stress engineering there are more women.

*Yeah. I guess I'm getting a little off-topic here, but it's kind of interesting to me, my sister-in-law is an engineering student up at KU and I know they've made a big push to get women in to the engineering school there, is it, does it seem like a conscious effort by engineering schools, engineering firms?*

I think, in general, yeah, and I'm also part of Society of Women Engineers, and one of their pushes is to encourage junior high and high school, elementary school girls that science isn't just for boys and to encourage them. And I know, I feel like, overall, there's been a push to show that STEM careers, which is science, technology, engineering, and math, um, that, to get girls interested in STEM and to show them that it is a viable career for them, that it's not just a field for boys, that science is just as cool for girls.

*When you first got there to Boeing, did you feel pretty comfortable with, say, the programs that you were using? Did it feel like they were using something above or below the level you were used to at college?*

**17:55**

Um, I think I felt fairly comfortable, I'm trying to remember, Boeing had most of their own analysis tools that they developed, and so we got training on those tools. Usually there'd be a two... two day class where they'd show us how to use the tools, what was behind it, and, um, they also—Boeing has a full set of, the "BDMs," the Boeing Design Manuals that now are online, but, um, you used those that had some basic stress engineering behind them, and tables and things that were probably fairly common. There's, um, it's called "military handbook" that is a whole set of

engineering guidelines and how to analyze airplane parts and, um, Handbook 17, Handbook 5, so the Boeing Design Manuals kinda have a similar basis of things, like how to design—how to analyze these parts of an airplane, and so you get classes on how to use those, how to use their tools, so... and then, the older engineers I worked with would always sit down and explain how to do something if it was new to me to use it.

*You were coming in at an interesting time with Boeing, that was right around the merger, right? With McDonnell Douglas?*

Yes, mm-hmm.

*What did, sort of, the culture of the place feel like at that time and could you see—when did the merger happen compared to when you came in?*

I believe it was later, was it in that first year or that second year? I can't remember if it was '97 or '98—

*It was right after—*

It was pretty soon. There was a lot of talk about it. Harry Stonecipher was McDonnell Douglas' CEO at the time, and, was it Phil Condit was the Boeing CEO? And the ended up being "co-CEOs" type of thing and then Harry took over and that was a bad situation, but, um... McDonnell Douglas portrayed it as kind of a takeover, where at Boeing we saw it as a merger, and... it was kind of a joke at the time, was, 'you know you're an aerospace engineer if you've sat at the same desk for three years but you've worked for five different companies.' And there was this whole, what was it called... "Bo-Ro-McDooDoo" was the name of the company, you know, Boeing, Rockwell International, and McDonnell Douglas, you know they had signs up, but there was the old joke of, you know, the companies were buying each other and, you know, selling, buying different parts of each other, so there was kind of this joke in the aerospace industry that, you know, you knew you worked in it if you sat in the same desk and worked for five different companies.

*So that was almost something that the people—at least the people around you—were kind of used to?*

Yes.

*That's interesting. So, I mean, like, I guess you're in there for a year maybe at the time, but, but some of the older people there, were they not sweating it?*

No, not—because I think of the way—at least in Wichita—we weren't really gonna be affected by the merger stuff. Um, I've never worked on the military side, so there might have been something else going on in that, but, I had a friend who worked on the military side and, I'm trying to remember, but I don't remember her being

worried about her job or anything happening, it was just kind of opened up more possibilities. Because really I think the only commercial aircraft McDonnell Douglas had, it was MD... was it 90 or 95, then it became the 717 when we bought it, but it was mainly manufactured in San Diego. Um, I don't think we saw any production of the 717 here in Wichita. Um, but I think as far as people in Wichita we didn't think it was going to affect our jobs. Or the work we were doing.

*It just wasn't having that much of an effect on you. Did you—I assume you moved up, or you moved on, to different responsibilities in your time at Boeing, can you walk me through those?*

Yes. The first—I think it was about the first two years, if I can remember back this far... the first two years were in sustaining and the nacelles, then I went to... what did I do next... I went to the 737-900, which was one of the 737 Next Generations. In the late '90s, a lot of—the 737 was being updated and they had the, I think they had three different derivatives, and the 900 was, I believe, the last derivative airplane of what was called the Next Generations. So I worked on that, um, which was fuselage, it was the first time I'd worked on anything with the fuselage. So I was on that program for about a year and a half, I believe, and then I moved to the Triple-7-X, was what it was called at the time, which became the, I believe it's the two... the Triple 7-dash-200-e... was it 200 L-R-dash-300-E-R, the E-R and the L-R go—it was the dash-200-slash-dash-300, which was back to working in nacelles. This was the largest sustain—actually when the engine, they tested it, we were building it for 155,000 pounds of thrust, so 115 kip engine, which would be the largest, is the largest, at least at the time, I don't know what Airbus engines are, but, um, it was the largest commercial airplane engine to go on a commercial jet at the time and it actually set a world record for sustained thrust in some of the engine tests. So, I went back and started—that was basically, I got moved to that program when it was basically starting up. There were seven engineers on the program when it started—we were going to turn ourselves in for a diversity award because the seven engineers—I think there were three stress and four design—and out of the seven engineers we had three women. So, we were gonna turn ourselves in for that big percentage diversity award, we had such a large percentage of women in our group. But that was basically—that was really need because I got to work back with, he was my manager when I first started and I really enjoyed working for him and he was then a lead engineer on the Triple-7-X. So I went back and was on that program from the startup all the way through the whole design process and then into—when it got into sustaining mode, meaning the production was fairly steady, so, that was... I was on that program for three or four years, which it was really cool to get to stay through that program for the whole cycle, life cycle of it. Um, and then, from there, I went to, I believe I went to 787 after that, when it was starting. They'd done a lot of design and the preliminary design process of that, so that was probably around 2003. They were starting to add engineers to the program as they were getting to the full design stage of it, they'd done a lot the preliminary and part of our building was blocked off, so you had to know the code to get into the area for doing it—at that time is was called the Sonic Cruiser. But to get into the area for the preliminary,

secret, it was the first composite airplane, commercial composite airplane, so, yeah, they started adding engineers to that when they were getting more into the design phase, I got into that and I was working the, well... we build sect—in Wichita, now Spirit, but, um, build what we call Section 41, Boeing calls it Section 41, which is from the nose, usually, past the first passenger entry door. And so we built that on 787 and I worked on actually the flight deck floor, analysis for the flight deck floor. And through that, my manager then put me under the structural test group, I got involved in that, and then, um, when one of the leads moved to Seattle to be a liaison, after we'd become Spirit, I became the lead of that group and... I was still working mostly when it came to the test structure—we did some composites but I was still working a lot of metals because there still were pieces of metal, but, um, starting to get into composite materials, 787 was the first one for Boeing, but, um, we used composites in Wichita on the nacelles as well. So, that was—and then, from there, I got asked, well, we were Spirit after that.

*OK, so that was, sort of straddled Boeing and Spirit for you.*

**28:07**

Yeah, the 787 did, when I was on that program, it straddled from the time, the sale and the transition to the new company.

*Well, let's talk about the transition a little bit. Um, what was that like for you to find out that your section was being sold to Spirit?*

Um, it had been rumored, I don't know if it was for the whole time I had been at Boeing, so my entire—my career at Boeing was about eight years, eight-and-a-half years long. There had always been rumors that Wichita was going to be sold. As part of Boeing we often called ourselves 'the red-headed stepchild,' because the Wichita division, which then included Tulsa and McAlester, Oklahoma, as well, um, we just felt we were, we were not, uh, were we a cost center? Whatever, anyway, Seattle treated us like they had to give us work, it was a little bit of a—it was a much different culture from Seattle to Wichita, very different. And we felt very underappreciated for our work and our expertise, even though we had, um, even as Boeing, we were recognized nationally as some centers of excellence for the work we did, um, on the manufacturing side of things. Like, we were a tooling center of excellence and I think some other stuff. But we always felt like the red-headed stepchild, and when we didn't get the nacelle work on the 787, we felt that was a big dis to Wichita division. So, there'd always been rumors going around, they were trying to sell us, oh, it's just a rumor again, nothing's ever happening, um, but it started getting serious there in... it was, they didn't tell us who—I'm trying to remember, I think it was, beginning of 2005, in January. It may have been in the fall, even, but um, yeah, it was we're gonna get sold, we're gonna get sold, and I don't believe it was until March or April when they ever gave us anything definitive that, 'you are—we're gonna sell the commercial division.' They couldn't sell the military division because of the way military contracts are structured. But, it was—there was

kind of some angst, but at the same time there was kind of, 'well, maybe being our own company will be a good thing. Um, we can control our own costs now, we can decide how we're gonna do things instead of being told by Boeing and treated poorly.' And so, there was kind of that mix of feelings, um, and—yeah, it was a long time of we knew we were gonna get sold, but they never gave us any information of who was buying us, what was gonna happen, so there was several months of 'I don't know what's gonna happen, what's going on' and then they made the announcements and then we had the whole, um... I believe... it's in June, I think it's June 17<sup>th</sup> was the actual sale date, and it was—was it Friday? They told us the process was—so Friday, if you got a letter in the mail on Saturday it was good, but if DHL showed up at your door it was a bad thing, because that was the 'you're no longer—the new company doesn't want you.' Your contract is—so, it was kind of this waiting thing, and one of my coworkers, I got a text, I can't remember, I don't think I had a phone that texted back then, but I got some notice from him that he, DHL showed up at his door, like, 'are you kidding?' 'No, I'm not.' But, um, the guys in our area who, there were two, I think, in our group who didn't get it, but they didn't exhibit the greatest work ethic and commitment to, you know, being there, you know, to the company, so, um, they used it a little bit to clean house, so... but, you were waiting on pins and needles to find out if DHL showed up at your door Saturday, and if they didn't that meant that you had a job with the new company and were a Day One employee on Monday.

*That sounds like a really nervous time.*

Yeah, it was, kind of nerve-wracking, wondering what's going to go on, so, yeah.

*But then, you got to show up on day one—*

Yes.

*How was the transition? Did you pretty much just move right back into what you were working on before?*

**33:20**

Yeah, nothing really changed, um, as far as what we were doing, the work we were doing. Boeing sold all the work we were doing with us, um, and, so, there was a whole—even though it was a Day One thing there was still a whole process of replacing systems and breaking—you know, like computer systems and all the programs, and... it was still a long process to break from Boeing—

*Was it because, like you said, some of those computer systems were specific to Boeing? It was their property?*

Yeah, and we had to buy, like, licenses from them, but it was, too, all our HR, all our time card systems were online and they had to figure out, 'ok, we have to get our

new—own system and put it in here,’ and it just took some time to figure out what the new systems were, when do we cut off Boeing’s systems and put new ones in place, um, you know, all the health care and all that type of stuff. It was... it was a lot going on to deal with, just, breaking from Boeing. Even in, like, the electrical, Boeing had their own substation and then how do we—but it went to the entire campus, so, you know, that was one of the things, the figuring out who buys power, who buys the power now, how do we split this, who can have that? And it wasn’t all decided beforehand, it was, ‘this’ll be the new date of the company, but there’s still gonna be all these transition processes. And some of it, too, was, I think, the... ok, we still have all the—you can have licenses to the Boeing products, but now we’re not Boeing Company, so how do we now get—you know, now we have to have like this access gate to get into the Boeing products. And at that time we only had Boeing as a customer, so it was, ‘ok, now, we have other customers,’ and so you have to not only build firewalls to get into their systems, but then to—between programs, but, um... because we want all our customers to know that their data is protected, so it’s, there’s a lot of things that go with that now we’re not just on the Boeing system. I can’t, I’m on the Airbus system so I cannot access any of the Boeing programs, I have to tell them, you know, ‘stop my access to these programs and these drives,’ and I’m not supposed to get at these data, and even on my own drives keep totally separate folders and access to different customers’ information.

*Wow. So, we talked about the work transition, did you feel a culture change? You said you guys felt like the red-headed stepchild when you were with Boeing, did you feel that change?*

Yes, I did. And I think, um, think we might have been a little bit idealized in thinking that the things that were wrong, we saw, you know, that were wrong with Boeing, we could quickly fix becoming our own company, and that those, um... some of those things, I guess, got better or we could control our own destiny better, we could diversify our product base so we didn’t only rely on Boeing, they’re still a major customer, but we’re a Tier 1 supplier, we’re a very large company, we still have our own—we have plenty of our own issues and dysfunctions as a company. Some of those come from being Boeing before, some of them come from being our own company, but—it’s kind of funny because I went, in 2007 I started on an Airbus program and, ‘oh, your customer’s better than our customer,’ and I’m like, ‘they’re just different, they all have their own dysfunctions, one’s not better than the other, they’re just different.’ And, obviously, different countries, so different cultures, different ways of working together, but, um... I think, in general, people were optimistic, becoming our own company that we could control our own destiny better and we weren’t just dependent on what work Boeing gave us or Seattle told us we could do, that we could negotiate that, we could control our own costs, we could create our own opportunities, and I think that was a very positive thing.

*I’m guessing from the way you’ve been talking that you haven’t been laid off before.*

No, I haven't.

*Did you ever feel like your job was in jeopardy that way?*

Um, not really. Uh, there's been times when they've gotten rid of all the contract labor but they've been very—they've kept the directs. In my 16 years between Boeing and Spirit, they've never done an engineering layoff. They've—in a downturn we've gotten rid of all our contract engineers, who are people who just do hourly contracts and they don't get benefits from the company, but then the direct employees have the benefits but you get lower pay. But, um, you get the benefits as part of that and you're the company employee, so I've been that, which is more stable because they try to keep the direct engineers and use the contractors to fill in, um, or outsourcing engineering as well, but, um, luckily I've never gone through that, though my friend says that everyone should be laid off at some point in their career, it's good for you, shows you you can get back up and do it, but, yeah, I've never had to—there's been times with the SPEEA contracts and strikes that I've been worried what would happen, um, I'm not actually in the union but represented by them, so I would go in, but crossing picket lines, luckily I've never had to deal with that.

*This is like the third time you've answered a question I have right before I was about to ask it, but, so, so the strikes, you just haven't had to deal with that and it's—you said you did or didn't have to cross the lines?*

I didn't, um, Boeing has had strikes once or twice, it's the IAM, the production workers, um, Boeing's had at least one, maybe two strikes since we've become Spirit, but because we're Spirit, um—and actually, I think the really big Machinists strike was a year or two before I started. Um, people would have lots of stories, strike stories, having to cross the picket lines. Right when I started I remember people talking about a lot of those stories, um, and Seattle engineers actually did strike once, um, but we didn't here in Wichita. Uh, the, um, picket lines for Boeing strikes, since it's not been Spirit, they've been very, they—we share some parking lots, but they blocked off and said, 'this is the only entrance that the Boeing people can use, Spirit people use this entrance, you can only park on this, you're not allowed to block any of the Spirit people you can only block the Boeing people.' So, never actually had to deal with the strike itself. It's affected some things around the company, but not had to actually try to cross a picket line.

*Do you know anyone over at Boeing, say, who has had to deal with that, other engineers?*

Um, yeah, like I said when I first started a lot of the people were talking about the strike that had just happened a year or two before, but, um... yeah, I can't think of—I've had friends who worked at Lear, this past year with their strike and having to get in and crossing the picket lines and being really frustrated with all the time they

had to spend in their car and getting in and out of work. They're usually irritated with the Machinists Union.

*Is there, is there a... is that, like, a battle? I mean, everybody has their little irritations with other groups in the business they work in.*

Yeah, and Spirit, Boeing is the only company that has an engineering union, it's very, very rare for engineers to have a union as a, you know, professionals don't usually have a union and are usually irritated with the unions for the manufacturing workers saying, you know, they're being ridiculous with their demands, you know, most of the time you think they're being ridiculous and they want—you know, they've got it good, why do they, you know, demand more. So, yeah, engineers typically don't have a good view of unions.

*Fair enough. Um, having been an employee of Boeing, at least, did you have any real personal reaction at all to finding out they were leaving town totally?*

**43:00**

Yes. Um... I was frustrated in that our Kansas Congressional delegation put a lot of time and effort into helping Boeing get the tanker contract. You know, what, two or three years trying to get the contract reversed from the Air Force's first opinion—er, decision—and helping Boeing get that. And, you know, I know that our Congressional delegation and, you know, even the mayor and everybody, worked really hard to help Boeing achieve that. And then they up and leave town when you had all these people who did a lot of work for them. Um, I felt that was a very poor decision on their part, they really burned the bridge with our Congressional—you know, why would people now help them if they're just gonna hurt—but, at the same time, I felt like people made a much bigger deal out of it than it necessarily is, like, 'Boeing's leaving town, Wichita's gonna shut down.' Where, before Spirit that might have been the case, but, you know, Boeing's what, now, 2,000 employees? Versus the twelve... 20,000 they were at the peak? It's not the same impact as if they had still had the commercial division here. With it just being the military and the mod work. But I think people who weren't necessarily in the industry were used to Boeing being the whole thing, um, felt like it was a much huger deal, that we were gonna lose a ton of people... So, you know, at the same time, I was more irritated with them because of the way they treated everybody who helped them get this work and why would we have helped them get the work if there wasn't an understanding they were gonna place work here in Wichita? And then they just say, 'oh, thanks, and now we're leaving.' So, I was more irritated about that, though, I do know people who work at Boeing here, or have spouses or family that did who were really worried about, 'ok, what do we do now? Are we gonna have to move?' You know, 'what are we gonna do? I'm close to retirement, am I gonna just transfer so I can keep till I retire?' You know, all that's going on, so... I know, with a few people, a few people I know who are still at Boeing that, um, one's moved to Oklahoma City, another's gonna be laid off at the end of the year and she's just really—you know, but she was

gonna transfer so she could stick it out till retirement, but there was a lot of uncertainty of 'what's gonna happen to us now? Do they still have a job for me at all?'

*How has that worked out for them?*

Um, those, I think, as far as engineering, I don't know on the manufacturing side, but on the engineering side, most of them have been able to transfer if they want to. I know one, the lady works at Spirit and her husband was working at Boeing. He's decided to, you know, end his employment there and stay in town instead of transferring. Other people, 'no, I'm gonna transfer instead of lose my job and try to find something else here in town.' So, but... there was a lot of angst and uncertainty about what was gonna happen with their jobs and the decisions they had to make of, 'I've been in Wichita forever, my family's here, my kids are still in high school, what do I do?' You know.

*You said you felt like maybe, at least community-wide, there was a bit of an overreaction to Boeing leaving. Um, you know, like the whole—there would be a vacuum in town—do you think, I'm wondering if maybe that has something to do with just how long Boeing had been here and maybe people had this idea of what it used to be and thought maybe it still was. With that in mind, do you have any impressions of Boeing as a contributor to Wichita, the community, just the arc of Boeing having been here in town?*

**47:40**

Yes, I think it's been a major factor of why Wichita's got labeled the Air, you know, the Air Capital. Um, I think it's the name, being this really huge, internationally known company, being having a part in Wichita was a big deal for the town. And that may be a part of the reaction to it, of having this very well known company now up and leave town, especially having been here the whole time, you know, Stearman and then becoming Boeing and being here for so long, that it's been this establishment in the community, that it's the, you know, key company for Wichita, where, yeah, that reaction, we're losing this piece of our identity that's been there a really long time, um, that we put a lot of effort in to keep here, to grow, that, as far as the community, it's hard to see them go.

*So, you've got a couple kind of extremes, I guess. You've got, um, Boeing basically contributing to the identity of the city, and then you've got Boeing kind of screwing everybody over—*

Yes.

*--so, considering those things, what do you speculate might ultimately be the legacy of Boeing in the city?*

I guess it depends, too, if you've been working in the aircraft industry, how you would view it. But, I think, in the long term, they'll be seen as a key part of the 19<sup>th</sup> century, at least—er, not, no, not 19<sup>th</sup> century, 20<sup>th</sup> century, 1900s—being a very key part of Wichita and its development and growing it. And that it was a key piece of the Wichita economy for a long time and really helped the city grow. But, there's always that aftertaste of how they left that will definitely have to be part of their legacy. Overall, I think that as far as what they built up here in Wichita and the reputation they gave it—helped give it with the Air Capital label is a good thing, and it's helped bring in the other companies to Wichita and establish it as an aerospace cluster. But, yeah, again, it's, at least in recent—er, near future there's just gonna be that real bad aftertaste of how they left.

*As you look back, just between your time going into Boeing and then moving on to Spirit, was there—did you have any expectations just for what your time would look like at Boeing that maybe were or weren't met? Or did you really have any expectations whatsoever?*

I didn't expect to be in the aircraft industry 16 years later—

*Is that right?*

The first three months on the job, I thought, 'I don't want to do this for the rest of my career,' but I kept at it. Um, I don't know as I had any expectations that weren't met, necessarily. Um, I got to work with a large variety of people and move around in the company, move to different projects which is part of what's great about working in a large company, you can do these lateral moves, it doesn't always have to be vertical to change things and vary your career, um, which has continued at Spirit. But, you know, there were times that were crazy, like the time that I got a phone call saying 'how many boxes to you have?' I'm like, excuse me? 'Oh, you're moving to this program.' What?

*Just like that?*

Yeah, and my manager had been—that was when I hadn't quite been on the job two years and my manager had been out with some health issues with his child and no one had told me they were gonna move me to a new program until I got a phone call from the OA saying 'how many boxes do you have?' I'm like, what are you talking about? So, there were some of those instances, their communication isn't always the greatest. But, I think, overall, I wouldn't say there were expectations I didn't have met. Um, I certainly got to see different parts of the company and do different parts of the work and learn different analysis methods, um, so... build relationships. There was a time, we were Spirit at that point, but, uh—was that 2007, 2008 timeframe where I'd been on a proposal team and we were waiting to see if we got the contract and I got moved around—in about six months period they said 'this program needs help for a month or so' and 'this program needs you for a month or so' and 'this program needs you for a couple months' and moved around in the company while

they were waiting to see, and realized I'd had enough experience and moved around when we were Boeing that, um, I could pretty much go to any program in the company and know somebody and I had relationships with them. So that was a really good feeling, like, you know, ok, yeah, I've got my network here and I've been able to build a good basis here, so, it was good people.

*I don't know if you were thinking of anything around in your head on the way here that we didn't talk about, but if there was I'm happy to talk about it.*

I can't think of anything.

*Well, like I said, you made this both easy and hard on me because you kept answering my questions before I got to them, so that's great. Um, right before we finish, I'm just curious—so three months in, you thought you didn't want to work in the aircraft industry anymore. Did you—what was the deal, did you hate it? Or this just isn't where I see myself?*

Yeah, I just found that, um—and I still do, it's part of why I'm getting my MPA now—but um, is there are guys and girls there who are passionate about engineering, they love what they, you know, working the numbers and doing the analysis and, I found that I can do it and I'm competent at it—obviously, I've been doing it 16 years now and they haven't fired me. So, um, but I don't love it like some people do and so, um, just kinda—it took a long time to figure out where to go, and I did stuff in my personal life that kept me happy on the other side of things, but, um... so I just kind of felt like this isn't necessarily what I want to do for the rest of my life. I wanna feel more passionate about what I'm doing. Some of these guys that work there, they love it, and they're great at it, and that's great, and I'm glad. But that's not where I'm at.