TESTing Voice Interview

with

Ms. Rebecca L. Martin,

Sensors Integration Flight Chief

412th Test Wing

Edwards AFB, California

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Murphy: All right. My name is John Murphy. I'm the Air Force Test Center historian. This is a TESTing voice interview with Ms. Rebecca L. Martin. Today is 20 May 2021. It's 1500 Pacific Daylight Time. All right, ma'am. Can you provide me some personal background information? You know, maybe, like, how long you have been in Test, some of your education background, some special interests you might have?

Martin: Of course. So I've been on base almost 14 years. I graduated from U.C. [University of California] Davis with Bachelor degrees in aeronautical and mechanical engineering. I was recruited directly out of college by the Weapons Integrations Flight and came here in -- when we were able to onboard people very quickly by the end of June. So that was a fun, exciting time. Moved down to the area with absolutely no experience. And I will say that was a little bit of a culture shock but really enjoyed working with the Weapon Integration Team. A lot of great personalities there, a very social group. So I started there for about five years doing B-1 weapon integration testing. And then from there I decided to move to the 418th and do air-drop testing with the ENFH group, mostly because they told me I could fly and it was still throwing things at the earth which is just cool. After about five years again with that group, I moved over to the Range Safety Office and started my Master's degree in engineering management with an emphasis in systems engineering. I spent about two years there and went into Sensor Fusion for JSF [Joint Strike Fighter] as the lead engineer. I did that for about a year-and-a-half before I was promoted to my current position as the sensors integration flight chief of ENVS. So, like I said, about 14 years, two different Bachelor degrees, and a single Masters from Embry Riddle.

Murphy: All right. Great. Are you a pilot?

Martin: I am not a pilot.

Murphy: You just like flying around?

Martin: I really just wanted to fly. They kind of sold me on the job when they told me I could test weapons because that was not something that I had ever heard of as far as opportunities at U.C. Davis. And quite honestly it just sounded cool. So I did a 180 at the career fair when I heard the civilian opportunities because I had assumed, like many around me, including my husband, that it was looking for military personnel.

Murphy: Ah, okay.

Martin: Also of note is I recruited my husband and he started about a year after me. We have a little (indiscernible) group and he's been on base, as well, for this whole time.

Murphy: That's nice.

Martin: I definitely won the “who has the cooler job” game.

Murphy: For now.

Martin: No, we still argue about it. But he -- we're both on base.

Murphy: So what would you say attracted you to Test?

Martin: Well, I would say right off the bat I didn't realize how much opportunities were in there. Previously said, they caught me at a career fair when they said civilian opportunities and I realized that there were other things to do than design, because, obviously, in our education system, we really push that design aspect, and I always enjoyed the hands-on portions of labs and tests and had a bunch of experience working in the construction industry as an engineer, as well, for my internships prior to this position. And I knew that I did not want to be in a lab, I didn't want to necessarily be stuck behind a computer, and the opportunity to be around aircrafts and to see those changes and to have a sense of completion with each of the activities I do really appealed to me. Like I said, the constant change is really fun. You never get stuck on the same project for that long; they do have an end date. And even if you do get tired of your same system, there are so many different rabbit holes you can go down that, given the opportunity, our folks will enjoy and continue to learn and grow. My career's a pretty random one sounding. As I said I started in weapons, switched over to airdrop, went to range safety --

Murphy: Right.

Martin: took another left to go to Sensor Fusion. I definitely have enjoyed kind of dabbling in numerous pools.

Murphy: Oh, okay. Great. So you're initial involvement in Test, how did that affect your personal or maybe professional ambitions?

Martin: So when I first started, I think like a lot of our college grads that you're just kind of shell shocked with how cool everything is. You're dealing with high-tech technology, you're going toe-to-toe with contractors, and taking on a lot of responsibility right out the gate, which to some people can be uncomfortable, but I thought it was quite thrilling that they would let someone who'd been only on a job for a year-and-a-half the lead of a billion-dollar project. I mean, it's not something that many people can claim. So it definitely set me up for success and I wanted to grow up a ladder and knew that going into it. So it has encouraged me to get my Master's degree. It has encouraged me to pursue a lot of different options. And I think one of the most comforting things for me is actually how unique the Test Enterprise is. Knowing that I have that skill set I know that I am highly desirable. I can move, and that, not only do I have those skills, our management here actually supports them. I've seen in numerous instances where people, for personal reasons, need to relocate and I'm very happy to be a part of that, especially now as a flight chief to help facilitate that for others as well as myself if needed. Obviously, I haven't decided to go anywhere else.

Murphy: Okay, great. So do you have any good stories? Do you have some memorable experiences in your 14 years of Test?

Martin: Oh, tons, but I still think one of my favorite moments was the first day on the job. Like I said, things were a little different back in 2007. I started pretty quick, and I was able to get down to South Base where the bombers were located and meet my lead day one, which is not common, especially now-a-days. There's a lot of pre-reqs [pre-requisites] that we've got to get through. But my boss handed me a test plan and a safety package and just said "okay, here's the approved documentation. We need you to drop JDAMs [Joint Direct Attack Munitions] as part

as this -- of this test program. Can you find a range?" And I looked at the documents and all of my experience in the contractor world was you do your own research, and I asked him very politely if there was a list of ranges that I could start with or if I should just start Googling. Thankfully, it was a lot easier than that, but just that moment of "okay, here we go, weapons have to hit the ground".

Murphy: Wow.

Martin: That's kind of fun.

Murphy: Yeah.

Martin: And I will say that there's tons of great memories. Working on a test accel[aration] is always an experience regardless of how fun or not fun it is. But --

Murphy: Oh, I'm sorry --

Martin: A test acceleration.

Murphy: Oh, okay.

Martin: When you need to get the test done yesterday and it's a high priority and you get access to everything on base. Kind of, the doors open up for you which is really fun. But I remember the weapons team, we had a pot-luck in the data vault one night because, like I said, in a test accel you have to get it done, and we knew we were in for a long day, long night. We just came prepared and had a good time while we knocked out all of our analysis. But I like dropping things, clearly. That's kind of my M.O. [Modus operandi] leading up to this position, so I would say that I have a ton of memories that are very fond from the airdrop days. It's definitely a lot crazier.

Murphy: Right.

Martin: But I think the joke is most of them have to come out in the heritage room because --

Murphy: Oh, got it.

Martin: -- those are always entertaining stories. But it doesn't really matter which test you're doing or if it's drop or not. I know how much stress I get on myself to make sure that -- like JSF, when I was executing test missions with the fusion team, there was so much money tied up in the air, and the pressure to make sure that you don't mess up, that you get the right data, you don't waste people's time, and it's fun and exciting and also a little nerve-wracking all at the same time. It's just a fun thrill. You can't duplicate it on the ground as much.

Murphy: No, that would be tough. Okay. So looking back, if you knew then what you know now, would you still be as excited as being in Test?

Martin: Absolutely. I think one of the best ways to reinforce how much fun we really do have with this job is actually talking about it. I know, personally, I love going to career fairs now. Obviously, they feel -- they can see through my current position, but I get just as excited as the

students or whoever I'm talking to because there is that thrill. It is a fun place to work. There are lulls, there are downtimes, there are problems, but the good times outweigh them.

Murphy: Okay. All right, great. So in your little area here, do you see a lot of collaboration between maybe the different sites, or contractors, or --

Martin: So, in general, I think it depends on where you are. Collaborations always happen. So, I mean, I'm an outgoing person. I'm well aware of that. So I find it easier. But I enjoyed when I worked at the Safety Office as the range safety officer. Collaborating with other ranges -- we developed documentation that needed to be applicable at Edwards and Point Mugu and Eglin. So a lot of that -- working through some of our -isms was there. When I was the lead for Sensor Fusion at JSF one of the things we did regularly was get the F-22 fusion group together because we realized it's two fifth-gen[eration] fighters. There's a lot of overlap in capabilities and what we're dealing with, and just being able to have someone at the same level to collaborate with was very helpful. It didn't hurt that the lead over at the [F-]22s was the prior F-35 fusion lead and also a wealth of knowledge on my system as well. But --

Murphy: Right.

Martin: -- just having that cross-communication was great, which I know they're still continuing even after I left, which is a very good thing. So, yes, there is collaboration. I do believe there can be more, but we just have to make sure we are all on the same page, I think, to really get that collaboration to escalate.

Murphy: Okay. Now, you mentioned that you think there could be more. Can you give example of why you say that?

Martin: Well, I know that -- looking at the pandemic is a great source where we have a lot of different tools out there to facilitate communication, which is great to have a variety, but it also meant I didn't know where to look for what I wanted. If it was on the CHES [Cloud Hosted Enterprise Services] or AFNet [Air Force Network], however you define it, teams, CVR, [Commercial Virtual Remote] in a text message to my personal phone, now a text message to my work phone, it could've been on a shared drive. You start getting into a lot of wickets of where is that information; where do we house it? And it was also SLACK for a long time at F-16s on how they wanted to communicate. When we have a lot of different options, we open up the door that people don't necessarily collaborate using the same tool.

Murphy: Ah, I see.

Martin: I know it's changed now, recently, at JSF, but for a long time they could not access the AFnet in the SIPR [Secure Internet Protocol Router] SIPRNet. I'm sorry, NIPR [Non-Secure Internet Protocol Router] not SIPR. Which made it so that you couldn't even message someone instantly --

Murphy: Right.

Martin: -- from an unclassified computer. They've fixed that problem now but it's still reliant on the engineers to actually log into that additional system to bring it up. So collaborating across different groups can be problematic because we're not on the same system.

Murphy: Interesting. Okay. Now, you also brought up -- now you brought up COVID [Corona Virus Disease].

Martin: Yeah.

Murphy: So can you talk a little bit about how your life changed here from February of 2020 to March 2020?

Martin: So during the COVID pandemic, I've actually been promoted. So it's been very interesting on numerous fronts. When I started, it was taking a team that predominantly worked inside of a vault on classified systems to trying to telework, which involved lots of training, some communication on an unclassified level, but the reality is when you live in a vault to do all of your work it's very difficult to translate that to a telework environment.

Murphy: Right.

Martin: We ended up having to bring in our engineers in shifts to support missions, to support analysis, and it was quite difficult at that time. I have two children, and my daughter was in the middle of homeschooling or virtual education at that point, which put an extra burden on my husband who, as I said, also works at Edwards. So when I needed to go in, it did create that extra level of frustrations. When I did get promoted into this position, one of the benefits is that I obviously no longer live in a vault. Most of my communication can be done on an unclassified network and I was able to continue working and then support two kids throughout virtual education for most of this year, which was much nicer for my husband, I'm sure, to tag team that. In general, I would say that the telework environment has reduced our collaboration and interactions because I find myself happier to maybe send a message but not as likely to pick up a phone and call someone because you never know what you're interrupting. Whereas, when we're in the office, I can pop in, see if they're doing something, or, as this happened recently, one of the **ENFH** engineers stopped by just to say hi and we got discussing a project he was working on, which we -- I didn't necessarily know he was doing, nor did he think he needed any insight from me, but just a target of opportunity. You know, it starts generating ideas and that collaboration that you were talking about and kind of moving us forward in some different directions. So I really value being back in the office now-a-days.

Murphy: But you weren't in the beginning were you? Because, I guess, you got promoted during a pandemic --

Martin: Yes.

Murphy: -- so I would guess probably 90 percent of your world was teleworking?

Martin: Once the promotion happened.

Murphy: Right. So you didn't get to see anybody or --

Martin: No, in fact, tomorrow, I get my first all call with my flight in person. I'm very excited because, as sad as it is, I've been in this job almost a year and I have not met everyone because of the COVID pandemic.

Murphy: Right. Crazy stuff, huh?

Martin: It is a crazy time.

Murphy: So, again, talking from your perspective, if there's one thing you could change, what would that be?

Martin: Probably, the thing --

Murphy: If you have more than one, that's fine too.

Martin: I was going to say it probably boils down to one thing, which is reducing the paperwork. I love the fact that we document things, I really do, but there are so many times that I feel that we're going to regulations or going through additional steps that don't seem to add value every time but just create workload. Some of those instances, I feel like they're written for those one-off cases to – CYA [Cover Your Ass] kind of deal, and unfortunately, that drives the work load up for everyone. I think on the test plan and reporting side of the house, we've definitely improved on how we do our paperwork. I think we've streamlined a lot better. I'm happy with the changes that have been made there, but thinking back to some of things that I've had to run and go back and forth on, it's just kind of frustrating how many wickets you have to get through to get something done.

Murphy: Wow. Okay. Just out of my curiosity, when you say paperwork, are we talking physical paper or --

Martin: No. Oh, God. Thankfully, we have migrated to digital forms of documents. Yes, agree, because I remember when I had to look at wet signatures on my test plans and it was easier to walk around 1400 with the document than to wait for people to hand it to the next person.

Murphy: Sure.

Martin: So -- but yes, I do agree. We've gotten smarter than that.

Murphy: Okay. Wonderful. So what have you experienced as the greatest challenge within the research, development, test, and evaluation enterprise?

Martin: I'm assuming you mean here locally?

Murphy: Yeah. Well, yes, you're --

Martin: And I --

Murphy: -- you're purview.

Martin: I would say keeping up.

Murphy: Huh?

Martin: Keeping up. Because there always seems to be man-power shortages. There's more pet projects than we have time to do. We'd always like to delve deeper, get more involved, but at the same time, especially, our -- I would say all levels, we've got to get the mission done at the same. And it's frustrating when there might be a better solution but we're unwilling to take the time to, like, do it. For example, instrumentation systems. When I worked in Parachutes there was a newer accelerometer that they were looking at using. However, we didn't have time to get enough data and enough background to support that it could be used in lieu of the existing system so we kept with our existing system, which was outdated, had a single person that had invented it and maintained it, and we had to get a special contract every time we needed something to happen on that particular instrumentation. There was a lot of drama on that one --

Murphy: Right.

Martin: -- and I hope that they've moved on. I have not actually talked to the latest airdrop engineers to find out what -- how they replaced that. But it was something we were striving to do, but just not enough time and energy to throw at it. Things like that take money.

Murphy: Sure.

Martin: And, like I said, we always want to dig deeper, we always want to know more, and just trying to keep up is a full-time gig.

Murphy: Okay. All right, great. So now, General Brown, Chief Staff of the Air Force, he has a philosophy of accelerate change, or lose. How do you think that could be best applied to Test?

Martin: So I think that that, as a Test wing, we've actually all heard this and embraced it because we understand that how we have done business is just not going to work going forward. It's a hard pill to swallow and it's going to take everyone changing, not just the engineers doing the analysis and planning the missions, it is also our technical experts, our approvers, everyone. Just because it's been done one way before, it doesn't mean we have to do it that way. Statistically defensible testing has helped and hurt us, I think, in that realm. In some areas, we're able to reduce testing, and others I think the statistics imply that we need a lot more. But I have seen a lot of open interpretations on how we can do things smarter, faster, better. And within my team alone, I have seen people striving to get more data in one mission and improve analysis timelines so that we can get it knocked out faster. I'm very proud of -- a lot of my examples tend to come the fusion team at JSF. A group of engineers worked really hard and were able to reduce the analysis timeline for a mission from weeks to three days. And another one is looking to combine our test setups so that it doesn't just have to drive one discipline but it encompasses a sampling for, I believe it is, six different disciplines in a single sortie. And it's not the ideal data set that they want, but through statistics they were able to prove that they got comparable results from the less scripted test that he was proposing to ones that were highly scripted repetitive tests that only looked at one specific capability at a time. So, like I said, in both instances, we are trying to get smarter, we are trying to do it faster, and meet those needs with less, but it does take time to improve those things, and unfortunately, we always seem to be low on that.

Murphy: Yes, we are. So what changes do you think could improve the test and acquisition cycle from your point of view?

Martin: I would have to think about that and come up with a little bit longer. I didn't have that one pre-written.

Murphy: Oh, that's fine.

Martin: Oh, and I did want to bring up one thing.

Murphy: Okay.

Martin: In Range Safety, as far as that accelerate change, or lose. Once again, getting kudos for people doing great things. The Range Safety Office, in 2014, was completely overhauled and started taking on a statistically defensible approach to how we did impact analysis so that those hazard areas that they calculated were more relevant -- they were slightly less conservative. But they had statistical backing. And when I was in Parachutes I remember having to go to Yuma to use their range because it was a lot bigger. For high altitude releases we were doing tow tests, which an unweighted parachute at 25,000 feet can float for a while. But when I -- by 2014 when that Range Safety Office -- not only were we able to do that test locally, we actually went higher, up to 35,000, to do the same test. And we were able to model it and contain it, and actually accept that hazard. Most recently - I know, (indiscernible) is probably thrilled - they released a small diameter bomb on our range. So being able to use our resources here locally is a huge win. And figuring out ways to do that better is what we should be striving for.

Murphy: Okay, great. So now -- we covered a lot of topics. Did I miss something? Is there anything else you want to talk about? Or would you like to make any additional comments?

Martin: Of course, I had a fleeting thought right before you said that of something that would've answered your previous question regarding --

Murphy: Oh the test and acquisition site?

Martin: Yeah. I'm just trying to think of if I can think of what I was going to say. The aging equipment is a big problem.

Murphy: Right.

Martin: Like I said, finding the time to improve it is what I really would like to see change because we don't move on to the new systems easily or quickly.

Murphy: Yeah.

Martin: I know what they are, so figuring out a way to do that faster and with more volume would be good.

Murphy: Okay. All right. Well, I thank you for your time. That was good. This concludes the interview.