

**SWE STORYCORPS INTERVIEWS**

**Yvonne Young Clark and Carol Lawson Interview**

October 26, 2007

Society Of Women Engineers National Conference

Nashville, Tennessee

Reuther Library Oral History ID: LOH002110.4

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## **Yvonne Young Clark and Carol Lawson**

Yvonne Clark was the first woman at Howard University to complete a bachelor's degree in mechanical engineering, graduating in 1951. She became a licensed professional engineer and was the first woman to receive a master's degree in engineering management from Vanderbilt University. Clark began her career working at Frankford Arsenal-Gage Laboratories and at RCA. She became the first female faculty member in the College of Engineering and Technology at Tennessee State University and has taught at TSU for over 50 years, where she has served twice as department chair and eventually became an associate professor. Clark joined the Society of Women Engineers in 1952, has served on its Executive Committee, was elected to its College of Fellows in 1984 and received its Distinguished Engineering Educator Award in 1998.

In her 2007 SWE StoryCorps interview with her daughter, Carol Lawson, Clark discusses her early interest in flying and engineering; her experience attending Howard University and later Vanderbilt University; her experiences working for Frankford Arsenal Gauge Lab, RCA, NASA, Ford Glass Plant; her time teaching at Tennessee State University; and her involvement in the Society of Women Engineers.

## Yvonne Young Clark And Carol Lawson Interview

**Carol Lawson:** Carol Lawson. Age thirty-nine. Today's date is October 26, 2007. Nashville, Tennessee. And I'm interviewing my mother.

**Yvonne Young Clark:** I am Yvonne Y. Clark, Seventy-eight. Today's Date is October 26, 2007. Nashville, Tennessee. And I'm being interviewed by my daughter.

**CL:** So, Yvonne. Mom.

**YYC:** Thank you.

**CL:** Tell me, why did you want to become an engineer?

**YYC:** Okay. I wanted to ferry airplanes between the United States and England. Okay? And I thought you had to be an engineer just to get the airplanes from one—from the USA to the [United] Kingdom.

**CL:** Okay, so why exactly did you even come up with that? Where'd that come from?

**YYC:** When I was in high school I had the opportunity to take an aeronautics course.

**CL:** What about even before then? When you were in elementary school, middle school.

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**YYC:** Okay, at home with the Stoker furnace, that's where you automatically feed small chunks of coal to the furnace and it gives you heat in the house. Every once in a while an oversized piece of coal would get stuck in the Stoker and I would go down and pick it out and then allow the house to be—coal to be fed to the furnace to keep the house warm.

**CL:** Okay, were there any people that ever kind of came by that maybe, maybe introduced you to some things?

**YYC:** Oh, mom and dad had parties and the Godman Field [Godman Army Airfield] pilots would come by the house and you'd hear them talk about their flyings around the United States and the world, and that was the black pilot group that really knew how to take off the Godman Air Force field, Godman Field, and the runway, was really too short for bombers. So the guys knew how to stand on the brakes, rev up the motor, and when they turned the brakes loose, they would go up and use the short runway and take off successfully. And I heard that more than once at the house.

**CL:** So how did that kind of—what impact did that make on you?

**YYC:** It made me want to fly. And mom had a friend, Jimmy Lundsford, he had an airplane and he'd let me take over the

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controls once he took off and mom was on the passenger seat in the back. It was nice!

**CL:** So that's kind of where it all began.

**YYC:** Uh-huh! Mom's friends and allowing me to fly because they knew I was interested in it. And I also was a squad leader in the Civil Air Patrol, high school, Central High in Louisville, Kentucky.

**CL:** Okay.

**YYC:** They would take us to the armory. And I learned how to shoot a rifle prone, and sitting position, and also how to fire a .45 [pistol] standing up. I was Annie Oakley.

**CL:** Okay. So when you went to high school you said you took a class.

**YYC:** Uh-huh.

**CL:** What class was this?

**YYC:** Aeronautics, along with a year of physics and a year of chemistry. I don't like biology. My highest degree of biology was general science. And then I took a year of chemistry, a year of physics, and year of aeronautics. So I had more than the two and half years required.

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**CL:** So aeronautics class—

**YYC:** Oh, that was cool. We would make planes. We built planes, and we used—the propellers were, I guess you would say run by a rubber band. You would go out on the fire escape, roll your propeller until it wouldn't turn anymore, and then aim it at the football field and watch it fly.

**CL:** Okay.

**YYC:** Yeah.

**CL:** So that's kind of where the whole spark—

**YYC:** Uh-hm, the spark.

**CL:** —the spark began.

**YYC:** Yes.

**CL:** Okay. So tell me about—now we've gone through high school and now do we go to college?

**YYC:** Yeah, we finally get there.

**CL:** So how did that—tell me about those years right before college.

**YYC:** Okay. I was sixteen a month when I finished high school.

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**CL:** (To recording technician) She graduated at sixteen.

**YYC:** At sixteen I graduated from high school.

**CL:** Okay.

**YYC:** And mom and dad, if I wanted engineering—they didn't put obstacles in front of me. They said, If you want it, you will it. So I went to Boston for two years. Mom had set up a library at a Marine Corps—can't think of the city, in North Carolina—and she met people there, in setting up the library at the marine base. And I went to Boston. For the first year I stayed with Colonel Snowden and attended Girls' Latin high school [Girls' Latin School] and my high school diploma put me in the sophomore class, where I took French and Latin, etcetera. And it was all right. And then my second year in Boston I went to high school, Roxbury Memorial High School For Girls, and there I was considered a postdoc who had already a diploma from high school.

**CL:** Okay, so now we're two years later—

**YYC:** Two years later I'm going to apply for college. I applied to the University of Louisville down the street from me in Louisville, University of Illinois at Urbana, and Howard University in Washington, D.C.

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CL: Okay.

YYC: I had my own (unintelligible) or whatever. I wanted to be in a dorm.

CL: Okay, so at the University of—

YYC: Illinois. I could not get in the dorm. It was already full. At Howard University—

CL: University of Louisville.

YYC: —University of Louisville I couldn't get in.

CL: Why?

YYC: A black down South. Segregation was still flourishing. So I left that alone for a little while, went to Howard, got in, got in the dorm, and the University of Louisville paid my tuition at Howard University. I asked mom, "Well, we live right there in Louisville. Why can't we get room and board?" Mom said, "Leave it alone, honey, leave it alone."

CL: Okay. (laughs)

YYC: I said, "Okay, mom, you're in charge."

CL: So now we're at Howard.

YYC: We're at Howard.



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CL: Okay.

YYC: Girls' dormitory.

CL: Girls' dormitory.

YYC: Crandall Hall.

CL: And what was our major at Howard?

YYC: I was a mechanical engineer at Howard. And the only one at that point majoring—

CL: (interrupts) The only what?

YYC: Female.

CL: Oh, okay. (laughs)

YYC: Yeah, we had plenty of—(laughs) Ironically that's when the World War II guys came back so I only had about maybe two classmates who were not World War II vets.

CL: Oh, wow. Okay.

YYC: Yeah. Yeah. I think mom thought about that. (laughs)

CL: Okay, okay. (laughs). So we are at Howard University—

YYC: Yeah.

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**CL:** And only female—

**YYC:** Female in mechanical engineering, in engineering. And my roommate was a liberal arts person and she had been a cheerleader wherever she came from. I can't remember right now where Janet came from, but that's beside the point. And so I said, "Okay, I'll go with you." I made the cheering squad and she did not. And I had never cheered in front of anybody (laughs) in my life.

**CL:** So now you are a mechanical engineering student and a cheerleader.

**YYC:** That's correct.

**CL:** What a great combo. (laughs)

**YYC:** It was. The cheerleading was my release. And naturally I did have to study.

**CL:** Gotcha. Well, yeah, I guess so. So what happened while you were in college? Anything that sticks out as far as any of your classes or any of your teachers?

**YYC:** Oh, one of my teachers, mechanical lab, manufacturing lab—well anyway, we made models and we poured metal. I still have my project that I made while I was there at Howard. The teacher gave me a sanding assignment, meaning I

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had to shovel the sand to make the molds to pour the metal in, and—

**CL:** So was it heavy?

**YYC:** Well, I didn't pick up a whole shovel of sand. I picked up enough that I could handle and not be sore when I finished class. So I might take four or five shovels of sand to get one good shovel of sand. But I didn't hurt myself. The teacher saw me over there and said, "Young! Why are you on sand?" "That was my assignment, sir." "Uh, let's put you someplace else right now." And that's what we did. He took me off of sand and I went someplace else in the classroom. I think I ended up molding the sand and poured the metal in. (laughs)

**CL:** Okay. Now, so now we have gone through Howard University. And we graduated as a—

**YYC:** The first female in the history of Howard University to finish mechanical engineering.

**CL:** Excellent! So now we're done with college for the moment.

**YYC:** Yes, for the moment.

**CL:** So now what do we do?

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**YYC:** Well, we've got to interview as seniors to get that job that I want.

**CL:** Okay. So how did that go?

**YYC:** Well, it had its ups and downs but it was all positive. The Navy—everybody can sign up, so when I got to the interview he looked at me and said, "I don't think I can hire you." I said, "Okay, what's the problem now?" He said, "You're female and all engineers go out on a shakedown cruise, and the omen is 'No female on the shakedown cruise.'" So he could not—

**CL:** (Interrupts) So this is on the ships?

**YYC:** On the ships. Yes, Navy. So we agreed that he couldn't hire me and so I said, "Okay, I'll tell you what. I'll go on to my next interview and you can finish your paperwork and this can be a plus." He said, "Thank you."

I went on to my next interview. The next interview might not have been the same day, but it was with another company, but those engineers worked up by taking down—undoing the machinery so you would know how it was put together. And I wouldn't weigh enough. So I said, "You give me a long enough lever and I can take down anything." So he

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said, "Yeah, but we might have a space constraint on how long that lever can be." So once again I wished him well, said, "Now you can finish your paperwork and I'll go on to the next interview." Everything was a positive, all right?

**CL:** Okay. So, we finally got a job.

**YYC:** Yes, I got a job with Frankford Arsenal Gauge Lab in Philadelphia. Mom and dad in the meantime, "When are you going to unpack?" "I'm not going to unpack, Mom! I've got a job coming from somewhere!" And two months and I had a job and I was headed for Philadelphia. Mom and everybody smiling now. The trunk's out of the living room (laughs) and everything else. But, I go to Philadelphia, I report to Frankford Arsenal Gauge Lab and go in on overtime. Ah!

**CL:** Okay, so you are being—you're working a lot.

**YYC:** Yes. Eight hours is a natural day. I think I was putting in ten or eleven. So something happened and somebody found out that as an engineer I was making more than the guys who came up through the ranks. So they got kind of upset. This female is making more money than I am and she's just out of college. Not even dry behind the ears! So they talked to the supervisor, the supervisor talked to me. I said, "No

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problem! Now I can go see Philadelphia cause you all brought me in on overtime."

**CL:** So what did they do?

**YYC:** What do you mean, what did they do? Oh, you're talking about—

**CL:** No, no, no. You're on overtime, so what happened different?

**YYC:** I went back to regular time, eight hours a day. I got me some time to go visit Philadelphia and see what's happening. Down the road at Frankfort Arsenal, two guys—at that time you had to have a seat to get a raise and it was time for me to put paperwork in to get my raise. And they said, We can't even think about that until the two men in the group got their bank loan approved to start up their business. Hmmm, I never did depend on anybody else to move me along, so with my no overtime I went looking for another job.

**CL:** Okay, so what happened? Where'd the next job come from?

**YYC:** RCA. Camden, New Jersey, right across the river. And I went in for an interview. It was in October, I think because they bring in new recruits about twice or three times a year.

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**CL:** Okay.

**YYC:** And I think the last recruiting might have been in June. So I went in. And relaying what happened to my mom, she said, "How did the interview go?" I said, "It went all right with me." So she said, "What are some of the questions they asked?" I said, "Well, the one that sticks out, mom, is—the question was 'which presidential candidate would I choose to be the next president?'" I had a choice of Eisenhower and Truman. I chose Truman, and the guy said, "Well, what was your reason for getting Truman?" I said "Eisenhower was trained to take orders. Truman was not an Army person and therefore he could go for whatever his conscious told him to do."

Mom said, "I think you just blew it." "How'd I blow it, mom?" "Industry is Republican." "Oh, well, he asked me what I would choose. I told him. I have him my reason. That's the alpha and omega. Forget that one. If I don't get the job, I can sleep at night."

**CL:** Two weeks later?

**YYC:** I got a telegram coming saying, "Can you report X, Y, Z?" I said, "Two weeks, I can give notice. Yes, I can report." Gave my two weeks' notice and I was on RCA's payroll.

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**CL:** So what was significant about you being at RCA?

**YYC:** I was the only female, black female mechanical engineer.

First black female engineer that they had had. As well as—I think I might have been the only female there, or the only mechanical. I was the only one, whatever the subject was. And the guy who was over the group knew how EEs think, or thought, and he said—

**CL:** (Interrupts) EEs? What are EEs?

**YYC:** Oh, electrical engineers. I'm sorry.

**CL:** That's okay.

**YYC:** —electrical engineers thought, and he told them, "If this mechanical engineer can't put your lines on something that will make it work, you're in trouble. So she's the one that will make your lines do." And we've got telephones, we've got short circuit breakers. Everything that you use, a machine made. And we as mechanical engineers have to design the machine and get what you all want designed. Okay?

**CL:** Excellent. So now we've been to—we've been at RCA.

**YYC:** Frankford Arsenal.



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**CL:** We did something at a Ford Glass plant? What happened at Ford?

**YYC:** Oh, okay. I'm getting ready to get married. I'm going to go to Nashville. I'm not going to bring my husband up north, because I know what I can do. So he said, "How about a diamond ring?" I said, "I was born in April. My mom and dad gave me for my eighteenth birthday a diamond, so let's get a house together. Now you've got to choose two so that I can choose, because you're going to pick the two, therefore you're satisfied. When I choose one of your two, we are satisfied." And I picked the house that I live in right now. I added on, but that's the house I chose and we live in that.

**CL:** Okay, so how about Ford Glass Plant?

**YYC:** Oh. Well, since I was still in industry I went by the Ford Glass Plant because (unintelligible) and I am a mechanical designer. So I go by to see if I can get a job. And they told me in quotes—

**CL:** (interrupts) Excuse me. Is this in Nashville?

**YYC:** Oh, Nashville, Tennessee. Right down the road from the Centennial, which is—yes, Nashville.

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**CL:** Okay.

**YYC:** And they told me, We have no use for you. And that's the quote that they gave me when I went to them.

**CL:** And why did they say that?

**YYC:** A black female down South.

**CL:** Okay. All right.

**YYC:** So I went down the road a little ways to Tennessee State University and said, "Do you all need a mechanical engineer for an instructor to instruct your students?"

**CL:** Okay, and so we became employed.

**YYC:** We became employed. And most of the guys had either retired from industry or had ties with industry. No one came straight up through the ranks like they do today.

**CL:** Okay.

**YYC:** And they had master's [degrees]. We had one or two doctors [doctorates]. Anyway, they were doing well.

**CL:** Okay, so what was the significance about you being at TSU?

**YYC:** Oh, I was the first female engineer hired at TSU. And they promised me an associate professor [position], but they had

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to give me an instructorship because the guy whose place I took left due to money.

**CL:** Gotcha.

**YYC:** So I accepted the job, and a penny's worth of nothing is better than nothing.

**CL:** There you go. So, now there was somebody there that knew you?

**YYC:** Oh, Dr. Davis, the president [of TSU], knew of me but didn't know me, because now I'm a Clark.

**CL:** Right—

**YYC:** He knew mom and dad. They knew mom and dad because they had been to my house in Louisville to derbies. Mom and dad had derby parties like everybody else does. And Dr. Davis, not knowing who I was, said—

**CL:** That he had heard that they had hired a female—

**YYC:** He heard that they had hired a female and he said, "Who brought this renegade in here?"

**CL:** Renegade. (laughs)

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**YYC:** Renegade. And I said, "Hmmm, okay." So when he found out who I was he had no problem, but I didn't have a problem in the first place.

**CL:** (laughs) Great, great.

**YYC:** Yeah. Yeah.

**CL:** So how many females were in that building when you got there?

**YYC:** Oh, the engineering building had two females: the Dean's secretary, and myself.

**CL:** Alrighty.

**YYC:** We chose stalls in the one—

**CL:** Women's bathroom. (laughs)

**YYC:** —women's bathroom, (laughs) women's restroom in the building. Three floors.

**CL:** Excellent. So we are at TSU.

**YYC:** Correct.

**CL:** Tennessee State University.

**YYC:** Correct.

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**CL:** Working as a mechanical engineer—

**YYC:** Correct.

**CL:** —in the department. And a few years later you worked with NASA at the Marshall Space Center in Huntsville?

**YYC:** Okay, yes. Oh wow. That was a rough one, that summer. They had me doing six degrees of freedom, and that means that the piece itself has three axes—X, Y, Z. And the earth has three axes—X, Y, Z. That's how you get the six degrees of freedom. And that was my first encounter with the government at that level. So I had to call all my professors in mathematics. "What am I doing?" And they would explain it fine. I got a paper out of that particular assignment and it is in the archives—was it the United States? Whatever, where you put the—

**CL:** (Interrupts) Library of Congress?

**YYC:** Library of Congress. Thank you.

**CL:** Excellent, excellent. Now while you were there what else did you work on?

**YYC:** Oh, I also had worked on the manned spacecraft, Saturn V. They were having hot spots so my assignment was to find out

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what causes the hot spots. So I went through all of this mathematics, all of these designs, everything. And I said, "I can't find anything wrong with the design." So I go down to—I might have taken a trip down to Florida where the Saturn V was, but I don't think I had to go because I asked them specific questions and got some specific answers. The guy in the field had forgotten to put the covers—tighten the covers, or put the covers and tighten them on the wires, to cover the wires. So what we were doing was absorbing the heat from the ignition and that was giving us the hot spots.

**CL:** Oh, so you were able to figure that out.

**YYC:** We did figure it out, or I figured it out, and we don't have that problem anymore.

**CL:** Right. (laughs)

**YYC:** Amen.

**CL:** So you also worked with NASA in Houston.

**YYC:** Okay. I got a fellowship—ASEE, American Society of Engineering Education—and the administration, the vice president [of TSU] wanted me to take it. Well, I didn't want to go, but I took my son and I went anyway. You find

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out that you just go on and do what your supervisor wants you to do and move on. So I went down there and my assignment was to help design the box that brings the samples back from the moon.

**CL:** What samples?

**YYC:** The moon samples. The rocks from the moon. And I worked on it and was successful on the part I was on. And as an engineer you know until the project takes off, if somebody else is still working on it, it could be improved by redoing it, getting a new mind on it.

**CL:** So this was the box—you worked on the box that Neil Armstrong brought rocks back from the moon in.

**YYC:** Yes, I did.

**CL:** Excellent, excellent. Now during this time you also have moved up at TSU. You got a new position.

**YYC:** Yes, I'm department head. I was taking condolences as well as congratulations.

**CL:** (laughs) Okay.

**YYC:** In Nashville the first female mechanical engineer or just department head. I did what I had to do and looked around

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and saw we needed some more female engineers, so I started going around to the schools. I did the senior career day bit. And I said, "These kids don't even have a clue on what I need for engineering, so let me go down into the elementary schools." And there's a neighborhood school. I started visiting there the second grade, with permission from the teachers, and they would give me ten or fifteen minutes just to talk to the kids, the students, and let them know what they needed, and to help them help the counselor give them the courses that they needed for education and not for vocation.

**CL:** Excellent, excellent. So that was kind of one of your—"This was going to happen on my watch."

**YYC:** That's right.

**CL:** Excellent. Okay, so we got hired at Ford Motor Company?

**YYC:** Oh yes. That was something else. I got a Kellogg Foundation [scholarship or fellowship] and so I went back to school.

**CL:** Okay.

**YYC:** I couldn't pull as much as the men pulled because I was a female, but I got back to school.

**CL:** You mean you couldn't pull the salary?



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**YYC:** The salary. They were paid a stipend of \$300 and I got a stipend of \$125. And they didn't even take out Uncle Sam, so I had to borrow money to pay Uncle Sam because you've got to pay income tax on that money. They won't do that again.

**CL:** Right. So where'd you go to get the doctorate [master's degree]?

**YYC:** I went to Vanderbilt University, where again, even though I had sent two of my students over there—mechanical engineers, male—I happened to have been the first female engineer, but not the first black [engineer], because I had sent two students over there for the engineering management program.

**CL:** All right, so you were instrumental in integrating [Vanderbilt] but you helped bring some femininity to the group.

**YYC:** That's right.

**CL:** Okay. (laughs)

**YYC:** I was the female who graduated. But the program is two years. You sandwich a year in whatever to get the data for your master's thesis.

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**CL:** Okay.

**YYC:** So this is the year between the fall and spring semester that I got my data. Okay. The engineering program has an advisory. Most of them have advisories and boards. And Mr. Mullen was asked by one of my classmates—because I had already gotten my stuff ready back at TSU outside of engineering—and he asked Mr. Mullen, "Mr. Mullen, can you get a job for Bonnie"—that was my nickname in the group—"at Ford Glass Plant?" Mr. Mullen says, "I'm sure I can. I'm manager of the engineering plant group." And so I now am back at Ford as an employee in January again, 1971.

**CL:** So this is the same Ford that said, We have no use for you.

**YYC:** We have no use for you.

**CL:** Excellent.

**YYC:** Now it might be, what—

**CL:** A few years. It was a minute or two. (laughs)

**YYC:** From '55 to '70? Maybe fifteen years, but you know, don't ever give up.

**CL:** There you go.

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**YYC:** And telling Mullen, because I was already in school, [Ford] forgot to put me on salary, so a couple days later Security comes over to my desk. I said, "What have I done now?" And [he said to] please fill out this paperwork at get it back to him.

**CL:** So we can pay you. (laughs)

**YYC:** So we can pay you. (laughs) But in the meantime, because I was the first female engineer who happened to be black, I had an interview with the top management, the middle management, well at my level Mullen knew me because he was on the advisory board for the group [at Vanderbilt]. So Aikens was my supervisor and, oh, all of them said, If you have any problems, let us know. So when Aikens said that I said, "Let me get my cigarettes, please." And I went back to the desk—we were smoking in those days—and got my cigarettes and came in and closed the door.

I said, "Okay, what's my assignment?" He said, "Now let me say this, if you have any problems please let me know." Everybody was interested in getting me off of their conscience. I said, "You let me know if I have a problem, because I don't look for them. They slap me in the face. So you will see it before I will. Do me the favor and tell me

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I've got a problem." He said, "Okay." I said, "Thank you."  
[He said,] "Now here's your assignment." And I said,  
"Okay—two years behind? Man!" [He said,] "Oh, It's okay,  
engineers—we know everything we ordered, and these guys  
ordered this stuff two years ago."

**CL:** What was two years behind?

**YYC:** The rebuild of the Number One float glass furnace. Two  
years behind. So I had a copy of what everybody ordered. I  
went to each engineer in the group and by this time we had  
no problems. I told this guy, I said, "Look in the bottom  
drawer in the back and see if you can find these pieces of  
equipment that you ordered." Everybody found what they had  
ordered two years earlier. Everybody. A hundred percent.

**CL:** So you had all the information you needed.

**YYC:** Well, most of it. I had to go find my (unintelligible)  
block that held up the furnace. That's what you used to  
build the furnace with.

**CL:** Bottom line.

**YYC:** Bottom line is the third shift would move them every other  
day in the warehouse, so I would get on a tow truck and go  
around in the warehouse and relocate them so when I needed

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them I knew exactly where they were and the guys could start building or continue to build.

**CL:** So your project was—

**YYC:** On time. We fired up on schedule and it worked.

**CL:** Excellent, excellent. So now we're back at TSU.

**YYC:** No, we had to go to Vanderbilt and make the damn thing—excuse me, write it up. (laughs) And my advisor was one of my teachers, Dr. Golsham (??) and you always heard all these tales about [advisors saying], I want 300 pages. I want 30 pages. I want—. I said, "Dr. Golsham, how many pages do you want this thesis to be?" He said, "Bonnie, if you can do it in one page I'll accept it." I said, "Thank you!" I forgot the master's thesis, about how many pages I wrote because he would take it in one page.

**CL:** Gotcha.

**YYC:** Okay.

**CL:** So we're back at TSU. We got our degree from Vanderbilt, we're back at TSU.

**YYC:** Yes, and a new dean has stepped into the picture. And he tells me that—I'm looking for my raise, see. That's why I

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went and got my master's. Even though it satisfied mom and dad—they were still living—that was the bottom line. He tells me, "You're married." I said, "Do you see my husband sitting here with me. I am the engineer who came back looking for her raise. I'm still looking, sir. Now you find out what I'm going to get. Thank you. I'll be in my office." Then I got my raise. It wasn't as big as I expected it to be, but I got a raise. And the gentleman left in the middle of the year.

**CL:** Alrighty.

**YYC:** He went to California. The next step would have been the Pacific Ocean. But he left, I didn't push him.

**CL:** There you go.

**YYC:** I might have helped, but I didn't push.

**CL:** So we also did—you did some work with the Department of Energy.

**YYC:** Oh, I had two researchers.

**CL:** What was the one with the refrigerant?

**YYC:** Oh, there was a protocol, Montreal Protocol, where the Freon was really going out, we were replacing it. And what

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my research did was to compare the [air conditioning unit] drop-ins with the properties of Freon that we thought was the last word in air conditioning.

**CL:** Okay.

**YYC:** My research that we put together—the machine, the equipment, etcetera—had two compressors because one of the drop-ins with the pressure used a different compressor, so I had two compressors.

**CL:** So basically your research kind of actually has snowballed into now the mandates of the SEER 10 and SEER 13 [seasonal energy efficiency ratio] that everybody has on their air conditioning units at their house.

**YYC:** That's correct.

**CL:** Excellent. Now, I also know that there's a scholarship at TSU in your name?

**YYC:** Oh, yes. The Nashville alumni chapter of Delta Sigma Theta sorority put me in their budget under Y. Y. Clark [scholarship], one thousand dollars, for a female Tennessean, junior female engineer, to get a thousand dollar scholarship.

**CL:** Excellent.

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**YYC:** Yes.

**CL:** And then I know you've been written up in a couple magazines.

**YYC:** Yes. *Ebony*, *Jet*, and a couple of others, but those most people can recognize.

**CL:** And then most recently, well not most recently, but the Society of Women Engineers have awarded you with the—

**YYC:** Distinguished Education Award [Distinguished Engineering Educator Award], service award, and that was in Houston, Texas, and that's another arm. I integrated—I was the integration of the Society of Women Engineers. I joined after I finished college in 1952 and I joined. I am the integration. So when they went to Houston [in 1957] they told the Sheraton Hotel [Shamrock-Hilton Hotel] that we are an integrated organization and we would like to have our national conference here. And the management said, That's no problem. Okay. When the integration showed up—me—they had a problem and they wanted my paper [reservation]. I said, "No, this is my paperwork. You go find yours."

And then from thereon the [Society] president—and by this time now they see that Clark's got a problem—and she comes



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out to where I am at registration and she decided that she was going to pull the convention. I said, "No, we will not pull a national conference in Houston, Texas." And we did not pull it. But they sat down to see how I could attend, since I had paid my registration. And anyway, they met me at the front door, because Aunt Constance was still there—that was mom's sister in Houston. And I was seen every other place. When anybody wanted something they would come find Clark and then we'd go get cigarettes and things.

**CL:** So basically the Sheraton [Shamrock-Hilton] wanted to hide you but the Society of Women Engineers made sure that you were seen throughout the building and at every occasion.

**YYC:** At every occasion at the national conference.

**CL:** Excellent. Excellent.

**YYC:** And then the Society decided they'd go North. And now we're back on the southern side.

**CL:** Gotcha. So tell me lastly, what is one thing you would tell other female engineers coming up in the ranks now?

**YYC:** Don't take no for an answer if you feel you're qualified—and I'm hoping you have checked the qualifications that are listed for the job. And that's all

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I can say. Just don't be disrespectful. Keep your respect, respect others, and just don't give up. That's about it.

**CL:** Thank you.

**YYC:** Oh, thank you for being the interviewer.

**CL:** Thank you for being an excellent interviewee.

**YYC:** Thank you.

END OF INTERVIEW