

SWE GRASSROOTS ORAL HISTORY PROJECT

Gail Mattson Interview

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Gail Mattson Interview

TROY ELLER: Okay, today is October 13, 2011. This is an interview with Gail Mattson. We are at the Society of Women Engineers National Conference in Chicago, Illinois. This interview is being recorded as part of the SWE Grassroots Oral History Project, and the interviewer is Troy Eller. Gail served as the SWE national president in fiscal year 2001, and this year has been elected to the Society's College of Fellows. She currently serves as the secretary general of the International Network of Women Engineers and Scientists Education and Research Institute. Gail is currently the Executive Vice President and Chief Operating Officer of PAI Corporation. Thank you for joining me today. Could we start off by—could you tell me a little bit about where you were born and grew up?

GAIL MATTSON: Oh boy, we're going way back. (laughs) [01:00] I was born in Kansas City. And let's see, I was there until about third grade and then my family started moving. My father was an engineer. He's both a mechanical and a chemical engineer, and he worked in the pipeline industry so we moved a lot. We moved, like, every three years while I was growing up, different parts of the United States and different parts of the world, so.

TE: Okay. Did your father encourage you to become an engineer?

GM: Well, yes and no. I was always interested in science. My mother was in the medical field. She was a medical lab technologist. And so originally I wanted to be pre-med, so my undergraduate degree is in chemistry and biology. So, I was originally pre-med and I applied to medical schools. [02:00] Unfortunately, I was competing against all the Vietnam vets that were coming out, and they were coming out of the medical corps and they were getting priority. And so even though I got selected to be interviewed at six different medical schools, I didn't get in.

And so then I started working for Bechtel. I worked at Bechtel during the summers. My father worked for Bechtel. I worked at Bechtel during the summers as a summer student in engineering. And so when I didn't get into medical school

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I went and talked to my boss, and he says, “Well, you can just continue working for Bechtel,” so they went ahead and kept me on full time. So I started my career at Bechtel and worked in cost schedule engineering. And I did that for a number of years and then decided, no, I think I’ll try engineering. So then I applied to graduate school and got a master’s degree in environmental engineering, where I used all that chemistry and biology, plus what I had learned at Bechtel in engineering, and went into environmental engineering.

TE: Okay. [03:00] So you chose chemistry and biology originally because you wanted to study medicine.

GM: Yeah. Well, I knew I was good in math and science and I really enjoyed it growing up, so that was where I was originally thinking—was the medical field, because my mother was in the medical field. (laughs)

TE: What was your experience in the chemistry and biology departments?

GM: At the time there was very few women. And this is a story I shared at my installation speech when I was installed as the president of SWE. My mother was my original—I mean, both my parents were role models, but obviously being a girl, at the time I was thinking of my mother in the medical field. My mother had gone to Baker University, a private Methodist school in Kansas. At that time, she was looking at going into either medical lab technology or nursing, and so she was on a science program. [04:00] And unfortunately, the professor there in the chemistry department didn’t believe that women should be going in and getting degrees in science and so forth. And so even though she knew she was making a passing grade, he gave her an F. And there were two gals in his chemistry class and he flunked both of them. My mother was determined. She went and retook the course and she knew she passed, and he reluctantly gave her a D so that she would pass. And she went on and graduated with her degree in chemistry and went on, became a medical lab technologist.

When I was applying to college, one of the schools I applied to was Baker

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University. But I had also applied to schools in California, because at the time my family was living in California and I was really thinking that's where I was going to go. I got this phone call one day from Baker University saying, "Congratulations, you've won a full chemistry scholarship. [05:00] And by the way, it is the Dr. [E.J.] Cragoe Chemistry Scholarship." Well, that was the professor that had flunked my mother. My mother started screaming and yelling and jumping around. She says, "I hope he's rolling over in his grave, knowing my daughter got his chemistry scholarship to study chemistry at Baker." So she was vindicated, sticking with chemistry. So as I say, she was really a role model for me in getting in, and that stick-to-it-ness and making sure you got through it, accomplish what you want to do.

TE: So, there weren't many women in your chemistry—?

GM: No. In my chemistry class, no. There was, I think out of a class of maybe fifty, there was maybe three or four of us.

TE: Do you think that affected your studies at all?

GM: No, I think I expected that. I expected that. And obviously the gals, we all grouped together. We were a study group together. But, we just saw it as a challenge and worked our way through it. [06:00] The guys were very, very supportive. Really, they were. The guys in our class were very supportive. Of course, we got some hassles because we were at the top of the class. We worked really hard, so we got accused of moving the curve and so forth, you know. But we were determined we were going to be top students, and all of us made the honor society at Baker University, graduating in chemistry and biology.

TE: Could you tell me about your experiences working at Bechtel? Are there any memorable stories from when you were there?

GM: Well, as I said, I started to work for Bechtel in the summer, as a summer student while I was going to college. My father got me the job because he worked at Bechtel. And it was interesting because they brought me in and I thought I'd be

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working in a technical position as an engineering aide, because that's what they had talked to me about through my father. [07:00] And when I went in that first year they wanted me to take some test. And I go, "What kind of test do you want me to take?" Well, they sat me down and wanted me to take a typing test. And I asked them, I said, "But, I'm going to be an engineering aide. Don't you want to know how I work on a calculator, or how I can do with numbers, and so forth?" "Well, all women take the typing test." Well, of course I knew how to type, but I was mad. And so they had this little test that you had to type. Well, I typed the test, and I inserted sentences about how I thought it was inappropriate that I had to take this typing test to be an engineering aide. And the gal looked at the results, and she saw what I did and she said, "You passed." (laughs) But I saw her reading those sentences when she was looking at it, because her eyes got real big and she just said, "Okay, passed," and went on to the next one. So I got the job at Bechtel, even though I sort of modified the typing test.

TE: So you worked for Bechtel in the 1970s. [08:00] Were there many other women?

GM: At that time there was, a few. There were a few that were engineering aides. But at the time Bechtel was expanding and they needed as many young engineers coming in as possible, so there was a group of us. I know that first summer they had a group of us, about fifty that were all summer students, and they had a training program. And there were four or five women in our group and a bunch of young guys. But the men at that time were really, really supportive. They thought it was great that there were some young gals, you know. (laughs) And we were all in the training program together. Very supportive. The odds were great. I mean, I always had dates for lunches and usually two dates on the weekends. So it was great, the odds. (laughs)

TE: So it was a positive experience.

GM: It was a positive experience. You know, besides the typing test. I mean, there was obviously some of the engineers—some of the older managers I worked with were very skeptical. [09:00] Very skeptical, and we definitely had to prove

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ourselves. But I guess I was conscious of that from being in undergraduate school. The same thing. I knew I had to work a little harder and I knew I had to prove myself, because they were going to be skeptical and asking questions and so forth. And I did have the comment, “Well the only reason she got this job is because her father worked for Bechtel.” And so, I wanted to prove that, no—maybe that’s how I got the job, but that’s not how I’m going to keep the job. And I was asked to come back subsequent years. And so I worked at Bechtel three different summers. And I think because I proved myself the first summer, I got the job the second one. I got more responsibility at those subsequent summers doing other things.

TE: Okay. Why did you decide to pursue a master’s in engineering? [00:10:00]

GM: After I graduated with my chemistry and biology—as I said, I tried to get into pre-med, did not get in. But I had also—by that time I was engaged, and I was engaged to an engineer working at Bechtel. And he had an opportunity to work on a project up in Canada. So I made the decision, instead of trying to get into graduate school and pursue—I was looking at a graduate school in biochemistry or something so I could stay in the pre-med field. We looked at this opportunity in Canada, and it was an excellent opportunity for him, a promotion for him, and they came back and said, “Gail, we do have a position for you in Canada.” So we decided to go ahead and get married and go to Canada. So I sort of got sidetracked. And then from Canada—we spent three years in Canada, and I worked as a cost schedule engineer there. Then we had an opportunity to go to Saudi Arabia, and it was a big promotion for him, big promotion for him. And they had a position for me. [00:10:00] And at that time in Saudi Arabia, not that many women were allowed to work, so the fact that Bechtel had a position for me was—what could we say? They were willing to send us over there. We both had well, good paying positions, so I went to Saudi Arabia for two years.

But, then I realized that by that time I had worked for Bechtel for five years. I had engineers working for me that were making more money than I did because they

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had an engineering degree, and I just had the science degree. And so that's when I decided if I was going to go ahead and make it in engineering, I needed to go back and get an engineering degree. So I applied to the University of Washington while we were working in Saudi Arabia, and I got accepted to the University of Washington. So actually, I came back and started at the University and went for three months, then went back to Saudi Arabia while my husband finished his contract. And then, after we had both finished our Bechtel contracts, then I came back to the University of Washington and went full-time.

TE: Okay. I would like to backtrack a little bit. [00:12:00] What were your experiences in Saudi Arabia?

GM: Interesting. Very, very interesting. I loved the experience. I would highly recommend it, but you have to have an open mind. Bechtel did a great job of preparing us. They had several courses that we went through, preparing us for what the culture would be like, what the Muslim culture would be like, what the restrictive culture in Saudi Arabia would be like, what the health situation would be, also the climate and so forth. They did a great job of preparing us, so we knew what we were getting into. But it's still a shock when you land at the airport at night, and it's 95 degrees at 95 percent humidity. (laughs) And you get ushered into this airport, and there is just this mob of people and it's not air conditioned, and the smells, and everything. You know, that first impact when it hits you. But we were prepared. We were ready for it. [00:13:00] And I just understood I'm a guest in their country, these are their laws, these are their rules. And so I dressed appropriately and made sure I had something covering on my hair. I did not wear a veil or anything, but I dressed very modestly and always made sure I was covered, my arms and legs were covered. Because that's their rules, that's their laws, and I wanted to be respectful of that. It was a great opportunity for me. I met some wonderful people working over there.

Unfortunately, I was only able to work for one year. While we were there, they had the big religious uprising in Iran, and the Shiite Muslims at that time—which

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were the minority Muslims in Saudi Arabia—got to the King of Saudi Arabia and said, “If you don’t want us to revolt like we just revolted in Iran, you need to abide by our demands.” So they had a list of demands that they wanted the King of Saudi Arabia to succumb to, I guess, and one of them was Western women working in men’s jobs. [00:14:00] They were really upset because Saudi Arabia had been looking the other way and letting more and more Western women come in to Saudi Arabia and work in men’s jobs. Well, obviously engineering was one of those jobs. So, he came out on the radio and made the announcement of these changes that he was going to immediately apply across Saudi Arabia, and one of them was that.

So my boss came to me and said, “Gail, we have got this situation. You can no longer work in this position. But what we’re going to do is, since you’re in the middle of a couple of projects, we’re going to move all your stuff to your trailer and let you work out of your trailer and finish these projects up, and then we’ll put your hours as overtime on your husband’s paycheck.” So that’s what they did. So for the next couple of weeks, that’s what I did. I worked on those projects and finished them up. They were hoping during that time things would sort of settle down and I would be able to go back to work. That didn’t happen. [00:15:00] It was just the political situation, the religious situation was so hot at that time it didn’t happen.

So I could no longer work, but I sort of took it at the time as great because I had worked all through high school. I had worked all through college. I started working for Bechtel like two weeks after I graduated from college. And except for a week off for a honeymoon, I had worked straight through. And so I thought, “Well, this is a great opportunity. I’ll just take the time off and travel.” So that next year that we were in Saudi Arabia, I was able to visit twelve countries. I did two things. I worked for a travel agent that was over there. And she was looking for someone—the couple was looking for someone at the Bechtel compound that could sell travel tickets for these travel opportunities, and so I worked as a travel agent for them. They would pay for my airfare to get all these Americans and

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Europeans signed up to take all these trips out of Saudi Arabia. So I got to go to India and Sri Lanka and Nepal and Syria and Egypt, and travel as a travel agent. [00:16:00] So I really enjoyed that, got to visit a lot of countries as a travel agent.

And then I started Girl Scouts. They desperately needed to have Girl Scouts. We had all these little girls and no scouting program, no after-school program. And I had been very involved with the Girl Scouts, so the other thing that I did is that I worked with New York headquarters for Girl Scouts, and I started Girl Scouts troops there at the compound in Saudi Arabia. So between the two, that kept me pretty busy until my husband finished his contract, and then we could come back to the States.

TE: Okay. So when you came back you returned to your master's—

GM: I went to graduate school at the University of Washington, got my master's degree in environmental engineering. When I graduated, I started working for, at the time, a company that was called Envirosphere. It was the environmental division of Ebasco Services. They had an office there in the Seattle area, and I started working for them. And I ended up working for them for seventeen years. [00:17:00]

TE: Did you notice any differences between your experiences studying chemistry and studying engineering? Was there a different culture between the two disciplines?

GM: Well, there was like a ten-year difference because I had worked for Bechtel. And the University of Washington—what was interesting at the time is that they were really just developing and expanding their environmental engineering program under the civil engineering department. So it was still really in a growth stage. And so I was part of that group of first graduate students that was really developing that environmental engineering program. And there was a number of women, but we were all women who had all worked in other careers or other areas and came back. So all of us were not, you know, young twenties. We were all in our late twenties, early thirties, helping develop the program. But there

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again, there was probably—I think there was six of us, six women in the group. It was a small class of about thirty. You know, six out of thirty. [00:18:00] But the professors were very, very supportive and I really felt treated as an equal in graduate school at that time.

The only challenge there the first year was the toilet situation. (laughs) And this is crazy, but I know that women tell the same story. We didn't have a women's toilet. All the toilets in the whole building were all for men. The only women's toilet was the one that the dean's office staff used behind the dean's office. But we petitioned and we finally got one of the men's toilets turned over to a women's toilet, because we got tired of walking past the dean's secretary to use the restroom, or hiking over to the Student Union. (laughs)

TE: And this would have been around 1980 or so?

GM: Yes.

TE: So why did you choose environmental engineering?

GM: A couple of reasons. One, obviously I had a strong background in chemistry and biology. But also, the projects I had worked on—I saw the environmental impacts we were having. [00:19:00] The project up in Canada, the tar sands project up in Canada, I really saw it during the construction, what we were doing to the environment. Bechtel was at the time following the requirements, but I saw that there was so much more that we could do in terms of erosion control. And thinking ahead, when you're building a plant in a pristine environment like that, there's more that we could have probably done to make the plant and what we were doing more environmentally responsible. And I saw that first-hand being on a large, huge construction project. And the same in Saudi Arabia. I mean, here we are going out to a pristine desert environment, and you're building this huge complex and pulling all this oil and natural gas up to build this big complex. There again I could see what we were doing to the environment, and it really bothered me that we weren't thinking ahead of how we could have controlled a lot of the

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waste and done a better job. And when I questioned it, people would go, Well, it's not required, so we're not going to do it. Well, there is environmental responsibility, too. [00:20:00]

At the same time, I mean, that was in the 1970s when the environmental laws—that's when your NEPA came out, your National Environmental Policy Act. That's back in the seventies when you had the Clean Water Act, the Clean Air Act, and so forth. And it was just an interest of mine, reading about those acts and so forth. So when I came back and I started thinking about what do I want to do, I really wanted to take my background in chemistry and biology, my interest in the environment. And so that's one reason I picked the University of Washington, because they were one of the first universities that was putting together a master's degree in environmental engineering. There were only a few universities at the time that were doing it. So that sort of was—I guess. It was interesting because there were engineers that were in the environmental program that did not have a strong background in chemistry and biology. I remember in some of the classes, like the water quality class, we were doing some chemistry and some of them didn't know how to use a microscope. So here I am trying to teach engineers how to use a microscope. [00:21:00] They kept going down and breaking the cover sheet on the slides (laughs) because they hadn't used one before.

TE: Okay. Did you notice different attitudes towards women in science and technical fields between then and when you went to school ten years prior?

GM: I think that at that time the environmental area was booming, and they were just looking for anybody that was really interested in going into the environment. I think the fact that I had the undergraduate degree in chemistry and biology, that I had work experience—I didn't have any problem getting into graduate school at all. It only took them a couple of weeks to get back to me and say, "You're in," because they were desperately looking for people in this new growing field. As I said, there were just six women in the program, but all of us had had work

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experience and a background in the sciences so we were readily accepted. We felt really a part of the whole program. [00:22:00] We had a lot of say-so in how we developed the program. So it was very different than undergraduate school, so. But there again, it was just a numbers thing. When there's only six of you out of the whole department, you're still a minority. But I noticed that the civil engineering department at the time was doing a good job of recruiting, and I could see every year there was more and more [female] freshmen coming in as freshman in civil engineering departments. The University of Washington was absolutely trying to recruit women at the time, a lot more than some of the other universities were.

TE: Can you tell me about finding—your job search, after you had finished your degree.

GM: I used the placement office there on campus, and they did an excellent job of setting up interviews. I had the opportunity to go back with Bechtel, because I had taken the leave to go to graduate school. But at the time Bechtel was still trying to figure out what this new environmental field was, and they weren't quite sure whether they really wanted to stay in the environmental field or just subcontract it out. [00:23:00] So I went back and interviewed with Bechtel in San Francisco my last semester in graduate school, but at the time they said, "Well, you can have your old job back doing project controls cost scheduling engineering, but we really don't have an environmental opening." So then I went back to the placement center and said, "Look, I really want a job in environmental engineering," and so they set up interviews with me for several different companies. I actually ended getting two job opportunities. One was the one I took with Ebasco—the environmental group—and the other one was CH2M Hill. I had two offers at the time. I went with Ebasco.

TE: Were there any particular reasons why you chose Ebasco?

GM: Two things. One, I got the offer first. I got it two days before I got the one for CH2M Hill. And the other one was money. They offered more money, so it was

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pretty (laughs)—at that time it was pretty straightforward. [00:24:00] When I got the offer from CH2M Hill a couple of days later I really thought about it, but then I looked at the money. And there was a dramatic difference in the money, so I went with the higher-paying job at the time.

TE: What were some of your experiences at that company and later companies?

GM: At that time it was growing. At that time, Ebasco had this environmental department, and they were growing and hiring all these new young people. So most of the people I was working with were other young people, and so it was a very supportive environment. And we were breaking in—new environmental laws, new environmental field, so it was sort of exciting. And so we were sort of creating what we were doing, you know? We were looking at the new interpretations of environmental laws, and we were developing new programs for the clients, the big industrial clients, on how to interpret all of these environmental laws. [00:25:00] And at that time, later on in 1980 with the new Superfund Act—that was brand new, and everyone was trying to figure out what are these waste sites and how are we going to clean them up. So it was exciting being a group of young people—we were all trying to develop and interpret these environmental laws and what was going on. So I really felt part of that group.

The rub was when we had to go back to the other side of the company to get support under your classic disciplines. So we would be coming up—like, we wanted to put a wastewater treatment plant. We would come up with the chemistry, the engineering, and what we want, but we would have to go back to the other side of the building to the engineering departments for—like civil engineering—for foundations and so forth. That's when we ran into the problems, because you had these staid, old engineers in civil engineering or electrical engineering, and we would go into meetings and they would talk to the guys and they would ignore us. [00:26:00] And even though I'm leading this project it was hard to get the eye contact, because you had these civil engineers in their fifties that were used to working with men, and they didn't know what to do with this

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young woman who was leading this project for a new wastewater system or something.

So it was just persistence. It was just persistence. I knew that's the way they were, and it was just a matter of proving myself to them. Luckily most of the young men I was working with, my coworkers, were very supportive and they would definitely make a point—"Well, Gail is in charge of the project. Gail needs to answer that question," you know. And I always made sure that I had the agendas and I had who was speaking on the agenda, so it was very obvious who was running the meeting. So it was just learning some techniques like that, but part of it was having the support of coworkers.

I know of one incident that I did have to deal with—well, it was two different stories that I'd like to share. One of them—we were looking at an opportunity to support an Ebasco subsidiary up in Alaska in search mining. [00:27:00] And they had a gold mine up there. They had gone through corporate, saying, "Look, we are having a problem with our wastewater discharges from our gold mine in Alaska, and we are getting all sorts of citations and so forth. They're going to shut down the gold mine, because we have too much arsenic and other chemicals coming out of our wastewaters. We need someone to come up here right away that can deal with this issue." So they came down to the head of our group, the environmental group, and said, "Well, who do you have available?" So my boss came to me and said, "Here's an opportunity, are you interested?" And I said yes. You know, I don't have kids. I'm flexible. I can jump on a plane. I can go up to Alaska. This would be a perfect challenge to prove myself on this project.

So he is going ahead. Okay, we started the process. Well, then he went back to corporate to tell them who was going. [00:28:00] Well, they found out that I was a woman, and they go, "Well, we can't send a woman up to Alaska by herself." And they came back with all these questions. One question was, "What does her husband think? Will her husband allow her to go?" I mean, I just started laughing. I mean, I didn't ask him. I told him I was going to this new job assignment. He

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was very supportive. But it came down to—they would not let me go alone. They insisted that the environmental department send someone else up with me. And so my boss had to go with me because corporate told him he had to come with me. So he went up there with me, he introduced me around, stayed one day while we kicked off meetings, said, “You’re in charge. You know what you’re doing,” and he flew back to Seattle. (laughs) But that was on the insistence from corporate, that they did not want me going up there by myself. They were concerned, but he knew I could do it. He was comfortable. He just went along because he had to play the game. [00:29:00]

We had another opportunity after I’d been there a couple of years. Our office in New Jersey had won the big Superfund contract with EPA [Environmental Protection Agency]. And there again, they were expanding, and growing, and adding new people, and so forth. The lead person for the contract—he was an outstanding man, did a really, really good job. And he had brought in one of his friends, one of his coworkers to be his deputy. Unfortunately, this deputy had some personality quirks that were rubbing the wrong way with the EPA people in Region 2. And finally, EPA came back and said, “Look, you’ve got to get rid of this guy. He is not working out, and he’s offended people at EPA. You can’t offend your client. You need to bring someone in immediately that can fill his shoes and help expand the program and train new project managers.” [00:30:00]

And so they looked across the company and they contacted my boss. And he came to me and said, “Look, here’s an opportunity. We need to send you to New Jersey for at least six to nine months as a temporary until we find a new Deputy Project Manager.” I was just thrilled. I was absolutely thrilled. He told me that when he called back there, they said, “We need you to send your best guy, send your best man. Who’s the best person?” And he said he made it very clear—he said, “Yes, and I’m sending her and you’re going to love her. She is going to do a great job.” He made the point. But they were very, very receptive, and it was a great assignment working back there. And I ended up being there almost nine months. It took them that long to go through the process of finding a new person

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and getting him trained, and getting him up to speed, and so forth that EPA would accept the new deputy. But it was a fun experience being back there.

TE: Did you have any mentors that helped you to shape your career while you were there?

GM: [00:31:00] I had a built-in mentor, who was my father. I always looked to my father since he worked for Bechtel, had experience as a project manager. I always enjoyed calling him and saying, “Here’s the situation. How would you deal with this? I’ve got this boss—or I’ve got this coworker, I’ve got this employee with this situation.” And he was always very helpful, very, very supportive. Very helpful in helping me work through issues, bounce some ideas off of him. But very supportive, my father was. I think because I moved around a lot, I worked with lots of different people, and I think that I can’t just name one. There would be several different people—very supportive and very understanding, but not one specific one. They did not have a formal mentorship program or anything like that within the company the seventeen years I was there. But there were a number of coworkers that were very supportive and very helpful.

TE: Why did you decide to leave the company? [00:32:00]

GM: I got another job opportunity. By that time, I was working with the company in Oak Ridge [Tennessee]. I had been with them, like I said, almost seventeen years. We had put together a team to bid on the environmental management contract for the Department of Energy in Oak Ridge. There were two major teams. That was the Bechtel Jacobs team, and there was the Foster Wheeler team. At that time Foster Wheeler had bought Ebasco Environmental, so now I was an employee of Foster Wheeler, and I was one of the key positions on the Foster Wheeler team. And we came in a close second. We almost won. It was a close second. I was involved in the debriefings. I was one of the key people on our proposal. Within six months after Bechtel Jacobs got the contract, I got this phone call one day saying, “Would you like to go out to lunch?” And I met with the Deputy Project Manager from Bechtel Jacobs, and he said, “Here’s the

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situation. [00:33:00] We bid people on the original contract, but some of these people we need to move to other positions. And within a year, these key positions can move, and we need to back fill these key positions. So we are looking for top-level managers that we can hire and bring in to step into those positions.” And so that’s what they did. So they essentially offered me the job that I had originally proposed on as part of the Foster Wheeler team, to come to work for Bechtel Jacobs. So, I had a great opportunity. Ended up with Bechtel Jacobs for four years.

TE: Okay. Okay. At some point you were working as a consultant. What was that experience like, and why did you decide to do that?

GM: When I had my own company for a year? I told you things—I was seventeen years with Ebasco, Ebasco Environmental and then Foster Wheeler. [00:34:00] There was a point there when I was in the Seattle office that we had some change in management. The supportive managers that had given me a lot of opportunities—we had a change. And we had looked at expanding and working at some other areas, and I worked very hard on these proposals to win this work for the company, with the understanding that I would be able to get one of the key positions on these proposals. And the new manager that came in overrode that. We won two contracts that I had worked really hard on winning those proposals, and he brought in other people from his previous employer, a context he knew, and put other people in those positions. And after the first one, it was like, “Well, this would be a relocation for you and your husband is working here, and it might not work out for you, so I thought it was better to put this other person in.” [00:35:00] Okay, I’ll get you some slack. The second time it was really obvious. He knew I worked on the proposal. He knew I wanted that position, and he brought somebody else in to fill the position. And so I realized I was hitting what you call the glass ceiling. And it was a brick wall. There wasn’t any glass there. (laughs) It was a brick wall. I could tell that this man was not going to give me an opportunity further there with the company.

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So that's when I decided to go out and branch on my own, and start my own woman-owned business. It was really growing at the time, really booming. And the proposals I had been working on, I saw that we had to show for federal government agencies like EPA that you had a certain percentage of small businesses and some were woman-owned or disadvantaged, and so forth. And so I knew first-hand that was a requirement, so I started my own environmental consulting business as Mattson Environmental Engineering, and was able to get a couple of jobs. [00:36:00] I got a job for CH2M Hill (laughs), supporting CH2M Hill on one of their contracts. And then, with another competitor, I got a contract working over at the Hanford Site, working on a major project over at the Department of Energy site over at Hanford in Washington. And I did that for about a year.

And then I got a phone call back from Ebasco saying, "We have an opportunity in Chicago we would like you to consider." So this was coming from corporate, above this guy. And they had opened a new office—they needed to open a new office in Chicago for the Superfund Program, and they needed someone who knew Superfund programs inside and out that could handle it. And so I hired back with the company and they moved me to Chicago. I opened the office and ran the contracts there for them. So I have kept my consulting company all this time. I pay my corporate dues every year, because I want that fallback just in case something happens. I can fall back, and I've still got my consulting company in case I ever need that. (laughs) [00:37:00]

TE: Okay. Through all this time were there more women because you are in environmental engineering, and that was a newer field, or were you still—?

GM: Obviously the numbers are less. There are just fewer women in engineering. But since the environmental was a new field, there's more women. I think if you look at the statistics, there's more women in the environmental field than there are in your classical mechanical and civil and electrical. There's just more women in the environmental because it's a newer, a younger field, and a growing area. But the

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numbers are still less. I mean, I still get the, “Oh, you’re an environmental engineer? Well, okay—.” (laughs)

TE: What helped you to succeed throughout your career? [00:38:00]

GM: A number of things. One is, as I said earlier, just what I learned from my mother—that you’ve got to stick to it. Stick to it. If you know this is what you want to do, stick to it and just keep working. And don’t be discouraged, and just look for another way around. Just don’t keep beating your head against the wall, but stand back and go, “Well, I’ll go sideways.” Go try this, or try something out. Build something to scale over it, whatever. Don’t be stopped. Keep looking for the opportunity and keep moving forward. So I think that’s always helped me.

And I think part of it is just very, very supportive coworkers. I’ve always tried to establish a really good working relationship with my coworkers. And having the support of the coworkers, I think, really makes it a lot easier because you have a team. And if your team is a winning team then you’re going to get noticed by everybody, and the whole team is going to advance as a team. [00:39:00]

Depending on your individual capabilities, but everyone is going to look good. So I think that’s always helped, having strong relationships and supportive coworkers. And I supported them when they had opportunities for advancement and recommendation, and they in turn would recommend me and support me for my opportunities for advancement. Especially when you have people above you in corporate positions that are not as supportive for women, I think having that strong support from coworkers maybe overcomes some of their reluctance, you know, when you have that kind of support.

TE: Okay. Okay. How do you think that the profession has changed for women now as compared to when you first started? What do you think are the differences or even the similarities?

GM: Obviously, because we have more young people now that have come up through the ranks—you know, than when I started engineering—that are very supportive

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of women in engineering. [00:40:00] So that's changed a lot, really has changed a lot, so there's a lot more support now. Especially now, too, that they have daughters. Most of the people in my age group all now have daughters that are in their twenties and thirties that wanted to go to school, and so it's a different perspective. When your daughter wants to go to school and go into engineering, you want to support her. So they have that identity directly, about supporting their daughters wanting to advance in engineering or science. So you have a whole different field. They have a different understanding about women in engineering. So when I first started, most of the men that I was working with did not have daughters going into engineering or science, so they didn't identify with it. But that's changed with this next generation, so it makes it more open.

TE: What do you think are some of the challenges that women still face in the profession?

GM: I think part of it is the corporate structure. And a lot of the engineering companies, they're trying to change, but until this next generation really is in the senior management position it's going to be hard. [00:41:00] And hopefully it will change within the next ten years. You've got these people that are in their sixties that are retiring, and you have the new ones coming up that are used to working with women in management and senior and peer positions. Then it's going to make a difference. But as long as you have an old structure in place, corporate structure in place, and you still have these men in their sixties that are used to sitting in a board room with all white men in their sixties, it's going to be hard. But hopefully it will change in the next ten years or so with the new group of men coming up that are used to working with women as peers. That will change.

But it's still hard, and you have some old corporate structures that are in place. They're used to doing things a certain way, especially engineering companies. They get very stuck in their ways, and their patterns, and their procedures, and their structures, and they're not as flexible. But I think they realize, to be competitive today, they've got to be more flexible. They've got to look at another

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way of doing things. I think incorporating women and more minorities in a lot of positions is going to make a difference. [00:42:00] That's why I mentioned white men. I think they realize there's a lot of minorities that also have a lot to offer, and they need to be more open to having minorities in senior management positions. So things are going to be changing. They have to change if they want to be competitive in the work environment. They're going to have to change if they want to stay competitive.

TE: Okay. When did you first join SWE, and why did you choose to join?

GM: I joined SWE when I was in graduate school at the University of Washington. Actually, I tried to join SWE when I first started working for Bechtel in San Francisco when I was a cost schedule engineer, because they had advertised SWE meetings. I saw it on the bulletin. And I was working for Bechtel in the corporate office, and so I actually turned up at one of the SWE meetings that they were hosting there at the Bechtel office in San Francisco. [00:43:00] But when they found out that I did not have an engineering degree—my degree was in chemistry and biology—they said I couldn't join because I wasn't an engineer, even though I was working at an engineering position as a cost schedule engineer, and I was going through all the Bechtel training to be a project controls engineer with everyone else. So it sort of ticked me off a little bit. But I understood where they were coming from, and they told me the story. They needed to have credibility, and they only wanted women with engineering degrees for credibility. But I wasn't there very long, because then I got shipped off to Canada, and then from there I went off to Saudi Arabia. So obviously they didn't have to worry—there wasn't a SWE in Canada or Saudi Arabia.

But then I went back to graduate school at the University of Washington, and they had a very active student section. And I saw the advertisement, so I thought, "Well, I'll go and check things out." Of course, they weren't quite sure what to do with me, because I was a graduate student and mainly SWE at that time was an undergraduate program. But one of the meetings I went to—I think it was the

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second meeting I went to—they had a joint meeting with the professional section for the Pacific Northwest. [00:44:00] And I met a lot of those women and identified with them. And so I joined as a graduate student, but I actually started going to the professional section meetings because that was where I really identified, because I had already been out of school working for ten years. So I joined as a graduate student. (laughs)

TE: When did you start taking on leadership roles within SWE?

GM: About a year after I graduated and started working they were looking for someone to chair one of the committees, and so I stuck the old hand up and volunteered. So I started working the committee, and then I think the next year I got elected as the alternate delegate for section rep [in the Council of Section Representatives] and just started working up from there.

TE: Do you think that your involvement in SWE had any impact on your career?

GM: Definitely. I think it helped me learn about the importance of networking. [00:45:00] It's one thing—because you're focused in your company and you're focused in your job and your team and so forth. But I think networking has made—especially in the environmental field—has opened me to the good results from networking, that you need to meet people of all different backgrounds, all different kinds. Because in the environmental field you need to interact with scientists. You need to interact with politicians, bureaucrats. And so by networking with SWE I've learned that process of networking, and how valuable networking is, and how to be able to meet people from all different backgrounds and incorporate that into what you are doing. So I think that was very helpful for me.

That first committee I was on was hosting—it was during the Women's Month there in Seattle. Various women's organizations got together and had a big dinner and a big fundraising. So I had to interact with the women scientists, women in medicine, women in accounting, and a couple of other professions.

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[00:46:00] And we would get together and have this big professional women's thing, and a big fundraiser, and so forth. So I met a lot of really interesting women in other areas and that, I guess, got me interested. Like I said earlier, understanding the power of networking and how it can help in your career.

TE: Okay. Why did you decide to become involved nationally in SWE?

GM: At that time I was in the Chicago Section, and I had filled various office positions at the Chicago Section. They were looking for someone to start working on national committees. We had someone there that had been a president of SWE, and she had approached me and said, "We really need more women working on these national committees, and we really need help with membership." [00:47:00] I had been involved in the efforts to grow and expand the Chicago Section, and also had developed professional development workshops that we did there at Chicago that were very, very successful. So this past president of SWE approached me and said, "Would you consider working on a national committee and taking some of the things that were successful here in Chicago and trying at the national level?" So my first foray was into the membership committee. And I got involved in the membership committee and looked at what we needed to do to communicate membership and the benefits of SWE and so forth. And that's how I got involved. That was Kathryn Cunningham who was the president of SWE, and she recommended that. You know, once you get into national committees and people see you, then your name gets picked for this and picked for that, and the next thing I know is, "Well, do you want to be on the Board?" And then I ended up being the vice president for membership, and—you're on your way. (laughs)

TE: What was your goal as national president? [00:48:00] What did you want to focus on?

GM: Let me remember back. That was a few years ago. (laughs) I had several goals. One of the goals was to put together effective working relationships with other women's organizations. The two that I had really had a passion about was the

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Girl Scouts and Girls Inc., Girls Incorporated. And so one of my goals when I was president was to establish memoranda of understandings with those two organizations, and really formalize the relationship so we could really grow. So that happened while I was president. We did those MOUs, one with the Girl Scouts to really sort of expand our program for STEM for the Girl Scouts. And the other one was Girls Inc. and supporting their—they called it SMART Program, and it was science, math, and related technologies, SMART Program—putting those modules together. [00:49:00] And actually, SWE helped Girls Inc. write their proposal to the National Science Foundation to get the funding for that SMART Program. And then when I was past president I served on a local committee that was implementing one of the modules for the SMART Program that was a lot of fun. Galaxy Girls, a lot of fun. I was able to pull SWE members in from NASA to help support the Galaxy Girl program, and it was a good program. So that was one that I wanted to do.

The other one—and this was one that I saw at the Board that we had to do—we had to do something with headquarters staff. We were growing, and we had a small office and headquarters that had been there for many years. And we had headquarters staff that were very, very capable, but technology was changing. So we needed to do two things. We needed to expand in order to support the Society, and the office space we were in we could not expand. [00:50:00] There was no more room in that building for us to expand, and it was going to get very, very expensive. They were looking at completely changing their rent structure in New York, and so we were going to pay a lot more for the rent for the same space.

But also, we were looking at putting in a computerized membership database, and that's the same time we were kicking off our website. And so we needed people in headquarters that knew how to do databases, and we needed someone that could do the website and start using the internet. And the staff we had in New York could not handle that. And we tried sending them out for training, and they could not get it. They had been with SWE for years. They were

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phenomenal women. I really, really admired them, but they couldn't make the transition to the internet and a computerized membership database.

And so we looked at—what are we going to do? We've got to do something. We're stuck, you know. So when I was president-elect we started looking at that. And when we looked at other societies, "How did you do it? [00:51:00] How did you deal with this?"—and that's when we heard about outsourcing, and found out that other professional societies were doing outsourcing. And so I started the effort as president-elect, and we did it as president. We went out and put together a proposal, and we got proposals from four different companies. And we narrowed it down to two, and interviewed two companies. That's when we selected Bostrom in Chicago.

So my year was the year that we shut down the New York office and moved SWE to Chicago with outsourcing at Bostrom. So a major change, a major change. I had people saying, "Gail, you're absolutely crazy! How are you doing this?" (laughs) And I go, "We don't have a choice. We have got to change if we're going to grow, and that was the best choice." So luckily I had a very supportive board. You know, I kept giving them information, "Here's the facts. Here's the information. Here's our options. This is what we want to propose." [00:52:00] And luckily had a very, very supportive SWE board at the time. And they voted yes, we're going to outsource, and they supported the selection of Bostrom. So it was a tough year. It was a tough year shutting down New York and letting those women go, and moving to Chicago. But if you look at the statistics, and you look at SWE history, after that move (whistles) things improved. (laughs)

TE: You know, headquarters had been in New York for so many decades. Did anyone—did you have anyone fight against this decision or any kickback?

GM: Oh yeah. Yes, I got numerous comments. I had past presidents even and longtime members come up to me at the national convention, send me letters making all sorts of comments about what we were doing. But I just very politely wrote them back. I said, "We don't have a choice. We've got to move out of this

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space, and we've got to change. [00:53:00] We've got to go electronic. We've got to go with the internet. We've got to change. And this is what we did. We tried, and it didn't work." But I think within a couple of years, when they saw how well it worked and the success from it, then the naysayers were okay. And actually, one of them came up a couple of years later and told me, "Gail, you're right. It was the right decision. I was wrong." (laughs)

TE: Did you receive support from your companies, or your company, as you were president?

GM: Yes, when I was president it was when I was at Bechtel Jacobs, and they were excellent. Bechtel was very, very supportive, because I did a lot of travelling. I mean, when I originally had approached them about the position I gave them an estimate of the travel requirements and so forth. But at the time I didn't know we were going to be moving the headquarters. [00:54:00] Because I ended up spending a lot more time going up, flying up to New York, flying to Chicago, going to extra meetings. But they were excellent. They actually set up a separate corporate account for me, and so sometimes up to a third of my time would be charged to SWE—to that corporate account—for the travel and being away from the office and so forth. They adjusted my workload accordingly and got support. But I knew when I was in the office, I focused on getting my work done and making sure that it was done. And communicating, I know, made a—. Sometimes I think went overboard making sure everything was covered when I was gone, and who was in charge, and who is handling what, and how to get a hold of me while I was travelling—because I wanted to be supportive of Bechtel.

And at the time we had a challenging project. We had a lot going on there and a major waste management program, and I wanted to make that we were doing a good job. [00:55:00] But, at the same time, I was very thankful that Bechtel gave me that charge number, and I knew—. You know, I said, "Okay, now I'm going to stop working on this and I'm doing SWE, so I am sitting over here," and actually had two desks. I had my regular work desk, and then I had another desk behind

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me where I had all my SWE stuff, so I'd swivel the chair. "Okay, I'm on SWE time now. I'm thinking SWE." So I really admired them, that they were that supportive.

TE: What do you think were some of the benefits that you gained from your experience as President?

GM: Time management. (laughs) You know, learning how to set priorities, delegate. And that's why I made the point earlier about the delegation. You know, through my career I'm used to working on project-trained teams, but I also was always in charge of—being in charge, and making sure everything was done. And when I got into working on the SWE board, as an officer and then president-elect and then president, I learned I can't do everything. But you can delegate. And so I think one of the things I learned was the delegation, identifying people on the project and making sure everything was covered while I was doing the SWE business. [00:56:00]

And then also learning at SWE you can't do everything. As the president you can't do everything. You have to rely on your board member and your committee members, and you have to rely on the headquarters staff to do what they're going to do. You have to hold them accountable. It's hard as volunteers to do that, but realize that there's really, really good people out there, and they want to do a good job. Just give them the opportunity and delegate to them. You always have a couple of incidents where something happens, someone gets sick or something falls through, and you recoup. You reassign it. You get it done, you know. The world is not going to fall apart. You're upset because maybe that Girl Scout event didn't go off the way it was planned. Yeah, well, we'll do it better next time.

TE: What do you think are some of the challenges that SWE is going to face in the future?

GM: Right now I know they are really dealing with the budget issues. [00:57:00] I mean, everyone right now with the economy, and not knowing what's going to be

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the federal budget and how it's going to impact corporate partners. I know there has been issues with corporate partners cutting back on their support. So obviously, the financial challenge.

But at the same time, as we said earlier, I think most of the corporations realize that they need to change. They need to have new, young people. They need the brightest minds, and that means including women and minorities. And they know that. If they want to be successful, they've got to embrace that. And SWE is one way for them to do that. It's a way for them to have that pipeline to outstanding women engineers. And it's a way to be noticed for recruiting—that if you're out there recruiting and supporting SWE, and you're in the magazine, you're on the website, then you are going to be noticed and attract. And women engineers are going to want to work for your company because you are showing that kind of support. So I think it's still there. It's just how do you come up with the dollars to do that in tight economic times? [00:58:00] So I think SWE's just got to be sensitive to that and be able to work with our corporate partners. How can we deliver and provide them with what they're looking for with maybe some restricted funding? How do we do that? Maybe do more in-kind, where they do services versus just writing a check. How does that work? So I think we're going to have to be more creative working with our corporate partners on different ways to get support from them beside just writing a check. So we'll have to be creative there. I think that's one area.

I think the other is just the concern about math and science education. I have a number of friends that are educators, and they're just really concerned with the education in the United States right now and a lot of the problems. We've got so tied up with just training children how to pass tests that we weren't training them how to think. And there's so much concern about that. You're looking at other education systems around the world that are more successful than the one here in the United States. [00:59:00] And what do we need to do to change, to get the kids excited about learning, really excited about learning, and want to learn math science? I don't know what the answer is. I don't know what the answer is. I just

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know it's a real concern, and I think SWE needs to stay involved on being in the forefront in Washington, D.C., advocating proper STEM education and teaching our children how to think, not just memorize stuff to pass a test. We've got to figure out how to get that message across, and I think SWE needs to be part of that voice in Washington doing that.

TE: I would like to switch over to INWES [International Network of Women Engineers and Scientists] and your involvement in INWES. How did you first get involved with it?

GM: When I was the VP for membership [in SWE] and we got the website up and running, all of a sudden we started getting these emails from women around the world wanting to find out about SWE. [01:00:00] And there was two groups. One was SWE members working abroad—that how could they stay in contact with SWE, members-at-large while they're working abroad, because obviously we couldn't afford to ship the *SWE Magazine* to them. How could we support SWE members working abroad? But also, there were these women that maybe had come to the United States, got their master's degree in engineering, and were now back in their own countries. And they had learned about SWE, were involved in SWE, whether in undergraduate or graduate school, and they wanted to take that concept to another country. So we were getting more emails and inquiries from women in other countries, "How can we do something similar?" Or if they had their own women's organization, "How can we learn from SWE and how can we work together, share best practices?" And so I really noticed that, became very aware of that when I was a VP for member services. [01:01:00]

Then I went on to president-elect and I just realized that this was a real need, a real need for us to interact with women around the world. The women engineers and scientists that were already out there that had organizations that wanted share best practices with SWE, and we could learn from them. Like, the Women's Engineering Society in the UK is even older than SWE. We could learn from them, but also how we could share. And the world was becoming global.

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We knew more and more SWE members were going to be working abroad. How do we support SWE members? And how do we get them involved with their sister engineers in other countries, working together?

So when I was past president, I was asked to represent SWE at this opportunity to look at forming an international network. Women in Canada had gone to the United Nations—UNESCO, the United Nations Education Science Cultural Organization [United Nations Educational, Scientific and Cultural Organization]—and had gotten funding to put together a task force to look at setting up an International Network of Women Engineers and Scientists, when UNESCO had a goal for trying to get more women into science and technology. [01:02:00] This was one of the things that they were looking at doing, was setting up some kind of organization. So I represented SWE. And Kathleen Harer was the other representative, another past president of SWE. We were the two representatives that went to the meeting in Canada to sort of brainstorm, how will this work?

And they had women from twenty countries that were there that had been funded by this UNESCO grant to do this investigation. And we came up with yes, let's form a network, and we came up with the name International Network of Women Engineers and Scientists. And so the ICWES—the International Conference of Women Engineers and Scientists—the twelfth conference was going to be there in Ottawa, Canada [in 2002]. And so we had met in May and came up with this idea for the task force, and then we rolled it out in July at the ICWES 12. [01:03:00] Everyone that was there voted yes, let's form this international network, and the network would be a continuous organization.

I don't know if you are familiar with the background of ICWES, but ICWES was just a conference, and every three years there would be a conference. And you had this committee of women from eleven different countries that worked to help get the next conference, and find a host for the next conference. But it was really up to each host organization or country to host ICWES, and it varied a lot between the different conferences, and everyone sort of started from scratch on

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how to put the ICWES together. And then they had some years where they had to reschedule because of political turmoil or lack of funding and support. So there were some rough years there about having ICWES.

Especially, another big problem that happened was after 9/11 [September 11, 2001 terrorist attacks in the United States] and when travel from foreign countries became more and more difficult, and getting visas from developing countries and so forth became more difficult. [01:04:00] It was hard to get the travel papers for women travelling from other countries when you're having a conference, but there's not an organization behind the conference that has credibility that can sign the papers saying, "Yes, we are sponsoring this person and we are sponsoring that visa for that person to come to this conference."

And we were really made aware of this by the Canadian women that were organizing ICWES 12 there in Ottawa—that they had received excellent papers from some women in Africa and in Asia and so forth, and they wanted them to be able to come, but as a committee they couldn't sponsor their visas. And Canada was very, very strict. If you were going to bring women to a conference, they had to be sponsored by an organization. [01:05:00] The university there, Carleton, and Ottawa University [University of Ottawa] were supporting the conference, but it wasn't their conference so they weren't willing to use their letterhead to sponsor the women to come. And as a result, they had like sixty women who had accepted papers and posters that couldn't come because they couldn't get visas. And so one of the things we looked at in forming the international network was being a recognized international organization that could sponsor these visas to help these women come to the conferences. And that's made a big difference. So when we formed INWES it was—one, to have a network that could sponsor the women, had a legal entity.

Two, was we wanted to build and make the ICWESes stronger from every three years, and when it's a separate, disjointed, you don't have that. By having the network in place, you could have a committee that could work with making the

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conferences better each year. [01:06:00] And we learned that at SWE. When SWE had been a volunteer national conference, each SWE hosting section sort of did it separately, and it really didn't grow. Once we had headquarters and a convention management firm managing the SWE conferences, they really improved because you got the lessons learned. You learned from that. You've got consistency with headquarters and the convention management firm. It improved the conferences. So INWES is trying to do the same thing with the international conference. Let's have a committee. Let's work on lessons learned. Let's help support the next host country and what they're doing, putting together guidelines, helping with mailing lists, helping them plan it. And as a result, the ICWESes have been growing and getting better since we've had INWES working with them for more consistency. We help them, since INWES can help in their first year planning. You don't wait until the third year to plan it. We can help them in year one, in year two, in year three with corporate sponsorships, mailing lists, getting the call for papers out. [01:07:00] It's just working better as a mechanism, having the network do that versus the disparate different committees trying to do it.

I think the other thing we're trying to do in INWES is help women in countries that don't have an organization to start one. There has never been an entity out there to do that. And so we have women that come to the ICWES conferences, they get all excited, they want to do something, but they don't have the resources to go back to their country to start their own association. INWES can provide that support. We provide seed money for them to start. We have a manual now that we put together that talks about how do you start an association. And we've gone out and done training at regional conferences to women and go, "This is the steps. This is how you start an organization in your country." [01:08:00] And as a result of that, I know we have eight new organizations that have started because of INWES support in doing that. As far as I think, there is no other entity out there that could do that. So those are the things we are doing. Making the conference better, more productive; providing the support for visas and the paperwork; and then helping start associations in other countries that don't have them. So those

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are the three primary goals. We have some other ones, but those are the main ones for starting INWES.

TE: What have been some of your experiences with working with international women engineers? What have you learned? Or what differences have you seen?

GM: It's been a lot of fun. It's been a lot of fun, that's for sure. And I've learned a lot. Boy, my eyes have been opened by other cultures and so forth. I think the main thing I've learned is we all have the same goals. We all have the same goals, we just have different ways of getting there based on our cultural background and our expectations. [01:09:00] And so a big part for me has been learning to listen. Obviously, I'm a person who likes to go in, get things done, get things organized, get that project out, make assignments and go forward. But I've had to learn that women in other countries with other cultures work a different way. So I've had to sit back and really listen. Where are they coming from? What do they need? What thought process do they need to go through in order to make a decision to support something. That's taken a while for me to learn, but once I learned that I think it's been—. Obviously for me, I think it's helped me in my career, because now I can be more open to people from different cultures and backgrounds working at your company too, that have those differences.

But I think part of it is just seeing the success, of seeing the light come on and this woman finally understanding, "Oh, this is what it's all about. That's what you were trying to say." And then, (snaps finger) they're in it a hundred percent and want to go forward. And they've got great ideas. [01:10:00] I mean, maybe their organization in their country might not be as successful as SWE, but they've got good ideas, they've done things. They've had successful programs of outreach with college girls and so forth, and we can learn from them. I think the big thing is listening, and learning how to deal with the different cultures, and make a win-win situation.

TE: Have you drawn any conclusions, I guess, about the difference between the environment for women engineers in the U.S. versus other countries, or have

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you—?

[Phone rings]

GM: This is going to keep on ringing—

TE: Okay. I'll pause it.

[BREAK IN RECORDING]

TE: Okay, we're back. Let's see. We were discussing differences between the environment for women engineers in the U.S. versus other countries.

GM: I think it varies a lot. [01:11:00] Some countries are one or two decades behind us. They're still stuck in their older cultures, their older perceptions and so forth. And so when you hear about their problems, it sounds like you're from a SWE meeting from ten, twenty years ago. You know, they're still in that time frame. So I think that's where we can share some of our successes and how we dealt with it at SWE over the last ten or twenty years, and give them ideas on how to deal with it. Others, the cultures are just very different so they have problems, but they're different problems. I don't think we have to deal with tribal issues, and the women in Africa have to deal with tribal issues on top of "being women" issues. And so that's been interesting learning about that. So they have to deal with their challenges a little bit differently.

The economy—here in the United States, we're blessed with a strong economy. We've got our problems now, but compared to other countries in the world we are so wealthy. We have so much available to us in terms of education resources they don't have in other countries. [01:12:00] So understanding they're coming from a whole different economic base. I think the thing in Africa right now, and some other developing countries, they realize that if they want to grow, if they want to modernize, they have to use all their resources. And whether they like it or not, they have to educate their women and use their women. I think they're learning that by educating the women, it's really helping advance their countries.

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Depending on their background, their colonial background and so forth, a lot of them think the same thing. You know, they only thought they should have men in engineering. But I know, like, in Kenya and some of the other countries in Africa, talking to the African women, it's really changed in the last ten years. They realize the success of educating women in technology areas, like in engineering and computers, has really helped the countries move forward. [01:13:00] And they realize it's not only helping with the country, but also with their families—that these women that are having jobs are also being able to support their families, and it's a stronger family structure because of it. So it's different. We don't think about that, how is that helping our family structure. But for them it is very, very important that you have a woman that's got a job that can bring an income in to pay the bills, basic survival for food and clothing and so forth. So it makes a big impact in the developing countries. What was the original question? (laughs) I can't remember.

TE: I think that covered it, just differences.

GM: Yeah. And then in other countries, everyone is getting educated. And so they don't have the stereotypes of who should get this education or who should get that education. No one was educated, so now everybody is getting educated. So they don't have those stereotypes, or they don't have those preconceived notions. [01:14:00] You know, when no one went to college and now everyone has an opportunity to go to college—whatever you want to study, study it because we desperately need you to get a college education. They don't really hit the stereotypes until maybe they get out in the working world, or the global world economy, where they hit other companies or other cultures that still have that discrimination against women, that they have to deal with that.

TE: Is there anything else that you would like to add?

GM: I don't think so. You've covered a lot more than I thought you were going to cover, so—. I've enjoyed this very much, very much.

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TE: I'm glad you have.

GM: I appreciate it. You obviously have done your homework with all these questions.
(laughs)

TE: Well, thank you very much for doing this interview.

GM: Okay, thanks.

[END OF RECORDING]