ASHRAE Leadership Recall (formerly Leadership Recalled)
Transcription

Interview of: Tom Kroeschell

Date of Interview: June 2008

Interviewed by: Dick Worth

Note: The first five lines of the transcript are set up exchanges.

Dick Worth
Really looking at it.
Tom Kroeschell
All right.
D.W.
I'll glance at you every now and then.
T.K.
And I'm not looking at you with than right?
Camera Tech
Okay, whenever you guys are ready.
D.W.
Good afternoon. My name is Dick Worth. I'm vice chair of the 2007-2008 ASHRAE Historical Committee. And my guests this afternoon this Tom Kroeschell. Tom, pleasure to have you.
T.K.
Thank you very much.
D.W.
One of the things that we like to do is to go over the history of individuals within ASHRAE. What they've done with ASHRAE, what they've done in business, and what their personal background is. And we'll start with your personal background as far as where you were born and where you grew up.
T.K.
Well I'm a Chicago boy, born and raised in Chicago. I went to high school and then college at Purdue University and my job, one and only job, was with the Commonwealth Edison Company in Chicago where I participated in many things including designs of nuclear reactors but more importantly the design and construction of high rise buildings in Chicago.
D.W.
Did you work with a consulting engineering firm on high rise buildings or who did you work for?
T.K.
Well my job was working for the Commonwealth Edison Company and to assure that the buildings would be built with electric heating as well as electric cooling. So my job was to work with the consulting engineering firms as well as the owners and the contractors to put together a product that would work with cooling and heating from electricity.
D.W.
So just sort of an applications engineer, given the consulting community your advice and expertise as an expert from the utility.
T.K.
Correct.
D.W.

When did you first get involved with ASHRAE?

T.K.

I can't remember how many years ago that would be hard to tell you but one of my first jobs was a general chairman for the winter meeting in Chicago must have been about 25 years ago.

D.W.

Well there have been a bunch of winter meetings in Chicago.

T.K.

And we've had a lot since.

D.W.

I've been to four or five of them myself. Have you done anything with the local chapter in Chicago, other than the national winter meeting?

T.K.

Well I've been very much involved with what was then called the energy committee and then it turned into technology and now I think it's CTC committee. And we were able to develop a series of seminars, instructional for the younger engineers as well as older engineers to be refreshed on the various aspects of heating and cooling. And we've been doing that in Chicago maybe once a month for about the last 20 years very successfully with other consulting engineers from around the country lecturing and talking to people, our people about the intricacies of design and new designs and answering questions of about improvement in our industry.

D.W.

Tom, one of the things that I understand that is that you come from a very prominent family in the HVAC and refrigeration, particularly industry. Tell me a little bit about that.

T.K.

Well that's an interesting thing. The company is a prominent company and still is in existence today. It was founded about 130 years ago in Chicago by four brothers, one of them being my grandfather who came over from Germany. In various ways one of them got as far as Nashville and the others got into the east coast somewhere. But they all got together in Chicago where they formed a company called Kroeschell Brothers and then in those days they made boilers, installed boilers in buildings in Chicago and around the country and prospered very much in that business for a number of years. The Kroeschell's then discovered that there would be a need and a good niche to go into the cooling part of the business. And they were able to obtain a patent on a CO2 machine that they then owned and capitalized on throughout the country. Some of the interest they had were in the logical interest for cooling. One of them was movie theaters which before the event of cooling they didn't do a very good business in the summer because people wouldn't go in there it was too warm. So the owners of movie theaters found out very quickly that they could make a lot more money if they could keep open during the summer. And one way to do that was to install this Kroeschell Brothers CO2 mechanical refrigeration equipment in their theater. And quite quickly, one of the very successful theater chains was an outfit in Chicago called Balaban and Katz and they owned and operated movie theaters throughout the country. And they found it to be very successful to work with the Kroeschell's to install a CO2 machine in these theaters and be very profitable for them throughout the year rather than just in the winter months when they didn't have to have cooling. So it was a very big business.

D.W.

What was the approximate timeline for the patent and development of the initial machine?

T.K.

I think that started about 100 years ago and one of the initial machines that the Kroeschell's made happens to be in the Smithsonian Institute and that was an example of a CO2 machine.

D.W.

That's great.

T.K.

The Kroeschell's also discovered in the same way, another area that needed cooling and didn't have it were at the large steamship boats. Prior to air conditioning the steamship business taking people across the oceans and all was pretty bad in the summer because there was nothing worse than to have a state room that wasn't cooled in an all steel boat with the sun shining down. So the boat people discovered very quickly that cooling would increase the business for the steamships and allow them to use that mode of transportation, profitably, all year long. So there were two pieces of business the Kroeschells were in along with their customers, one of them with the theaters and one of them where the steamships. And somewhere along the line in that era, Willis Carrier got wind of what Kroeschell was doing and he got very interested in getting into that business himself. He felt that the way to do that was to acquire the patents that Kroeschell had on the machine. And the only way you could get the patents was to buy the company. So it was about at that time that Willis Carrier bought Kroeschell and merged them into his company out east and formed Carrier Air Conditioning and he then exploited the CO2 machine from there. The Kroeschell's on the other hand didn't want to go out east. They wanted to stay in Chicago. And they continued their firm which was then a mechanical contracting firm providing heating and cooling for large buildings in Chicago and across the country. But they would use the Carrier CO2 machine which was the Kroeschell patented machine. And so Kroeschell who has been in business now for 130 years is still in the business of heating and cooling large buildings in Chicago and across the country. And their business also has extended to retrofitting buildings to make them more efficient, reduce energy consumption, and make them operate more efficiently.

D.W.

Has it stayed a family owned business in Chicago?

T.K.

No, the two Kroeschell's children operated the company up to about maybe twenty years ago, fifteen years ago when Bob and Paul the owners at that time retired and they passed away. Now it's a company owned business, owned by the employees doing business as a corporation.

D.W.

And how long did the CO2 machines stay viable?

T.K.

Well, they're still working. I think it was about five years ago, I was in Cedar Rapids, Iowa for a CRC, as a matter of fact. And there was a Kroeschell CO2 machine working in the basement of the theater in Cedar Rapids. Very efficient machine. The only problem they have is it leaks a little bit so the CO2 leaks out and so every time they have to run it for the theater they go out and get a couple of pounds of CO2 which cost them about a dollar fifty and put it in the machine and it runs for the length of time they need for that performance and everybody stays cool. Now I don't know the answer to this but the natural question is well do you think it's still there now and I don't know because Cedar Rapids is flooded and my guess is that this CO2 machine which is in the basement of the theater might be underwater.

D.W.

Would think so.

T.K.

Which I'm anxious to find out when I get home to see what's happened there. But I also would think that once it dries out it probably will work. Maybe have to replace the motor. But there's nothing to the machine is just a two cylinder compressor and it just makes cooling. So interesting application and still works fine. I think there are many others around the country that are still working.

D.W.

You're right. Now you've stayed involved in ASHRAE I guess for a lot of years have you not?

T.K.

Yeah. I'd hate to think but I think it's over 30 years now that I've been involved.

D.W.

That's almost my timeline too. I started in '74 but really didn't get involved until the early 80s as an active member. What have been your most gratifying moments as part of ASHRAE?

Well ASHRAE, I think, a successful winter meeting was certainly gratifying and felt good about that. We had a nice crowd. Things worked well and people learned a lot. I think my gratifying thing as to running these energy meetings and the seminars and programs for education for our people in Chicago. The Illinois Chapter, which is what I belong to is the largest chapter in the country and the oldest chapter in the country and we have a lot of young members. Of course they come out of school and they now have to learn the business just like we did. And then we have older members that are re-learning the business like we did. And I feel that that was, that's been a very successful program we've continued to this day and has certainly helped our member firms do a better job of design and better job of that energy conservation improvement throughout the city.

D.W.

Was your first meeting that your arranged in Chicago held at the Palmer Hilton?

T.K.

The first, the winter meeting?

D.W.

Yes.

T.K.

It was at the Palmer House. Not the Palmer Hilton, just plain old Palmer House in those days.

D.W.

Before Hilton acquired it I guess.

T.K.

That's right.

D.W.

Every meeting I've been to in Chicago was at the Palmer Hilton.

T.K.

That's right. I can't think that there ever was one anywhere else. That's right.

D.W.

You have any other relatives involved in the business now?

T.K.

Not really. Not really. My two uncles, who have passed away. They're no longer there. They had a son who decided not to work for the company. So no, I'm the only engineer with a the Kroeschell name still in Chicago.

D.W.

I know that there have been a lot of prominent engineers that I've known over the years from Purdue. And a lot of those guys were from Chicago. One of the fellows that I worked with in the east Tennessee chapter was Don Effren. Don was a Purdue grad and Don also was a past president of the Miami chapter. He worked down there for a while. Is there anything else that you could think of with either Kroeschell Brothers or your own personal experiences that you'd like to relate to the audience.

T.K.

Well one of the other things we did in our chapter early on was to create a technology award program. And that, those days we called it an energy award program but now it's called technology. And as a chapter we went into a program to solicit good designs, working designs of jobs that are already in and running of engineers in our chapter- (coughing). This technology award program again came from our energy committee and the purpose was to expose our membership as well as the citizens of Chicago as

to good designs that would be improving in an energy efficient and cost efficient and especially in the Chicago land area with our Chicago land consulting engineering industry. And so we've been conducting that now for about 30 years and have given awards out to a lot of firms and exposed them to our people in Chicago as to the quality of the engineering work that's done in Chicago. And we probably have given out about three or four hundred technology awards in our chapter and a lot of them have gone so far as to become, get awards from the society itself. And I think it was kind of the forerunner for the society's technology award. I think the Illinois chapter, as well as St Louis chapter was two of the first that created these awards to recognize good engineering. And so I feel very good about that. I think we've created a lot of interest. And we've given a lot of publicity to our good engineering firms for their use.

D.W.

Well I know that couple of our past interviewees today talked about energy and that certainly being one of the big challenges in today's world and particularly in the United States because of the rising price of oil and you know, my own personal belief is that we may have to revert back to some of the nuclear alternatives that fell by the way side in the late 70s and early 80s. You mentioned that you had been involved with the nuclear, can you tell us a little about that?

T.K.

Well my career at Edison, all of a sudden I was appointed to be a part of what the Commonwealth Edison at that time called the nuclear power group. And they were the four runners up and the, actually the builders of the first nuclear reactor in our territory and one of the first in the country, Dresden unit number one. It was a consortium of other utilities as well as Bechtel as a design build contractor and General Electric Company. And from that one reactor which was one of the first ones to be built and operated then we got into the idea of trying to decide and design new versions of a reactor that might be more efficient and might be a little more cost effective. And we got involved in several experimental paper designs of nuclear reactor systems that for the most part were evaluated to be not safe and maybe not economical and so we advised our management, our board of directors that those were not good designs and should not be followed. But from there we got back into the boiling water design which we know works and works quite well. And now our fleet of reactors which is now Exelon company is probably the largest nuclear utility in the country. And we probably generate at least 70 or 80 percent of the electricity in the Illinois area from nuclear power quite efficiency.

D.W.

How many reactors do you have?

T.K.

You're testing me here. I think we probably have about five nuclear plants in Illinois. Each with two so we probably have ten reactors. And they are operating very successfully and quite efficiently and certainly we don't burn any coal and we don't burn any oil or natural gas to make electricity. And it's a quite economical way to get electricity now. Much more economical than gas, oil, or coal.

D.W.

Just as a curiosity for my own benefit, do you know where you're buying your fuel rods now? Are they domestic or they coming from overseas?

T.K.

I can't tell you.

D.W.

Okay, well being in the uranium enrichment business a long time ago I was just curious about that.

T.K.

I have no idea.

D.W.

What do you think the energy future is of the United States?

T.K.

I think it's terrific. I think very optimistic. I think we're now thinking about using wind. We certainly are applying solar. I think one of the bright spots is geothermal and we have a lot of geothermal going in Chicago. It's quite economical and certainly is reasonably pollution free. The numbers for geothermal worked out quite well, certainly the solar works well and we've got lots of applications in Chicago on solar. And I think all of those things make sense. And I think the other thing that we're doing in Chicago is conserving energy and with existing designs in existing buildings we're improving them. And with new designs we certainly are putting in better systems. One of the flagship in Chicago was the First National Bank building which is about 80 stories high in the middle of the town. And at the time it was built with the state of the art. It had highlighting levels because that's what was needed. And it had electric drive air conditioning and electric heat. But it used a lot of energy to heat and cool the building. In the last year and a half it's meant to been completely redesigned and completely redone. And now this is using about 25 or 30 percent of the electricity it was using before. And now it's a very competitive high rise building in Chicago. I'd hate to say it's an old building because I don't feel it is, but it is an old building. But now with the with the energy using that they use now it's again very successful and is a very profitable building for the new owners which is Chase, Chase Bank out of New York who bought out the First National Bank who owned the building initially.

D.W.

How old is the building out of curiosity?

T.K.

It's probably 20 years old. Time goes by. It's probably 20 years old.

D.W.

Well I know that the lighting, KW per, watts per square foot is greatly decreased in that period of time. I know when I first moved to Florida it was, the limit was like four watts per square foot. And now we're at one watt per square foot.

T.K.

The First National was about five watts a square foot including receptacles. And now it's about one and a half.

D.W.

Significant change over the years.

T.K.

It's a nice change. Very significant.

D.W.

And offices these days are nice places in these types of buildings in which to work. Our office in Jacksonville is LEED silver accredited office and we feel like it's a pleasant place to work and it's energy efficient and it was made with the sustainable materials. So we're quite proud of it.

T.K.

I think there's a lot of jobs out there like that that we should be proud of because they are doing the job and doing it very efficiently. And the truth over there at the First National Bank is there was a 20 year old building, beautiful building, architectural gem but certainly wasn't efficient but now it is and the things have changed. People use computers now and you don't need the lighting levels with computers that you once needed when you were using a pencil and a piece of paper. It's a significant change.

D.W.

As a matter of fact I tend to turn my lights off quite often.

T.K.

Correct.

D.W.

That's a good observation.

T.K.

Yeah because when we started with the bankers at the First National Bank reading their own spreadsheets and things they really needed the five watts a square foot and a hundred foot candles of light just to see what they were working with. Now with the computer screens and all that they really don't need all that at one and a half watts just a nice overall lighting system seems to work much better and more efficiently so the technology has changed and we're able to change with those times and build buildings that are more efficient.

D.W.

Well, is there anything else that you would like to add in closing.

T.K.

No I think it's been a very exciting business to be in. I've certainly enjoyed every minute that I've been around it. And I've let enjoyed the variety of jobs that I've held since I started out in engineering lots of years ago.

D.W.

And that's the thing. Most engineers that I know have enjoyed what they've done throughout their careers. I know I have and, you know, I see a lot of people who don't seem to like what they do. And I'm just proud to say that I'm one of those and you're one of those who have to have enjoyed what they've done

T.K.

It's been a good career.

D.W.

Thank you very much Tom.

T.K.

Thank you.

D.W.

I enjoyed it.

T.K.

Thank you.