ASHRAE Leadership Recall (formerly Leadership Recalled)
Transcription

Interview of: James E. Hill

Date of Interview: June 2001

Interviewed by: Bernard Nagengast

Bernard Nagengast
I'd like to introduce Jim Hill, past president of ASHRAE. Jim thanks for coming.

James Hill
Glad to be here.

B.N.
And I guess we'll launch right into it. Your background, you know, I'm sure is quite interesting. Could you give us a short biographical sketch of your life essentially.

J.H.
Well I was born in southern West Virginia that was far south in West Virginia as you can get. Lived there for the first 20 years of my life. Went to engineering school at Virginia Tech and I got a degree in mechanical engineering and went on to graduate school at Georgia Tech and get two more degrees in mechanical engineering. While I was at Virginia tech I was in the ROTC. At that time Virginia Tech was a total military school so we got a commission in the Air Force. And after I finished my graduate work at Georgia Tech I went in the Air Force and they sent me on a very interesting assignment. They sent me to work at NASA in Houston. Turns out in those days the Air Force had planned their own manned orbiting laboratory program and they were sending young officers to NASA to train. So I spent a couple of years at NASA right at the time of the Apollo program and it was a very, very exciting time for the country. And then I went on and spent a year at the Air Force flight dynamics laboratory at Wright Patterson Air Force Base. Got out. Took a teaching position at the University of Maryland in the school of mechanical engineering and taught there for three years. Joined the National Bureau of Standards in 1972 and have been there ever since. Although now it's called the National Institute of Standards and Technology.

B.N.
You know of all the fields you could have gone into you chose engineering. Why?

J.H.
Well. My father was a, worked in the construction business and when I was growing up he kept hammering on me about what a great profession engineering would be and Virginia Tech which had a great engineering school, still does, was only about 60 miles from my home. And by the time I got through high school, my father had brainwashed me or indoctrinated me into the fact that engineering would be a great profession so I really didn't think much about it. I just assumed by that time I was going to go to engineering school and be an engineer so that's what happened.

B.N.

And as far as this industry specifically, why did you decide to get into this? Was that by design or by chance?

J.H.

It was by chance. When I went to college I studied mechanical engineering and I happened to have some professors who influenced me in the in the direction of energy and energy systems. And so that's what I focused on in my graduate program and when I taught at the University of Maryland, I taught heat transfer, thermodynamics, fluid mechanics, the energy sciences. And during that time I did some consulting work with the National Bureau of Standards in their building research center. They had work on thermal insulation and things that I was interested in and so after doing some consulting with them I decided to join them full time and I went to work in the building research center there, focused on energy systems so that naturally led me to the HVAC industry. And so it kind of happened by happenstance.

B.N.

You know when we started out in any industry, we always as a young person have interesting experiences on our first job and everything, our first assignment or so on, what was your experience? So you have anything you kind of remember from when you first went to work that stands out in your mind?

J.H.

Well I suppose the first engineering job I had was at NASA when I got out of graduate school and they assigned me to the reentry section at the space center there and my job was to work on simulation programs for simulating the reentry of the Apollo spacecraft. And I didn't start from scratch. There was a whole group there that I've been working on this for several years. But it was interesting from the point of view of the simulation work I was doing but it was also interesting because it had such visibility. Here we were working on the Apollo program and I remember going into the control center at NASA and when I worked there and during one of the Apollo reentries. It was just a very exciting thing to be part of.

B.N.

You kind of felt like you had played a part in the-

J.H.

Exactly. Exactly and when I was at NASA it was in the early part of the Apollo program and I left before they actually landed on the moon. I was there when we were doing some of the orbital flights and, but I had a chance to rub shoulders with the astronauts and it was just a very exciting thing to be part of.

B.N.

What caused you to get involved in ASHRAE?

J.H.

Well, when I went to work for the Bureau of Standards in 1972, the group I went to work in were all heavily involved in ASHRAE. I mean basically we worked on energy systems, mechanical systems that were associated with heating air conditioning and we must have had 25 staff people in the organization that I joined then at that time were members of ASHRAE. They were very active and I can remember I had not been there but a couple of weeks when they informed me I'd be going to the next ASHRAE meeting and would I be interested in working on a technical committee that had to do with load calculations. We were doing some work like that NBS. The person who had been working on that

committee was leaving NBS and they kind of encouraged me to take part. So they inducted me into ASHRAE almost from the time I went there to work.

B.N.

And once you started in ASHRAE, what types of things went on in your ASHRAE career so to speak. What different positions that you went through?

J.H.

Well I think for the first decade or so, the first ten years, I was really working on technical committees and working on standards project committees. And all the committees were associated with things that I was working on at the National Bureau of Standards as I said I joined the load calculation committee because we were doing some simulation work at NBS at that time that dealt with calculating heating and cooling loads in buildings. And I remember I went to the first meeting of this committee and as I told you, I was kind of new right out of the box and just being introduced to ASHRAE and I went to the TC 4.1 load calculation committee and they were involved in revising the load calculation chapter for the handbook. And they asked for volunteers who would like to participate or perhaps even take responsibility for revising that chapter in the next cycle. And I volunteered. And right off the bat, I got a big responsibility and jumped in with both feet and it's been that way ever since. For that first decade I worked on the heat transfer technical committee, 1.3. I worked on the center's project committees that had to do with testing and rating of solar collectors, thermal storage devices, solar water heating systems. These are all things that we were involved in doing it NBS at the time. Then my ASHRAE career evolved to the point where I got asked to join some of the standing committees. I remember joining the program committee. That was probably my first standing committee that I was a member of and from there I worked on the research and technical committee. And ended up chairing met during the middle 1980s. Then I worked on the standards committee and I chaired that toward the end of the 1908s. And then following that I was selected to be on our board of directors and spent most of the 1990s on our board of directors with different positions.

B.N.

You know as you evolved you obviously evolved up the ladder so to speak and ultimately became president of the society. Do you think that was an evolution that just simply kind of took its place along the lines of your getting involved in engineering and ASHRAE and so on? Or did you at some point suddenly thing, gee I'd like to be president of this organization?

J.H.

I think did beauty of ASHRAE is that we work on the principle that the position seeks the person the person doesn't seek that position and I've always been impressed by that. And that's the way it happened in my career. I never really sought these positions. When I was asked to do it, my employer, the Bureau of Standards has always been very supportive. They feel very strongly in having their staff people actively participate in industry associations and societies such as this and so I always had good support from NBS and when people asked me to serve and I felt like I could do the job, I volunteered. That's the way it worked.

B.N.

When you did get into the position of presidency obviously you had, even though they asked you to do this job, you certainly had some ideas about what you wanted to accomplish as president, things that were important to you. What were some of those things?

J.H.

Well because I came up on the technical society of ASHRAE, I worked on TCs, SPCs, the research and technical committee, the standards project committee, that's where my background was, that's where my experience was and when I became president it was natural to focus on issues in that area that area of ASHRAE. I really didn't have a lot of experience working in the chapter although I was a member of the local chapter in Washington DC, I didn't hold any office positions there. So the things that I ended up focusing on as ASHRAE president had a lot to do with the experience I had as I was growing up in the society.

B.N.

And what were some of those issues that were important? Do you remember anything specifically that really got you excited?

J.H.

Well I remember when I started the year as president I decided that I wanted to focus on our members. In fact the theme that I had that year was "our secret to success is really support of our members". And I wanted to make the things that ASHRAE does for its members as successful as possible. I tried to stress to our handbook committee for example that the Handbook really was the golden handcuff that have kept ASHRAE membership so strong over the years. It's something that the industry and the members of ASHRAE rely on heavily and we want to do the best job we could of, you know, improving that Handbook and continuing it in the premium position that it was for our membership. So that was important to me. I wanted to get out and focus on the chapters. I made a tremendous number of visits I think, 35 or 40 visits to chapters during the year I was president. I wanted to stress to as many members as I could meet that this society was here to work for them. But I slowly got drug into the standards controversy as the year of my presidency went on. We had been wrestling with a number of difficult issues associated with particularly the standards that ASHRAE produces that have such high profiles. Our energy conservation standard, our indoor air quality standards, and so I had a lot of experience in that as a result of my earlier career and so I ended up focusing a lot on those issues as the year went on. And I really hadn't planned to do that when the year started.

B.N.

You know you were talking about how you got kind of drug into things. Would you say that that's something the typically happens with ASHRAE presidents? That these external events kind of dictate a lot off what you have to do within your position?

J.H.

I think it can. I think to a certain extent the society president has to focus on the issues that come up that year whether he or she planned to or not. And I sensed that there were things that were going on with these very visible high profile standards that just really needed some attention and I formed a presidential ad hoc committee to try to see if we could change some of the procedures so that we could develop new standards more effectively. And as I say when the year started I really hadn't thought I would focus on that but it became apparent that they were really causing some serious problems for the society and I tried to address that.

B.N.

There are a lot of engineers outside of ASHRAE. There are engineers in our industry who aren't members of ASHRAE and they might come to you and say, well you know, all I have to do to get the benefit of ASHRAE is buy the Handbook. I don't have to join the society. What would you say to that?

J.H.

I would say there's a lot more to ASHRAE than just getting the handbook. I have found during my career that the relationships that you build, the personal relationships you build, the interactions you have, the contacts that you make as a result of participating in the society, both at the society level as well the chapter level, can be immensely important to you in your career and you can't get those without joining the society.

B.N.

And the membership obviously has an effect on the society itself in terms of how it changes and then we have external influences that do that too. And during your tenure at ASHRAE, not only as president but as you've been in ASHRAE over a period of years, how have you seen ASHRAE change in response to either its membership or external influences? Has this been something that's been noticeable to you?

J.H.

Yes, but I but I have to be careful because often your perspective changes, you know, over a long period of time. I've been in ASHRAE for 30 years and when I came into the society, I saw nothing but great things. Everything looks so positive and after you work in this society for a long period of time maybe some of the warts that you see after you worked here for a while come out. They may have been there all along, you know, so there may not have been the changes that I personally have felt during my career but to me, my perception is that there have been some pretty significant changes. And I'll go back to the standards arena because when I came into the society, ASHRAE was just on the verge of developing standard 90, it was developed in 1975 and ironically the National Bureau of Standards where I worked had a big part to play in that because we drafted a document for the National Conference of States on Building Codes and Standards in 1974. That became the forerunner of the first draft of ASHRAE standard 90. But that standard 90 initial document brought great visibility to ASHRAE in fact I think in my 30 year career, there's probably nothing ASHRAE has done that has brought more visibility to this society then the development and adoption of that particular standard. It was done very quickly. It was done with great enthusiasm and great gusto by a group of 100 to 120 of our members. And as I say it brought great credibility to the society ever since it's been published. What I've seen over the last 25 years as we have tried update that standard though, it's gotten more and more difficult because the standard is now used in the building code arena. All kinds of interests have stepped forward, interests that are affected by that standard have stepped forward and have made it more and more difficult for us to revise that standard, to keep it up to date, to put things in there that will allow us to save even more energy for the country which is very, very important. And I've been frustrated with the fact that we can't seem to revise that standard and get it out nearly as efficiently and as affectively as we did originally in the 1970s.

B.N.

How do you think ASHRAE can withstand, I guess those attacks and those pressures? Essentially it comes down to ASHRAE trying to stand up and do what they feel is right, irregardless of what all these special interests and so on are trying to do. How do you fight that?

J.H.

I just think that it requires some real leadership. We were working in a consensus standards arena. We are committed to developing consensus standards, that means that we are committed to allow all the people who are materially affected by the standard to have their say in what should be in there. But that doesn't necessarily mean we have to bow to all their wishes and I think one of the things that have of kind of held us down in the last few years is that we've bent over backwards to try to accommodate the interest of a lot of people even outside of ASHRAE and that's prevented us from developing a groundbreaking standard like we did originally.

B.N.

You know as a general question, do you think ASHRAE to some extent is losing some of its focus as it has tried to get other groups associated with us or involved with us in fields that aren't directly HVAC&R?

J.H.

I don't think we've lost our focus because you know we're still focused on the importance of energy. We are focused on indoor air quality problems now that have emerged in the 1980s and 1990s. In the early part of my career there really wasn't much focus on that but we ought to be focused on those things. It's just that as we involve outside people to help us develop those standards and other things for our members, we just got to keep our eye on the ball and make sure we're continually pushing things as much as we possibly can to provide for the country the best standards we can for saving energy and providing good indoor air quality in our buildings.

B.N.

Speaking of people, we are always influenced in our career and in our life by other whether they be living or dead. Who have you got as your icons? People who have influenced your thoughts and actions?

J.H.

Well I think generally it's been teachers. I said earlier that my father had a great deal to do with me entering the engineering profession so I have to give him a lot of credit for guiding me in my early age. After I got into school I had several teachers in mechanical engineering that impressed me. And they were people who worked in the energy field and naturally I gravitated to people I respected. And they got me interested in the energy field in engineering. When I went to the National Bureau of Standards to work the individual that I worked for, Reese Achenbach ,was a leader in ASHRAE himself in those days and he inspired all of us to work very, very hard on topics of interest in ASHRAE. So he was a big force in guiding a lot of us at the Bureau of Standards to be active and take leading roles in ASHRAE

B.N.

For a good part of your career was really spent in the educational area, and of course, our industry faces really a shortage of good qualified people. Why do you think a young person should go into this industry?

J.H.

Well I think they have to have an aptitude and interest in mechanical things. I think they'll have an opportunity in this industry to make a real difference, you know, because working on the kind of things that we work on affect everybody's life and they did day and you get a great deal of satisfaction I think out of working on things that you can see and you know have a tremendous impact on people's lives. It's not the most high tech industry that you could choose to work on but it's an extremely interesting one and I personally feel it's very gratifying to be able to work on the kind of things that we work on.

B.N.

You know when this industry was founded decades and decades ago, of course a lot of the things that we did were on the cutting edge of societal evolution, you know. We had a situation where air-conditioning was new, refrigeration was new, things of that nature. Of course now we're in a more mature industry to a certain extent. We don't have the same pizzazz any more as computer technology does and things like that. How do we address that type of a situation? How do we give some pizzazz to our industry? Or maybe we have it and we're not telling people about it.

J.H.

Well I think this industry happens to be one that adopts technology that may have been developed in other industries. But there are some very exciting technologies that are starting to come into this industry from other places. Certainly all of the intelligent building, smart building technology that we see now being used in our industry was developed first in the electronics or the computer field. We're seeing things like micro electro mechanical devices that were developed in the auto industry and other industries now coming in the way of sensors and controls in our industry. So I think you're going to see a continual migration of some very interesting technologies from other industries into our particular industry.

B.N.

You've mentioned earlier that you were involved in solar energy work for a period of time. Solar energy seemed to be a big deal for a while and then it sort of fell flat on its face and now of course there is talk again of reviving alternative energy sources and things of that nature. What are your thoughts about solar energy usage and why it has such a difficulty taking off so to speak?

J.H.

Well I think it's certainly going to be one of the answers for the future. I think when the industry was, when we tried to create a solar industry in the late 1970s and early 1980s, the kind of systems that were developed weren't cost effective. They had a lot of practical problems with them. I mean we're talking about corrosion and leakage and things that, they just didn't work very well and they were the main reasons that the industry kind of fell on its face. For a while tax credits were keeping the industry going but when the tax credits were withdrawn in the early 1980s the industry practically disappeared. I think you see it coming back now. You see it coming back in different ways whereas we were focusing on thermal systems in those days and we're now focused on electrical systems, photovoltaics. They don't have nearly the practical problems that the thermal systems had. They are becoming more and more cost effective. They have far less practical operating problems and they are starting to be used more and more in buildings. And I think they are going to have to be part of the energy picture in the years to come because our non renewable energy resources are limited, you know. They may not disappear to any extent in our lifetime but they're certainly going to disappear at some point in the future and so we're going to have to focus on renewable energy resources like solar energy.

B.N.

This may seem like a stupid question but your work in standards, you know, there's a lot of people out there who say, well why do we need all these standards for, why are these standards important? Why do we need standards?

J.H.

Well, standards historically have been used to provide a minimum for safety, a minimum for performance, and they've gone a long way to assure that when people buy systems or purchase buildings that they can be guaranteed things are going to work at a satisfactory level. And I think that's the primary purpose of standards. I think that whenever there is a demand for addressing some new societal problem like the energy crisis or the indoor air quality problem as ASHRAE has tried to do, there is a need to establish a minimum so that we don't have indoor air quality problems in our buildings or that we get a reasonable performance out of the energy systems in our buildings.

B.N.

Is there any other things that you would like to discuss during this interview? Things that are important to you?

J.H.

Well one of things I'd like to say is that the experience of having been ASHRAE president was probably one of the greatest experiences I had. As I told you earlier it wasn't, it wasn't something I sought. It wasn't something that I thought very much about, you know, I didn't realize until probably a couple of years before I became ASHRAE president that I was going to be asked to and be given that opportunity. It seemed like a pretty daunting responsibility when I looked ahead a year or two in realized that I would become ASHRAE president. But it was a tremendous experience. I realize that I could do things that I hadn't thought I could do. It stretched me it, it exposed me to things, people, situations that I would never have been exposed to otherwise. I got a great deal of confidence as a result of having served a year as president and I have often told people it was the relationship I've had with ASHRAE is probably one of the greatest relationships I've had in life. Something I'll never forget. Something that you really couldn't do more than once because it's a pretty, pretty stressful, pretty strenuous position to be in. But it's something I wouldn't have given up for anything.

B.N.

Anything else you'd like to add?

J.H.

No, I don't think so.

B.N.

OK Well thanks Jim. It's been a real pleasure talking to you.

J.H.

It's been my pleasure.