AMERICAN INSTITUTE OF MINING,
METALLURGICAL, AND PETROLEUM ENGINEERS

ORAL HISTORY PROGRAM

Charlie Totten:
Steel Making Crane Problem Solver and Innovator

2018

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00:00 Introduction

Edwards:

Okay, this is Kurt Edwards with AIST, and I'm here at AISTech 2018 in Philadelphia, on the sixth of May, 2018, with Charlie Totten. Charlie, thanks for being with us.

Totten:

Oh, you're welcome.

00:31 The Early Years - Marengo, Indiana

Edwards:

So, can you tell me a little bit about where you grew up?

Totten:

I was born in Crawford County, the city of Marengo, Indiana. In around 1949, my father had gotten a job in northern Indiana, so we moved up to South Bend. I spent all the way through high school, graduating in 1960, there in South Bend. So, I say Indiana is a great place to live.

Edwards:

And what did your parents do for a living?

Totten:

Okay, my mother, Rose, was a homemaker. She had five children; I'm the oldest of the group. My father, Paul, was a truck driver and he delivered a lot of Studebakers, then, Army trucks called three ways throughout the United States. You've seen this arrangement on the highway. An Army truck and it has a couple of them stacked on the back. He did this for many years.

He also, when I got out of the Army in 1966, got me a job on weekends. I worked in the steel mill, but he said, "Hey, you want to earn some extra money?" Because we had long weekends, and I said, "Sure." So, I drove a rig, following him about three times, and I said, "That's it for me, I can't do it." Too many hours and no sleep.

But he knew every road in this country, and you'd say, "How do you get here?" He could tell you exactly the routes to anyplace. He had an amazing memory for all these roads.

Edwards:

So, what influenced you to become an engineer and get involved in the steel industry?

Totten:

Well, let me clarify that. I'm not an engineer. I kind of wanted to be an engineer, in the electrical department. But I had a lot of engineers that worked for me, and I did find once in a while, I could find that they made a mistake, even though I'm not an engineer.

I'm really more into supervision and management. Although, when I started my career at Bethlehem Steel, well, first of all, I was in the U.S. Army and I was trained in electronics at Redstone Arsenal in Huntsville, Alabama. I worked on Surface to Air Hawk Missiles. When I was discharged, I went into Bethlehem Steel as an electrical helper, a Union hourly position.

02:53 Getting Involved in the Steel Industry - Moving up Through the Ranks at Burns Harbor

Edwards:

And did you start there right after you got out of the service?

Totten:

Yes, within a couple of months. Burns Harbor was a crown jewel plant of the Bethlehem Steel Corporation. It was commissioned in 1964. When I got out of the Army in 1966, I lived in South Bend, about 45 miles away. A friend of mine, Marty, we went in the Army together and were discharged about the same time said, "Hey, they just opened the steel plant, let's go up there and see if we can get a job." So, that's how I got started. I went with him, and sure enough, we both got jobs.

Edwards:

So, when you first started there, what were your duties like and your responsibilities?

Totten:

When I first started, I was called Electrical Helper. In Maintenance, you were Electrical or Mechanical. There were only two job classes there at that time. I was the first guy at Burns Harbor to pass the craft test to be an A Rate Motor Inspector. That's how I started when the plant opened.

I worked in the 160" Plate Mill for about eight months, so I learned a little bit about the plate mill operation. Then, I went to the 80" Hot Strip Mill, and that's where I actually became the motor inspector and then a supervisor and up from that.

Edwards:

And when you started at Burns Harbor, were there mentors? Or people that helped you out?

Totten:

I could say that I have met some really classy people, who are supervisors that mentored me my whole career. In fact, I exchange Christmas cards now with a fellow here in Maryland who was my boss. In my briefcase at home, I still have lessons I learned from him. He was the general foreman when I was the foreman. I believe there were only a few electrical engineers at that time in the plant and he mentored

us the whole time. Mentored us how you work safely, how you documented things, how you made sure you double checked yourself, and just all those kind of things that developed me into the person I am.

Edwards:

What were some of the biggest projects or challenges that you faced when- at least in the early part of your career?

Totten:

In the early part, I guess well; it was interesting as an hourly motor inspector just because what you did was, if there was a problem, then you had to respond to the problem. Cranes were one of the areas we took care of. There was always funny little things to do on cranes. For instance, and I always thought this was funny. I got a call that there was a magnet problem on this crane. So, my foreman called me and said, "Hey, go take care of that." I went and took care of it and came back into the shop. That's what we did; we would be back in the shop waiting for the next call. And he'd call me again, "Hey Charlie, that crane; they got a magnet problem, aren't you going to take care of it?" I said, "I just came back from that." And he says, "Well, it's got a problem again." So, I figured out what was going on here. So, I go back out there again; I took care of- what it was he was breaking them. And I told him, "I'm going to sit down there, soon as it breaks again, you just call me, I'll be right there." And I'd sit there for a little while, and then I left because the crane operator was intentionally doing that. It's just something you learn that, okay, how do you deal with this, you know? It wasn't just fixing it; it was; also, he's going to damage it if he knows you're right there to fix it quick. He wanted a break or something; I don't know. But you learn those kinds of things happen once in a while.

Edwards:

So, from your initial start at Bethlehem Steel, and at Burns Harbor, how did your career progress? What other departments, other jobs did you hold?

Totten:

Well, I started out like I said, the Motor Inspector. And then, let me read some of these. After I passed the craft test, I went to Exempt Turn Foreman. Then three years later, I was called the Finishing Foreman. So, at the hot strip mill, they have four process lines, I was in charge of that area. Then, I got promoted to the assistant, called the Assistant Electrical Foreman two years later. Then, I was sent to the plate mill as the Electrical Foreman in charge of everything electrical in the 160” Plate Mill. As a supervisor, you do what you're asked to do. And try to do it the best you can.

The way it always worked at Bethlehem, is they would say, "Charlie, go over there tomorrow at nine o'clock, be there." They didn't say why, they didn't say what's up, or get prepared, or anything. This time, when I went over and met with the Electrical Department Superintendent and sat down, there was three of these other major level supervisors around me. I thought, this is kind of odd for me to be on this side of the room, and them on the other side. And they said, "Okay, we want you to go and take charge of the 160” Plate Mill Electrical Department." And of course, I'm going to go.

But later on, after it's all done, I said to myself, "You know, that was probably the first time I probably could have said, I don't want to go." But, of course, I would never do that. So next when my Senior Supervisor was sent out to a different plant for about a year, I took over his position temporarily.

Then he came back, and what kept adding on this, is, I'd get different jobs. Like I was in charge of crane repair as Electrical Foreman, and then the plate mill, and then I went back to crane repair. Then the company was going through a time when it was permanently reducing supervisors. So, they'd get rid of a general foreman, and say, "Charlie, now you've got two departments." And then, you got three departments. That's just the way it was; you got more responsibility. I always did think, once I got a good handle on what I'm doing, they give you a new job. But it was always fun and more to learn.

Then finally, I was made a permanent supervisor level, Senior Supervisor. And then, Bethlehem Steel Corporation went bankrupt in 2002. And of course, when new management comes in, the top people in the departments, they're all told goodbye. So, I ended up in charge of the department. It had 750 Union hourly people in it and 49 salaried supervisors. Then at that time, I said, "You know what, I'm going to retire too." So, that's what I did after all these 14 different jobs.

10:31 Going from Bethlehem Steel to P&H Cranes Now Konecranes

Edwards:

Even after you retired, you continued working in the steel industry?

Totten:

Yes, in fact, when Bethlehem went bankrupt, we didn't know how the reorganization was going to happen. One of the things that we thought about is there are a lot of companies out there that service cranes, and probably, the new owners would not want to have crane maintenance be an employee process. The thought was you'd bring in an outside company as contractors to repair and maintain the cranes.

So, we looked into that a little bit, and during these interviews we had several crane companies come in with a plan they had worked up. When Bethlehem Steel did go bankrupt, one of them called me and said, "Hey, would you like to come and work here?" And I did. It was P&H Cranes. P&H Cranes eventually, after a few years, was bought out by Konecranes, probably the largest crane company in the world.

So, my job at P&H Cranes was called the National Accounts Manager for Integrated Mills. I visited, there the 11 major steel mills, and I visited all of them across the country. My job was to be a salesman, selling cranes, or parts for cranes, or service for cranes. That was ten years of my career after Bethlehem.

After ten years of sales, in 2013, I decided to retire. My wife and I had relocated down south in Crawford County right on the Ohio River where I live now. And at that time, I got a call from another company. T & M Equipment said, "Hey, would you like to come and work for us? You wouldn't have to travel as much, and you'd just take care of Southern Indiana and Kentucky." So, I said, "Sure." And I worked my own schedule. It's not really like eight to five every day. I work whatever schedule I want.

12:35 Learning the Mechanical Aspect of Cranes - The Crane Committees

Edwards:

So, backing up a little bit. You're known at least in AIST for your involvement in the crane committees. How did you first get involved with the cranes and what was it about them that really caught your interest?

Totten:

Well, I think that was when I was assigned to the Crane Repair Department to be in charge of crane repair. The biggest part of cranes was electrical, okay. My specialty was electrical. So now, I'm in charge of cranes that the biggest thing that you have to work on is mechanical. So, I was constantly upgrading my education. I'm not an engineer, but what I did learn is, you've got to learn something every day. And when you're in an area of responsibility, you certainly want to make sure everything is safe so, you've got to know what you're talking about. I also had some people early on there who taught me so much. When I didn't understand how certain parts of machines operated, there was, in particular, one millwright, Don Phillis, that would work with me and explain with the drawings. A lot of the work with the cranes, and how and why it was done, was shown by using drawings. We had all the detailed drawings, and we'd go through them. So I had to learn all the gearing, structure, bearings, etc., I enjoyed learning it. I enjoyed solving problems. The Crane Repair Department was in charge of all the cranes in the plant for mechanical parts, rebuilding, maintenance, and storage.

So, if somebody had a problem out in their mill, they would call us, we'd go take care of the problem. Or if there's a problem that isn't getting solved by the local department, we'd go there. I've had many interesting projects. One of them was in the Steel Making Department. The millwrights there were putting cables back into sheaves. Wire Ropes were coming out of the sheaves on the hoists. Sheaves are the rotating wheels up on the top of the trolley of the cranes that wire rope cables are guided to lift and lower the blocks. And in the Steelmaking Area, it was to the point that every turn, cranes would get cables out of the sheaves and jammed. I was asked, "Hey, they had one big long delay there, can you go out there and take a look at that? See what you can do?" So, I went out there and looked at it and came back, sat down, and started thinking, "How can I keep cables from coming out of sheaves?"

We came up with a way of doing it and made our own sheave assembly retainer system inside the crane shop to show it. We called the management people in charge of steel making cranes in that area and said, "Come on down here, look at what we've got." They came down and said, "That'll work. That'll do it." And we ended up putting that design on many cranes throughout the plant. I wrote a paper on this design, and it was published in the Iron and Steel Engineer magazine so other steelmakers could duplicate the system.

15:55 Technical Contributions to the Steel Industry

Edwards:

And speaking of papers, can you talk about some of your technical contributions to the steel industry and cranes in general?

Totten:

Yes, let's see, where have I got a list of them here? I counted them up. Okay, here's my list of published papers. They all started whenever I got involved in something like crane bridge wheel assemblies. We worked on solving the worn flange problems which required the wheel assembly to be replaced, and we eliminated more than 50% of the failures. That's kind of a noteworthy thing to do. After flanges, we continuously reduced failures in other areas of the wheel assembly. For the cables out of sheaves problem, we fixed it with newly designed retainers, so at Burns Harbor, we didn't have that problem any longer.

And that was the goal all of the time. If you have a problem, you fix it. You don't just fix it on one; you fix it on where ever it's applicable. Wheel assemblies were one problem. On DC electrical contactor control panels on cranes there were a lot of wearing parts causing hours of maintenance. We called Cableform, a company with VP Andrew Thexton and said, "Hey, we want solid-state controls." and he came up with a patented design. We were a prototype plant for that, and I've written a paper about the solid-state design. Why do you want to go with solid state? Because of few moving parts and high reliability. Today, that drive is everywhere in the steel industry on DC Cranes. It was something that we started. So, my goal always was, don't have repeat problems. When you get into a project, you study it hard. Make sure you get a solution that's going to be permanent, not temporary. Then you tell about it. The goal is, well, my real goal always has been, if I can pass this information out to other people, other steel mills, what would happen in this country? Hopefully we would become very competitive in the world, and hopefully, there will always be steel mill jobs in this country. That's been one of my major goals, is to make sure that happens. I contribute if I can.

18:05 Society Honors and Awards

Edwards:

In your career have you received honors or awards that you're particularly proud of?

Totten:

Many of them. AIST has been really generous with me. The last one was the Distinguished Member and Fellow award. So, I've really enjoyed it, which has been a wonderful yearly experience. This week, I came here to the convention, brought my granddaughter, Olivia. It used to be my wife, Kyong, would come all the time. And we would be invited to a pleasant AIST President's welcoming dinner. And, at that dinner, almost always, it's been a charming group of these local young kid's choirs that make a musical performance for us. We have a nice dinner, get to meet some dear friends, year after year. So, that's been a major blessing for me.

I also won the 2002 Gold Reliability Achievement Award from the AIST's Division VIII, Plant Services and Reliability, the Maintenance & Reliability Technology Committee award for explaining our work on the wheels, after about 20 years of success there. I think there's been a couple more, but that is enough.

Edwards:

The steel industry, are there milestones that you think had the biggest impact in the industry?

Totten:

Well, I mean, some of the comments about what we've done in safety, like fall protection. Fifteen years ago, nobody was thinking about falling off a crane or making safety precautions to prevent that. Today that included protection is automatically the way cranes are built. So, it's the safety part of it. Also, when Technical Report No. 6, the Specification for Electrical Overhead Traveling Cranes was written, we put in the report a lot of things related to maintainability, so when somebody works on a crane, it's designed to be easy to work on, and it's safe to work on. I guess the safety part of it.

Edwards:

So, when did you first hear about AISE, or AIST, or AIME?

Totten:

Okay, way back I guess it might have been in the late 1970s. This fellow who was on a crane committee came to Burns Harbor as a Burns Harbor engineer from the home office, and I worked with him as a crane representative on work that he was doing in steel making crane runways. Our project probably went on for six months or so. At the end of that, we had several meetings, and he says, "Hey Charlie, you should come and join the AISE, get on the crane committee." So, that's what got me started.

21:29 Helping Others and Gaining Friends

Edwards:

And how has your involvement progressed over the years since that initial meeting?

Totten:

Well, I guess the first thing is when most of my work was always focused on my job. One of the things I did, for ten years at the Crane Symposium, I made up a survey, and I'd bring it to the crane conference. We'd pass it out, and ask for people to fill it out, and turn it back in. And, I said, "Anybody who asks for the results of this, we'll send you the report." The goal of the survey was to find out where my crane shop compares to the other shops. And what I'd find out was; usually, we were leading the pack.

Part of it was just the Bethlehem Steel Burns Harbor plant was new. All the cranes were built to standardization programs. It was not that we didn't have problems. We had lots of problems, but as we knocked them out, one by one, we made things better. And we passed that information on to everybody.

In fact, I've seen companies use the data from our surveys in order to encourage people to use their products too, because we could prove all of that statistical data we provided on cranes. We maintained very accurate data on all the components on cranes.

23:12 The Benefits Society Affiliations - AISE, TMS, and AIME

Edwards:

How has membership in AIST and AISE benefitted you in your career?

Totten:

I've been a co-chair of 21 Crane Symposiums in a row. Then, in 2003 when I retired from Bethlehem Steel, I got hired by a crane company because of all the symposiums. I had lots of, I call them friends, throughout the industry. When my crane company couldn't get in a certain place here or there, they'd call me and say, "Hey, can you do something?" I always found that when I'd call somebody and say, "We want to come down there with the company, and see what we can do to help you." companies would always say, "When you want to come?" So, that helped open doors with the second company I worked for.

So, that was very good. The other thing is, I haven't mentioned it, but friends. I've gotten so many wonderful friends throughout the years. I get phone calls from them, and sometimes I get an interest in all their problems. I always ask, "What's going on? What's going good? Are you still doing this?"

I heard an idea this morning from Wendell Carter. He knows all about wheels. One of the things I always support on wheels is lubrication and, I've never given up to keep pushing people to install protective lubrication on wheel flanges/crane rail. Wendell Carter, President of AIST, remembers I've said that. The crane symposium coming this year, there's a guy named Art Wright coming from U.S. Steel, Midwest Plant. That's one of the things you ought to ask him because we did a study at his plant, and we know that that was important for him to do the wheel flange lubrication study. I ask how is it working? It's been probably five years since I talked to him about it. So, my thing was that I enjoy hearing their results. In fact, I enjoy a lot, watching people work. It makes me feel good, to see competent people replacing components safely, quickly and efficiently on a crane.

Edwards:

And Wendell Carter is the GM of-

Totten:

ArcelorMittal Indiana Harbor plant, East Chicago, Indiana.

Edwards:

Indiana Harbor.

Totten:

He was the president last year of AIST, and he's a wonderful guy.

25:47 Conferences - Sharing Information for the Benefit of All

Edwards:

And do you think that societies benefit people still in the industry?

Totten:

I think very much so. I think people, when they come to- especially crane symposiums. Speakers are not just talking something imagined or out of this world; we're talking hard working and hands-on things doing what they were designed for in the processing of steel. An example is like at Burns Harbor, the 218 Electrical Overhead Traveling Cranes. They're all working 24 hours a day, seven days a week. They have problems. When you have problems and find solutions, you can share these problems with other people. You don't know who you're helping. You might very often be helping a guy that's never had that problem before, and all of a sudden, that idea strikes him. Yeah, that could be my problem too. And he goes back and takes care of it.

Edwards:

And if you were to recommend a society like AIST, or any of the AIME societies to new graduates, what would you tell them about organizations like this?

Totten:

I'd say it's important to become a member of them and to go to the monthly meetings if they have monthly meetings. One of the things that I think all the chapter members have is scholarships for young people. I would say in the last probably ten to fifteen years; the scholarship program has really expanded a lot. You get a lot of students being exposed and considering joining.

Everybody always thinks, oh my goodness, how dangerous it is. Or, it's dirty and hot. They're going kill you there in five years if you work there. You're breathing bad stuff. They say all these things and most of it's just not true. So, the more people you can expose to the steel mill industry, and honestly and completely learn about it, and maybe even take tours and see the places, then you will get a lot of young people interested. The steel company should be healthy, have a lot of young people, not just old people working for it that when they die off, the industry will go away. It is not going away.

28:03 Importance of Attracting the Younger Generation

Edwards:

Are there any other things that you think the steel industry could do to attract young people?

Totten:

I think they've been working very hard in attracting young people at the show here, especially having the students attend. I think in the magazine, there are always articles about the students in the Iron and Steel Technology magazine. I think those are very helpful to create interest. I know it's to the point of like my granddaughter, Olivia coming to see what it is like. My goal is to get her a little more interested in steel. Actually, I have four granddaughters. The oldest one came two years ago; she came to a conference with me. Now, she's married. This one is my next oldest. And then, my plan is, next year, I have the next one. And then, the year after that, I have the next one.

And if I'm still healthy and able to do it, I'm going to try and bring them all to the shows. There's a lot of things she'll learn here, have nothing to do with steel maybe, but that's how it is. When she gets out of college, she's got to decide where she wants to work, what she wants to do, and steel mills could be part of that. So, I'm hoping that she gains some interest this year.

29:36 The Next Generation of Tottens

Edwards:

Do any of your sons or daughters work in the steel industry?

Totten:

No. My son, he's the oldest. When I was at Bethlehem, he worked every summer for a survey contractor. And now you'll get me started bragging about my son. He was on a survey team, several years when he was in college. He went to the University of Notre Dame. He's an actuary. For the last ten years, he's been a CEO of a company in Indianapolis.

This last week, the announcement was made that he's retiring as a CEO from the company in August and they've named his replacement, who is promoted from his organization. It is an employee-owned company. So, he's getting the job he always wanted. He's going back to Notre Dame as a professor. He's teaching two classes his first year; another planned his second year. Since he was a businessman and knows business needs, he hopes to give students a better education going into the actuary field.

So, they didn't come to work in the steel industry other than that. I'll tell you another story about my son though. I think it's funny. When he was working these contractor jobs, he'd have to come to work with me in the morning, about 5:30 AM. His job started at 7:00, so did mine. So, we'd get to work at 5:30 AM. He'd sit in my office for a while, and he'd go do his job, and his job would get over at three o'clock. He'd come back all dirty, and he'd sit in my office. At about 5:30 PM we'd leave to go home. And one time, this is the part I want to tell you about, he said, "Well, one thing I know, when I get a job, I'll get it done in eight hours."

And it wasn't too long ago; he called me up. He had been in three airports in one day because he's just like his dad. He's hardworking. And he's just such a good kid. How much of it was learned from the steel industry? Because a lot of the steel industry people that he worked with I'd see them and run into them here, and they would ask me, "How's he doing?" So, he did a good job.

32:00 The Best Part - Solving Problems

Edwards:

So, what made working in the steel industry meaningful to you? And what's been your favorite part of it?

Totten:

I think the best part of it has been solving problems. It seems like most the time; it was just common sense, it's simple. But sometimes, it takes help. One of the things in that regard is when you're in charge of cranes, and you know you have to modify things, you fix it. You change it. You've got to change it so that it's not going to come back and bug you.

One time I can remember, we modified this piece of equipment, then we had to buy a replacement. We sent the drawings out; they made it like it was before we modified it. So, it's like, wow, that's a terrible mistake, to bring this expensive piece of equipment in here, and it's not what it should be. You've got to modify it like you did the other one.

One of the things that I really enjoyed was getting a draftsman. And every time we modified stuff, we documented it so that the next time, the next guy who buys this, he's going to buy what he needs, not a mistake. And also, another thing that I enjoyed about it is the people. That particular guy was a draftsman. Just a super good guy, did a lot of good things for us and there was a salaried position opening inside the plant that he was interested in. He ended up getting that job. I could have stopped him from getting that job. I could've said, "Ah, he's too valuable." I would never do that. My thing is, hey, that's the job you want, I'll help you get it. And now, I have to figure out a way to do what he was doing. But to me, it's the people you meet, the things you do, and solving problems.

Another thing that we had was when we would get cables out of sheaves of blocks. And we found a simple fix for that. It used to be in the hot strip mill slab yard; you could shut down a crane for three turns (24 hours) making repairs when a cable got out of its sheave. It's like holy cow! And during that whole time, 24 hours, if the other crane went down, then the mill's down. So, you've got to fix these things, and we found easy fixes. We made it a standard that this is a problem-solving thing. Before a block goes out, it's got to have this fix done to it, wherever it goes, so we don't have that problem again.

You just continuously improve. You keep making equipment and components better and better. This is the way you know it happens. If you start having problems and once a week you have a problem, you fix that. And then, the next problems you have, they're once a month and then, you fix that. And next time you fix problems, they're once every six months, and you fix that. So, you keep continuously making them more reliable and getting rid of problems. You make that equipment more reliable. I mean, you feel good about knowing, hey, we did that!

35:37 Advice to Young Engineers - Don’t Be Afraid of Getting Dirty

Edwards:

Do you have advice that you would give to young leaders in the engineering profession or the steel industry?

Totten:

The first advice I'd give them is don't be afraid of getting dirty. I hear this complaint so much. My brother who was in charge of the hot strip mill, he retired, and one of the reasons he retired, he said all these new young engineers he gets, they want to sit behind their computer all day. They don't want to go out and find out what's going on, get dirty. And so, my first advice is really, the process for an engineer needs to be in the field, not sitting behind a computer eight hours a day. That's not the place. Go out there. I can say I worked 37 years solving problems. There's still a whole bunch of problems out there, and somebody needs to be out there and get rid of them. Truly, the engineers are the ones that need to do that.

When you come to the AIST conferences, I always go to these speeches that you have at the beginning of it, you know?

Edwards:

Yes, the plenary events, the Brimacombe, or the Howe memorial lectures.

Totten:

Yes, and I like going to them and meet people like Dr. Chenn Zhou

Edwards:

Yes, from Purdue University Northwest Indiana, yes.

Totten:

She does amazing work in the Indiana steel mills. There's another professor from Indonesia; she's come here and given a presentation. When you attend you find out so many things that you didn't know. For example, the use of plastics, they're combustible, and the steel industry benefits in what they contributed by using this waste product. There are so many things like that that you find out here at these lectures. My goodness!

When you find things out like steel mills use scrap, and you find out that the auto industry, they shred the automobiles. The funny part I always thought about them, was one place I visited in Texas, they found about $1400 a month in coins from inside these shredded vehicles. Who would even know that? How would you get the coins when you're shredding it? They do.

So, again, back to the engineers. When they come, whatever area they're working on, they also need to learn the other areas. I started out electrical, but I became very good at mechanical stuff. Although I never became an engineer on any of it, I enjoyed solving problems, and I enjoyed seeing things get better.

38:28 Sam Totten - Brothers Working at Bethlehem - Totten Sux

Edwards:

You mentioned your brother also worked in the steel industry. Did anyone else in your family work?

Totten:

No. It was just my brother, and I were the only ones. He started three years after I did. He was younger than me. And so, I'll tell you a little story about him when he came to work. When I started, I was in the plate mill. But then, I switched over and was in the hot strip mill. When he came in through the employment office, they thought I was in the plate mill, and they don't want to put brothers together, so, they sent him to the hot mill. Well, he ended up being in the hot mill, and for a couple of years, he worked on my crew as an hourly person. He was an hourly motor inspector too. He came up the same way I came up.

The whole time he worked for me, whenever there was extra work that had to be done; I'd say, "Hey, you've got to get out there and get that done." I would always say, "Sam, get going." I pushed him, so he had to work a lot more than anybody else on my crew. One of the reasons I did that was, you know if somebody thinks you're making it easy on somebody- He worked for me for a couple of years. Never once did I ever get somebody to say I took it easy on him. I never did. So, in the end, Sam became the General Maintenance Supervisor, in charge of both electrical and mechanical for the hot strip mill maintenance department. For several years there, he was in charge of all that. The last few years, they were hiring lots of engineers, and he was rather frustrated trying to get them to go out, and get dirty, and know what's going on. He died six months ago, February 2018, I've never been to a funeral as big as his. It was made up of all the people that worked with him at the steel mill, including the vice president in charge of the plant.

When he told them he was going to retire, they asked him to go down to another one of their plants, in Texas. It was just getting going, starting up. They asked if he'd go down there like on a two-year contract. So, he went down there, for a week, to look it over but he decided no, he wanted to retire. So, he did retire. We rode together sometimes to work. Sam was a really great guy, and he'd- I've got to tell you this story too. A little embarrassing, but I had a group inside the plant called the 408 Department when the steel mills were in real trouble, and they wanted to save costs. There were layoffs. The union was saying, "Hey, you've got to keep the union people working."

So, the company says, "Okay, we will not use certain contractors, we'll use these hourly guys that we really don't need because production's way down. But we'll have these guys, and we'll call them the 408 Department." So, that was one of the departments they gave me to take care of, and I found it was a place where I could go and get into trouble because I would be pressuring people. I wanted them to get things done. I'd spend time with them. I'd make sure I was fair. But one of the things, the way I would do that, is we had a group, they were called welders. Their job was to fix these ladle covers. Now, you know what a ladle cover is. It's a steel thing about the size of this table. Maybe a third bigger. It would fit down over the top these 350 tons of hot metal in a ladle. Inside was a refractor, but the outside was all steel. And what would happen was, they'd get bounced around and boogered up, and they'd have to go get welding repairs done. There were contractors who did that. So, they decided through contracting out, that the 408 Department should repair these, replacing the contractor.

So, we had to set up a shop, and we would have three guys down there, supposedly fixing these ladle covers. My job, I tried to go everywhere all the time and get productivity up wherever I could. I'd go down there where the ladles were going. Now, I was getting all these complaints, "You're driving our costs so high, we can't afford to have you make these repairs. It's just costing too much."

So, when I'd get these complaints, I would go down there, and I would look around, and I'd find out, there are no spent welding rods. Who's welding? Nobody's welding. So, I'd go get the foreman. You need to get down there and find out what's going on because they're not doing their job. And so, course the word gets spread around. Charlie's down there, always harassing those guys. So finally, that repair section got abandoned because the price got so high. The mill people found out they could buy new ones instead of repairing the old ones. And that was what they did. To me, it was a terrible weakness I didn't fix. I should have fixed that and I didn't.

Years later, when that job was all gone, I got a call from my brother, because as a salesman I'd go and visit his plant, and my brother, too. So, I went in there, and he said, "The guys down in the Furnace shop,

they've got something for you." I said, "Oh, okay." And I knew all those guys. I knew all these millwrights because I'd worked the hot mill for ten years.

So, I go down there and they're all laughing and I figure, oh, something's up. So, I said, "Sam told me you guys have something for me," and they're snickering and I know something is up. So, they pull out this piece of steel about this long and they told me what happened. They had gone down to the hot mill where my welding group was working and they found this piece of steel and they brought it back. They called Sam, "Sam, we found something for you." And he told them what it was, he said, "That ain't mine, that's my brother's." So, while I was there, they pulled it out and gave it to me. It says, "Totten Sux." And it was done by air arcing on this piece of steel, so it's like, I felt good, I got somebody to do some work to make that sign.

I still have that piece of steel by the way. I still have it. I told that story at Sam's eulogy, and I got a lot of laughs from people that worked with Sam. They knew what was going on and they knew the reputation of the department that they'd given me to try and shape up.

46:20 Reminiscence - Meeting Kyong While in the Army - My Family, the Core of My Life

Edwards:

You mentioned your brother at AIST. I think you're also very well known for your wife accompanying you to almost all the conferences. Could you talk about her a little bit?

Totten:

Well, I have some pictures here. I was in the Army, and I went to Korea for 13 months. I met my wife there but ended up transferred to Germany. So, I hopped back from Germany, and we got married in the American Embassy. I always, humbly, think of my wife that she left her country, South Korea, to come to the United States. She trusted me to do that.

So, we spent our life together, and we really have so many things to be thankful for. For me, it's to be thankful for her and to be thankful now that I have my three children and 11 grandchildren. That's the core of my life. If you look at a person's life, you get married, you have children, life goes on, and then, the children leave you. Then, if a wife leaves you, you're near the end of your life. You're just about there. So, I try to be thankful every day for my life, and I think of my wife many times every day. And I tell you one of the things about coming here; she was very famous, she was always here. She came with me to crane symposiums, conferences, she was always here. She loved coming here. We had three of these crane symposiums outside of the United States. We had one in Slovakia, Kosice, Slovakia. We had one in Argentina. When we went to Argentina, she was in a wheelchair. She would never have thought of staying home and not going. She was just that kind of a woman.

She would just, like I said, she was just a wonderful wife. I think this happens more since she's gone. There are things I look at, and I know when she would say, "I want to install this light fixture here," I'd say, "Oh, I don't want to do that." But I'd do it. And now I look at things, look at it now, and say, "Oh, she's smart for doing that lighting and many other things as well."

I know that she was also the disciplinarian; it wasn't me. When we raised our children, she and I would always talk. We'd know what was going on with every child. So, we had that all together. She was just a

great partner for me. The last ten years, when I was a crane salesman, I drove every place in the United States because she went with me. We were never separated, ever. Just never at all.

And the way she's raised my children, every day, with care and love. About four o'clock every day I call my one daughter, Lisa, who lives in Baltimore. I have to report in to her. And this has happened since I had heart surgery back in 2014. And my two children who live by Indianapolis, Indiana said, "Dad, you've got to move up here, you're too far away."

I thought it over because I was born in Marengo, Indiana. And we lived most of the time up in South Bend, or Michigan City, Indiana. My wife wanted to move, so we ended up looking around, and I finagled it and got us to move back to my home county, and that's where we live. I told her, this is God's country. I ain't leaving here for nothing. So, when my kids said, "Hey, you've got to move up North, by Indianapolis," I didn't want to do it. So, my arrangement I have with my next-door neighbor is: I call my daughter every day. She has his phone number. If for some reason she can't get a hold of me, she's got permission to call him, and check, where daddy's at.

All this was again; my wife taught our children how to do things. They do check on me, and they ask me if I'm doing things the way I should be doing them because they know what I should be doing. She was- she really made my life worth living. And now that she's gone, I know where I'm going to be buried, right next to her. It's all arranged.

The last thing I'll tell you about, we had one of these conventions out here in Cleveland at the President's Welcoming Dinner. She was in a wheelchair, and I'm pushing her up a steep incline, going to that dinner table. Now I remember how wonderful Mark Didiano was. He stopped me and said, "Charlie, let me push your wife." So, Mark from the AIST staff pushed her to our table. I'll always appreciate it and will never forget that. She was in a, and he helped so much. Again, where do you find people like that? Friends like that? And it's all because of her. You know how stories like that go. So, anyway, I've had- I still tell myself every day, I am the luckiest guy in this world. I've got wonderful children and grandchildren. And it all goes back to my wife. To describe my granddaughter, Olivia, my son Tom says, "She's got a lot of grandma in her." Because grandma was a very stubborn lady, and the kids all knew. One of the stories, she was Korean. She learned English. During many years, she learned a new English word every day.

But there were some things she didn't quite understand with humor sometimes, and one of them was, my son-in-law, Paul, said something to his wife, our daughter Lisa, in front of us. It was sarcastic, and he was just joking. And Kyong jumped up, and she says, "Don't you ever do anything to my daughter, I will come and kill you, I don't care what they do to me." She didn't understand the joke. But it's like, when she thought she understood anything against her children, she tells you what she's thinking no matter what it is. She was very vocal. I think that's the way my granddaughter, Olivia, the snowflake, is. Whatever she's thinking about, she says it, like grandma.

Edwards:

Is there anything else that you'd like to discuss?

Totten:

No, it's just been a- I'm very humbled by this really. All I've ever tried to do is just try, first of all, to do my job as best I know how to do. And being associated with a society here, and seeing these crane symposiums and the conferences, and just the network and everything. It's been a blessing in my life.

Like I said, I do think about my health and what I can, how much longer I'll be able to enjoy these things because I do really enjoy them. I do go to the four meetings a year with the crane committee. I don't think I've missed one in many, many years. Part of my activities, when my wife passed away, was to stay busy. And one of the ways I stay busy is coming to these, whatever I do. And so, it's been a blessing on my life.

Edwards:

Thank you very much, it's really been a great pleasure for us to spend some time with you. And thank you for your willingness to share your story with AIME.

Totten:

Well, you're welcome. I hope you have a big pen, so you can mark out some of the things I've said. But it's been a pleasure.

Edwards:

All right, thank you very much, Charlie.

Totten:

You're welcome.