



1987 PRESIDENT

GERALD J. ROE • IRON & STEEL SOCIETY



Dr. Gerald J. Roe, the 1987 president of the Iron and Steel Society (ISS), is program manager for products, plates, structure and wire at Bethlehem Steel Corporation. Jerry graduated from the University of Missouri at Rolla in 1969 with his doctorate in metallurgical engineering. He has been a member of AIME since 1963, when he joined as a student. He resides in Bethlehem, PA, with his wife Sally and son and daughter. He joined Bethlehem's Research department in 1969 as a research engineer in plate products. He remained there until 1981 when he joined the Steel Group as a metallurgical engineer, plates, product quality and assurance. Jerry assumed his president position in 1984. He has been active in the ISS, serving on the Mechanical Working and Steel Processing Division Committee since 1976. In 1982, Jerry became chairman of the committee and he served on the ISS Board of Directors in 1981 and 1982. In addition, he has authored or co-authored at least 15 technical papers.

Jerry's current position entails planning and coordinating both research and plate technology efforts for plate and hot rolled sheet products at Bethlehem. It did not take too much conversation with the 1987 President to realize that because of this background he is customer oriented, and that he brings to the Society a somewhat different perspective of our industry.

I&SM: As the incoming president of the Iron and Steel Society, how would you like to begin this interview?

ROE: First, I am fortunate to be taking over the presidency of an organization that is viable. The Society is healthy. In spite of the industry shrinking, we have maintained, if not slightly increased, our membership. There has been a growth in Society revenues. Look at our attendance at conferences. We probably have over 4,000 people coming to our conferences every year. That is a pretty good turnout. We have an active membership in these difficult times. The Society is still important to these members. These facts point out that there is a need for the Society and our members are getting some benefits from the Society.

I&SM: Where do we go from here?

ROE: We have had some really good direction from our past presidents. I thought Hugh Walker's move toward cooperation with other organizations, AISI and AISE, was correct.

Alex McLean has worked hard on the Society's international relationships both in Asia and Europe. He has fostered a cooperative exchange of information. These are two excellent directions the Society has received from our past presidents and I want to continue these efforts. They are the foundation for the Society's immediate effort to solve our industry's immediate concern.

I&SM: Which is?

ROE: Survival. There is no question in my mind that we are going to survive. The last three or four years have been very difficult but I think we are getting closer to what the shape of the iron and steel industry will look like in the nineties. We are coming down to more efficient mills, mills with more innovative practices. These are the mills that are going to be around.

I&SM: How does the Society fit into this picture?

ROE: The immediate concern is profitability. The first thing is, you have to give help to the members and industry to make their facilities more profitable. I think the Society is fulfilling this need through being a technical base for the industry.

We do not have the blacksmiths in this industry anymore. The steel industry is really technically intense – engineering intense. Look at the sophistication of the process control on a caster. I can cite other examples – rolling mills, process controls, computers, lasers, analytical chemical techniques – all this to make clean steel.

There have been a lot of changes in the steel industry in the past 15 years, real dynamic changes. You can't point to any one company. You can't point to any one country or even continent for all of the innovations. It has been a worldwide technology exchange. And we as a Society have been and must remain right in the middle of it.

I&SM: What more can the Society do in this area?

ROE: It all boils down to understanding the customer's need. Who is the customer? It could be the blast furnace, the melt shop, the rolling mills, the caster, the end customer. We all have customers. The more we understand what they are doing and why they are doing it, the better product we are going to make to meet that end use.

It never used to be that way. We used to make the steel and what we made is what the customer used. The Society can fulfill a need by bringing to the forefront what the end requirements really are. The Society enters into this through conferences where we talk about how we make these high-purity metals; how we can get end properties into the finished product. I think an excellent example of this is our advanced technology symposium, for instance the Clean Steel symposium. Both the producer and the end user made presentations.



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I&SM: Isn't this concept the basis of the success of the Japanese industry?

ROE: I think the Japanese really looked at the end user and instead of saying, "Use what we have, this is what you use," they really said, "What do you really want?" The customer says "I want to weld something better, I want to form something better." And they went back and they made something that would weld better and that would form better. They might have been in the forefront of paying attention to the real end user and what their real need was.

We really should be interested in the survival of our customers because that is really our survival. You take away the automotive industry, you take away the machine industry in North America and we are not going to survive. And that has happened to an extent – think about it for a minute. Our end users of our products, a lot of them have moved to other places. I am concerned but I really feel our industry will survive.

I&SM: Would you care to elaborate on that?

ROE: I think that all the sophistication we have achieved in the steel industry, clean steel, better mechanical properties, is going to protect us. Steel has become a very cost-effective material. Today, routinely, industry is knocking out 0.006 percent sulfur out of a BOF shop or an electric furnace shop. That is where state-of-the-art has come from. From things, even in the research lab, you couldn't do 15 or 20 years ago, to making 300 tons at a clip, as far as purity levels go. Now when you do this, when you can control your sulfur, your phosphorus, nitrogen, hydrogen, carbon, steel suddenly becomes a very competitive material. It has very good ductility-strength combinations. You look at the whole area of coatings that have come out. I say steel is going to make new markets. If I'm not mistaken in my conviction, then our industry has another problem in which the Society can contribute to the solution.

I&SM: Which is it?

ROE: Our industry is now operating with a range of employee ages from 35 to 55. But in five years there will be a real problem. We have to encourage new people, interest college students in the steel industry. A college graduate is really not effective in this business until he has several years' experience and practice. You have to really live it and experience it. There is a pool of people out there from mills that have shut down but that pool is shrinking. Some of the people have been reshuffled but at some point you have to get some totally new blood into the industry. At that point you have to encourage, you have to excite the young people and you have to show them the thrill of working in the steel industry. This should be the major thrust of our Society. I don't see any efforts to interest young people to enter the steel industry anymore. A real urgent need will be felt in five years.

I&SM: What led you into our industry?

ROE: How did I get here? I started with the industry when it was a lot healthier. I started back in the early 1960s. I got involved in a summer training program at the South Works of U.S. Steel. I got enthused when I was in college. I thought this is a really neat industry. You have to bear in mind that in the sixties there were a lot of industries you could work for. There was aerospace, automotive, etc. Because I had the opportunity to work in a steel mill and in an open hearth shop, I stuck with it. Also, when you got into the steel industry there were a lot of opportunities. Things were going like crazy. Today there has not been that intrigue, potential, what have you – we are in a slow decline.

I got here because there were training programs and there were opportunities to experience everything from the making of steel rolling to the finished product. There were research centers and all the things were put together to give you the right perspective and excite you and say, "This is fun."

I started in 1969 when I got my Ph.D. I

started as a research engineer. I went to a research lab. The best research lab at the time was the Homer research Labs right up there on the hill. I really enjoyed the scope of the work. Homer research Labs did everything from steelmaking to the finished rolling, so we got a real good look at alloying and heat treatment, etc., and I could follow the product from the time it was melted in the furnace until it was actually at its end use. But the initial encounter was in 1964 at the South Works when I was a college undergraduate student. They had programs for young engineers and that stuck with me all the way through graduate school, and even when you are doing thesis work you still remember. The open hearth shop is a pretty impressive place to go into. What bothers me now is that some of the romance has gone out of the making of steel.

I&SM: Where do you see fit for the Society in this area?

ROE: We have not convinced people that steel is a high-tech industry. People still look at us like we are still in the Dark Ages with the big old arc furnaces and red clouds above the shop.

You look at how sophisticated our industry has become because of the need to control elements in processing.

The domestic steel industry is dependent upon a strong technical base. People say we are a technical service oriented Society but who uses these technical services? Who uses the lasers, the computers – the steel industry is using more and more. We should encourage plant tours so that students can see the degree of technology involved in making iron and steel.

I&SM: One last question regarding the Society. What would you say are the main benefits of membership?

ROE: ISS is a technical organization and that is where our strength is. We are the technical organization that deals with the composition, mechanical properties and physical characteristics of steel.



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One of the main reasons to become a member is to continue your education if you are working in this industry. For example, I really go to the conference proceedings for information. They provide a written record.

Another thing is many times ideas aren't to the point where people are ready to give a paper, but the interaction with their peers is most important. The give and take on thoughts is important. The intangibles – the thoughts that are put forth at a conference – the transference of thoughts that bring innovation. If you just stopped and did not enter into the activities of ISS, you could not be aware of all the changes that are taking place.

If you think you have reached the point where you are well versed, you had better hang on because things are going to continue to change. And instead of leveling off, it is accelerating. Just to stay technically current – just to stay exposed to these things is important. Now more than ever belonging to ISS is to be aware of the current technological changes in the industry.