Ed Schuster

40-YEAR AIST LIFE MEMBER

Edmund N. Schuster graduated with a degree in mechanical engineering from the Onken Technical Institute in Kreuzlingen, Switzerland. He is also a registered Professional Engineer. He began his career with the Rust Engineering Co. as a piping engineer, responsible for a contract assigned from its inception to final completion. Schuster was then a project manager for Alco Products Inc., responsible for the company's Far East operations. Following that, he was associated with the Chemical Construction Co. (CHEMICO) as a piping engineer in the engineering construction division.

Schuster joined the Pennsylvania Engineering Corp./Lectromelt in 1972. There he directed and coordinated engineering on such major industrial projects in the United States as the installation of Q-BOP furnaces at U. S. Steel – Gary Works, Gary, Ind.; U. S. Steel – Fairfield Works, Fairfield, Ala.; and Republic Steel Corp. in Chicago, Ill. Other major projects included the design and installation of oxygen furnace vessels for Sharon Steel Corp.; BOF gas cleaning systems for Bethlehem Steel, Burns Harbor; a ferronickel facility in Yugoslavia; AOD design and installation for Universal Cyclops and Birdsboro Corp.; mini-steelmaking facilities in Montreal, Que., Canada; Auburn, N.Y., USA; and Venezuela; and a bar and rod mill for Altos Hornos Zapla in Argentina. Other projects included design engineering for slab casters in Canada and China, a coilbox facility at Gulf States

Schuster (far left) was part of the team that built SeverCorr Steel's mill in Columbus, Miss., USA, in 2005.

Meltshop personnel and construction workers liked this colorful sticker and wore it on their hard hats.

Steel and various water treatment plants associated with the steel industry.

Schuster was the start-up manager in 1982 for the ferronickel complex in Yugoslavia, which consisted of BOFs with gas cleaning systems, electric arc furnace, pig caster, ladle desulfurization, ladle preheat, ladle drying stations, in addition to a ladle refining facility in India. He was also the design engineer for Sharon Steel Corp., responsible for capital improvements as well as for plant engineering.

Schuster, during his association with Pennsylvania Engineering Co. until it closed its doors, was manager of the power and fuel system engineering department, where he was responsible for assignment research and development, process development, coordination and execution of all system design, engineering data, and drawings of the departments engineers and designers.

Schuster joined MAN-GHH as construction manager. He installed all of their equipment in the U.S., Canada and Mexico, including BOFs, AODs, VODs, ladle furnaces, etc. Schuster particularly enjoyed his relationship with Nucor Steel, where he installed most of the company's present DC electric furnaces. He liked Nucor's forward-looking policy. When MAN-GHH merged with SMS, he installed the equipment at the North American Stainless meltshop in Kentucky. He retired from SMS in 2002 and became a consultant to the steel industry.

When he spoke with *Iron & Steel Technology* recently, Schuster described his role in building what is now Steel Dynamics Inc. – Columbus Mill. In 2005, SeverCorr Steel broke ground on its next-generation steel mill in Columbus, Miss., USA — a carbon steel mill of 1.5 million tons of steel per year, which took 21 months and 15 days to build.

"I was assigned to install the entire hydraulic, pneumatic and oxygen piping system, to manually test each function before turning it over to the motion test team computer," said Schuster. "More than 1,200 motion tests were performed. It was a first for the steel industry to use non-welded piping for a brand-new steel mill."

Schuster continued his consulting work until 2010. He advised steel plants all over the country and wrote maintenance manuals for future use. One of the manuals deals with large swing bearings on furnace roofs and caster ladle swings that straddle two cranes but cannot be reached by either.

"I have great admiration for the engineers, designers and CAD operators that solve complex engineering

problems, such as was required on the ferronickel facility in Yugoslavia," Schuster remarked. "The specification called for a design able to withstand a No. 4 earthquake. An hour away is the city of Skopje, which was destroyed by an earthquake in 1963. Pennsylvania Engineering Corp. solved the problem of how to fit a Q-BOP into an existing open hearth meltshop building, keep the remaining open hearth furnaces running and have the existing overhead crane system serving both facilities. The construction crews assigned to me on projects were professionals. I tip my hard hat to the riggers who successfully and safely rig, lift, direct and set in place large pieces of equipment day after day."

One can imagine the amount of change Schuster has seen in the industry over the course of his career. He told *I&ST,* "The best way to demonstrate the growth of the mini-mill is to compare it to today's yearly tonnage. The mini-mill concept in 1972, with one electric furnace, produced 120,000–150,000 tons per year. Today, 1–1.5 million tons a year is the norm.

"Speaking as a steel mill designer, I enjoy the technical articles featured in *Iron & Steel Technology*. I can read about what's happening in mills today, reading about equipment I installed or my company built. I also appreciate reading about problems with technology and safety, as I have seen many accidents. I have been a member of AIST for 40 years, and the magazine has grown over the years in content and volume, and it keeps me informed. It is a benefit to all steelmakers worldwide."

I&ST also asked Schuster what he thinks about viable careers going forward in this industry. He replied, "There is a tremendous opportunity for young people to go into the steel industry. They can advance their education and choose the direction they would like to go. I would certainly recommend AIST membership to young people. I'm all for it." ✦