The OMK Tube Inc. unit of Moscow-based United Metalurgical Co. (OMK) designed its new $120-million-plus electric-resistance welded (ERW) oil country tubular goods (OCTG) and line pipe mill in Houston to offer optimal efficiency, product flow, safety and operator interface.

The cutting-edge technology, which went online in December, won AMM’s Steel Excellence Award for Best Brownfield/Greenfield Technology Project.

While the OMK “brand” of OCTG casing and line pipe has been sold in the North American market since 2003, the company did not have a physical presence on the continent until late 2011, first through the acquisition of Tubular Solutions Inc., an OCTG end-finishing and heat treating facility, also located in Houston, and now with its ERW mill, which is still in ramp-up mode.

The greenfield mill was built in record time, the company said, with construction beginning in April 2012 and the first pipe rolling off the production line Dec. 19, 2012. While the rated capacity of the mill is about 225,000 tonnes of pipe per year, OMK Tube chief operating officer Terry Cantrell said that with the correct product mix that could be expanded to about 300,000 tonnes annually.

The new mill is producing 2 3/8- to 7-inch-outer-diameter J-55 OCTG. It has the capability to upgrade to Q-125 material and plans to eventually produce up to 6 1/2-inch line pipe as well, although the company expects that about 80 to 85 percent of its output will remain OCTG.

Cantrell said that OMK’s parent company had been interested in building a facility somewhere in North America to supply the domestic energy pipe and tube market. “This was the most opportune time for them to do so” to best coincide with the most demand for OCTG, he said. While the opening of the oil and natural gas shale fields clearly resulted in a bump in energy tubular demand, and will continue to do so, Cantrell said that wasn’t the only determining factor to build the Houston pipe mill. “The domestic oil industry in general is strong.”

The new mill offers a seamless fit with OMK’s overall business philosophy, Cantrell said, citing the Russian pipe producer’s century-long experience in supplying energy-related pipe internationally. As for OMK’s plans for the North American market, he said it was a seamless fit, giving the company the ability to supply a quality domestic product to the U.S. market. “Being close to our customers is a big plus,” he said, as is the fit of the mill with the finishing facility. “This way we can produce green tube at one facility and finish it at the other before presenting it to the market.”

The location of the two facilities also is ideal, Cantrell said. “Being in Houston puts OMK in the heart of the North American oil and natural gas industry.” In addition, the actual land selection has many logistical advantages. Not only is it by a major interstate, making it very conducive to moving product and receiving raw materials by truck, but it also has access to Class 1 railroads, including Union Pacific Railroad Co. and Burlington Northern Santa Fe Railway Co., which allows for shipments to areas where trucking material isn’t feasible.

Cantrell said that one thing that distinguishes OMK Tube’s new pipe mill from other OCTG mills is its use of cutting-edge—but tried and true—equipment technology from leading suppliers to the industry that has been especially tailored to optimize the efficiency and product flow of the facility. This includes the implementation of a pipe-forming process enabled by state-of-the-art equipment.

Other equipment suppliers included Italy’s Oto SpA for the entry and accumulator equipment, Italy’s Cartacci Srl for the rotary straightener, Italy’s Mair Research SpA for the finishing equipment and hydro tester, Canada’s Brandt Engineered Products Ltd. for the material handling and cutoff transfer equipment and Delta Steel Technologies, Irving, Texas, for its slitting lines.

“Everything in the plant is automated,” Cantrell said, with the machine operators selecting the size and other properties at a push-button station that automatically adjusts the mill.

Cantrell said OMK Tube’s use of customized technologies to streamline its operations, contending that most other OCTG mills largely use “cookie cutter” or “base model” equipment.

—Terry Cantrell, OMK Tube

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Photo: OMK Tube Inc.