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Title: AEC and Praxair Deliver Process Improvements to Plymouth Tube

Atmosphere Engineering flow control engineers, in cooperation with Praxair, Inc, have designed and installed two custom flow control panels at Plymouth Tube in Streator, IL. The nitrogen / hydrogen mixing panels were built to replace their dated exothermic gas generator and provide a significant improvement in atmosphere gas quality within the 2 large steel tube annealing furnaces. The steel tubes, typically used in structural and automotive applications, require an annealing process to reduce stresses induced during the formation of the seamless tubes.

The new flow control panels provide Plymouth Tube with a wide range of mixing control automation, process tracking, and safety upgrades. The mixing system was designed to minimize gas usage by controlling total flow volume and hydrogen ratio depending on the usage of the furnace. In addition, the panels were integrated with a sample pump and sensor array to track the dew point and oxygen content of the atmosphere inside the furnace as well as thermocouple inputs to track multiple zones of temperature all along the furnace. This information has proven invaluable to track down production quality problems and identify cost reduction opportunities during the annealing processes at Plymouth Tube.

Plymouth Tube Co. is a specialty manufacturer of precision steel tubing, steel and titanium Near-Net Shapes, and steel and titanium Cold Drawn Shapes.

Atmosphere Engineering has successfully partnered with Praxair to provide integrated nitrogen based solutions for industrial applications. Contact your local Atmosphere Engineering or Praxair account representative to discuss how our partnership can improve the quality and reliability of your annealing, bright annealing, brazing, or lamination annealing application.