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Cross Helps Smisson-Mathis Upfit Facility for Biodiesel Production

Cross was engaged by Tactical Fabrication, the main contractor of Smisson-Mathis Energy Solutions (SMES) responsible for the construction and commissioning of new facilities, to help with the safety equipment needed for their new flagship facility in Dublin, GA. SMES is a waste management and biodiesel production facility based in Dublin, GA. Their proprietary technology converts fats, oils, and grease (FOG) and brown grease into Ultra-Low sulfur biodiesel.

Sarah Parrish, Executive Assistant at Tactical Fabrication, said they "looked up flame arrestors online and Cross popped up, so I sent an information request. Your team was very knowledgeable and quick to help." She went on to share that the Cross team was "helpful and thorough in every area."

The new SMES facility had already been used as a biodiesel production facility by another company. However, because the process used by SMES was a proprietary one, their facility needed to be retrofitted to ensure safe operation and maximize output. The Cross team reviewed SMES six vessels and optimized their process for maximum safe inflows and outflows. This included specifying pressure and vacuum protections, flame arrestors, and gas detection devices.





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The new flame arrestors and gas detectors allow for safe 24 hour operation for the plant and personnel. This helps them to reduce risk of downtime and serious injury. When asked about the importance of the safety equipment, Parrish said, "we run at high temperatures and work with Methanol. The sniffers and alarms installed to assist with any methanol spills or fires, not only would we not smell the vapors, but the flames are light blue and hard to see. We are notified if even the smallest amount of fumes are present in the vicinity. This helps us to assess the situation and determine the severity of our surroundings."

The old pressure and vacuum relief valves were not sized to allow for maximum production. By properly sizing these valves, SMES was able to improve their plant's efficiency by allowing for maximum throughput. The facility will be able to produce approximately 7.5 million gallons of distilled biodiesel in its first year.

Flame arrestors are a key part of the safety system at SMES. This is because throughout the process of making biodiesel there are fumes that are released to the thermal oxidizer and some vent to the atmosphere to allow circulation. The flame arrestor keeps any ignition source such as static electricity or lightning from coming back into the system and causing an explosion. This particular facility is located in Eastern Georgia, which happens to be one of the highest volume lightning strike areas of the country.

What is particularly unique about this project is that Cross Process Solutions Group took the



customer from start to finish. They designed the system, installed the equipment, handled commissioning and start up, trained the team on how to properly operate the system, and then helped to set up a preventative maintenance plan to ensure the equipment continues to protect the facility and operators for years to come.

Overall, Parrish said it was helpful to have Cross handle the project from beginning to end. She said, "Cross has extensive knowledge of safety, and their products and will go above and beyond to match those products to the customer's needs."

About Tactical Fabrication

Tactical Fabrication is a Dublin, GA based construction company that focuses on building and maintaining biofuel plants. They serves as the main contractor for construction and commissioning of Smisson-Mathis Energy Solutions biodiesel plants. To learn more about Tactical Fabrication visit www.tacticalfabrications.com.

About Smisson-Mathis

Smisson-Mathis Energy Solutions (SMES) is an innovative energy and waste management company. SMES' proprietary technology converts fats, oils, and grease (FOG) and brown grease into an advanced, distilled biodiesel product. For more information on Smisson-Mathis, visit www.Smisson-Mathisenergy.com.

About Cross Company

Cross Company is a 100% employee-owned solutions company that is innovating the industrial world one customer at a time. Cross specializes in robotics and machine automation, industrial measurement and calibration, process solutions, industrial and hydraulic hoses & fittings, and is an original equipment supplier in the mobile vehicle systems integration industry. To learn more about Cross, visit www.crossco.com.