A NEW NITRIC ACID PLANT

A high pressure ammonia oxidation unit with an output of 250 short tons of 100 per cent nitric acid per day forms part of the new ammonium nitrate factory recently built for Fisons Ltd. at Stanford-le-Hope on the Thames estuary. It employs a modification of the Du Pont process, and has been built under a contract placed with Chemical & Industrial International. Liquid ammonia from the neighbouring plant of the Shell Chemical Co. is stored in a 2,000 ton spherical tank. A 10 per cent mixture of ammonia in air at 120 lb. per square inch is preheated and passed through a pad of 36 hexagonal 10 per cent rhodium-platinum gauzes, 36 inches across flats, at a temperature of 950°C. After cooling, the nitrogen oxides are absorbed in a single stainless steel bubble-cap tower. The tail gases are treated in a fume eliminator containing a platinum catalyst and are then expanded through a gas turbine. All the power for the compressor is provided by gas and steam turbines on a common shaft which utilise heat derived from the process reactions.