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Key piece of equipment for Polimery Police plant arrives at construction site

Between the late hours of Monday and early hours of Tuesday, a 96-metre-tall propane-propylene splitter was safely transported to the construction site of the Polimery Police plant. The logistic operation was successfully completed after almost four hours, marking the achievement of a key project milestone.

The propane-propylene splitter is the tallest appliance of the Polimery Police complex and a key component of the PDH unit. The splitter is a column used to separate propylene and unreacted propane in order to obtain a product with a minimum purity of 99.6% propylene, which can subsequently be used to make premium quality polypropylene. Since propylene and propane have similar boiling points, a large number of rectification trays will need to be installed in the column in order to separate the substances as efficiently as possible.

A key internal component, the trays will be supplied by UOP, who is also the provider of the Oleflex licence for the PDH process.

The designed propylene production capacity of the propane dehydrogenation (PDH) unit is 50 t/h.

'The main by-product of the propane dehydrogenation process will be hydrogen, which can be used internally at the Polimery Police complex or can be directed as a feedstock to the ammonia production unit at Grupa Azoty Police. This is vital for us, as the development of hydrogen technologies is one of the cornerstones for the transition towards low- and zero-emission economy. Grupa Azoty wants to play an important role in this process,' said Tomasz Hinc, President of the Management Board of Grupa Azoty S.A.

The expected capacity of the PDH plant once fully operational will be 429,000 tonnes of propylene per year.

The steel structure of the splitter was made by Furui Heavy Equipment and arrived at the unloading port in Police from China last Sunday, February 14th, on Jumbo Jubilee. In addition to the tallest appliance mentioned before, the vessel carried other large equipment, namely a 55-metre-tall depropanizer and a 51-metre-tall deethanizer.

'Preparations for large equipment shipments took many months and required the cooperation of Grupa Azoty Polyolefins S.A., General Contractor, transport companies Mammoet and Deugro, Grupa Azoty Zakłady Chemiczne Police S.A. and the Port of Police. As many as 11 pieces of equipment have been delivered to the construction site since January 17th. Further deliveries are expected in the coming weeks,' said Andrzej Niewiński, President of the Management Board of Grupa Azoty Polyolefins S.A.

As part of the preparations for the operation, a safe transport route had to be selected, access roads had to be properly prepared, and a temporary crossing (bridge) had to be built.

The main part of the splitter transport operation began on February 20th with the delivery of the appliance to the Barge Port in Police. The 890-tonne unit was placed on a self-propelled modular transporter (SPMT) and hauled along the wastewater treatment plant. Transport on public roads was carried out during the night hours to limit possible inconveniences.

Deugro and Mammoet were responsible for moving the column from the barge port to the storage yard and then to the construction site.