

PRESS RELEASE

CONTACTS

Anna Dörfling - *Snr Marketing Coordinator (Tenova Pyromet)*
T: +27 11 480 2072

anna.dorfling@tenova.com

Sara Secomandi – *Chief Communication Officer (Tenova)*
T +39 02 43848110

sara.secomandi@tenova.com

First equipment delivered for Kazchrome Aksu ferroalloys plant renovation and upgrade

Johannesburg, South Africa, 25 July 2016 – Tenova Pyromet announced today it has delivered the first equipment to Kazchrome's Aksu ferroalloys plant in Kazakhstan as part of a contract awarded in July 2014 for the renovation and upgrade of shop 6. Tenova Pyromet is on target to deliver all the equipment by September 2016, with construction, commissioning and switch-in of the new 81 MVA furnace expected during 2017.

Covering the replacement of the outdated Furnace 64 at Kazchrome's Aksu ferroalloys plant in Kazakhstan's Pavlodar Region, the contract includes basic design of the complete shop 6, detail design and equipment supply, and process and equipment guarantees. The state-of-the-art furnace will be capable of producing in excess of 159,000 tpa of high carbon ferrochrome (HC FeCr).

Testimony to Tenova Pyromet's commitment to developing customised solutions, a focus of the basic engineering phase was to ensure that the basic furnace parameters were set to optimum values for Kazchrome's specific criteria. The tapping layout was, for example, optimised by relocating the furnace centre a further 2 m towards the tapping bay.

Best country procurement is being followed to ensure that equipment is sourced from top quality suppliers and fabricators across the globe, including South Africa, Italy, Germany, India, the USA and the UK. The first equipment to be delivered, the furnace roof panels and water cooled ducts for the 16 m diameter water cooled furnace roof, were procured from specialist suppliers in Italy, requiring a 6,000 km road journey. The furnace transformers are also being procured from Italy.

The furnace electrode column was fabricated by Tenova Delkor in India, with the key copper equipment sourced from a specialist copper component fabricator in Kolkata. The key components of the multiple pre-heater system, which requires a specially developed metallurgical grade of stainless steel, were sourced from a supplier in the USA.

The advanced technical solution that is being applied at the project features new and innovative Tenova Pyromet technologies. These include the multiple preheater technology, which will allow increased power

input by almost 30 %, within the existing furnace structure and rating. The multiple preheaters use furnace offgas to heat the raw material feed for ferroalloy furnaces, which means efficiencies are improved and the power needed to produce each ton of product is reduced. The patented Tenova Pyromet Multiple Preheater (MPH) provides numerous advantages over competitor technology on the market. Instead of a single vessel installed above the electrode, the MPH features split multiple vessels, which, as each vessel is smaller, can be positioned next to the electrode. This not only provides more efficient pre-heating, it also allows for a lower building height and reduced capital costs for the furnace building.

Other advanced technology includes furnace transformers with 220 kV incoming power that negate the need for expensive intermediate step-down electrical reticulation equipment, and furnace control and automation, based on Tenova Pyromet's AutoFurn™ technology.

"The Aksu Shop 6 project is one of a number of projects we have secured across the globe in recent years as a result of our ability to provide advanced technology solutions that assist the furnace industry successfully overcome the increasing challenges of harder to access and lower grade carbon reductants, escalating power costs, and increasing legislative and social pressure to minimise impact on the environment," says Andre Esterhuizen, General Manager, Sales and Marketing, Tenova Pyromet.

"Tenova Pyromet's position at the forefront of technology development is supported by our global network of equipment suppliers and fabricators, which enable us to deliver our state-of-the-art solutions to world class quality standards."

Tenova Pyromet is a leading company in design and supply of high capacity AC and DC furnaces and complete smelting plants for production of ferroalloys, base metals, slag cleaning and refining. Tenova Pyromet also designs and supplies equipment for material handling and pre-treatment, alloy conversion and refining, granulation of metal, matte and slag, furnace off-gas fume collection and treatment, and treatment of hazardous dusts and waste. Tenova Pyromet has several technologies to reduce operating costs and increase production efficiencies.

Tenova is a leading supplier of technological solutions and engineering services for the metals and mining industries, including key segments of the metallurgical process as well as in the mining value chain. Combining innovative engineering with process and automation expertise, Tenova delivers a full range of value-add solutions from greenfield projects, equipment and technology solutions to modernization upgrades and service packages. Passion for technology and a commitment to understanding needs of its global customer base are the key drivers of Tenova's business operations.

For more information visit www.tenova.com