

Press

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Primetals Technologies receives final approval on drives upgrade for Nucor Steel Arkansas hot strip mill

- Customer Nucor Steel Arkansas issues final acceptance certificate for main mill stand drive upgrade project
- Equipment upgrades to F5 and F6 drives improve strip quality
- Outage time minimized, full production on start-up

Primetals Technologies has received the Final Acceptance Certificate (FAC) for its F5 and F6 main drive upgrade project with Nucor Steel Arkansas of Armorel, Arkansas. This completes the third phase of the total project: full replacement of the hot strip mill's six main mill stand drives.

The main challenge in replacing the drives was to execute the changeover within the customer's nine-day maximum outage time. To meet this extremely tight timeline, the very large drives had to include identical take-over points for all existing, equally large cables. The new Siemens Sinamics SL 150 drives also needed to start up and achieve full production immediately, without any ramp-up time. The team achieved hot commissioning 15 hours ahead of schedule.

Covid-19 added complications, forcing Primetals Technologies to conduct virtual acceptance tests on the drives to ensure functionality prior to shipping. Covid constraints also dictated changes to the company's standard start-up procedures for projects of this kind.

The goal of the upgrades was to replace equipment rather than achieve specific improvements. However, Nucor conducted its own tests after Primetals Technologies completed the upgrades and found that the new drives' more modern controls improved both current and speed responses. The result has been smoother operation when the strip head enters the mill gap and thus improved strip quality.

A Fortune 500 company, Nucor is North America's most diversified steel and steel products company with approximately 300 operating facilities, producing more than 24 million tons per year. Products produced include: carbon and alloy steel — in bars, beams, sheet and plate; hollow structural section tubing; electrical conduit; steel racking; steel piling; steel joists and joist girders; steel deck; fabricated concrete reinforcing steel; cold finished steel; precision castings; steel fasteners; metal building systems; insulated metal panels; steel grating; and wire and wire mesh. Nucor, through The David J. Joseph Company, also brokers ferrous and nonferrous metals, pig iron and hot briquetted iron / direct reduced iron; supplies ferro-alloys; and processes ferrous and nonferrous scrap. Nucor is North America's largest recycler.



Primetals Technologies has upgraded the Nucor Hickman hot strip mill F5 and F6 main drives, pictured here in the foreground.

This press release and a press photo are available at www.primetals.com/press/

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Primetals Technologies, Limited, headquartered in London, United Kingdom, is a pioneer and world leader in the fields of engineering, plant building, and the provision of lifecycle services for the metals industry. The company offers a complete technology, product, and services portfolio that includes integrated electrics and automation, digitalization, and environmental solutions. This covers every step of the iron and steel production chain—from the raw materials to the finished product—and includes the latest rolling solutions for the nonferrous metals sector. Primetals Technologies is a joint venture of Mitsubishi Heavy Industries and partners, with around 7,000 employees worldwide. To learn more about Primetals Technologies, visit the company website www.primetals.com.