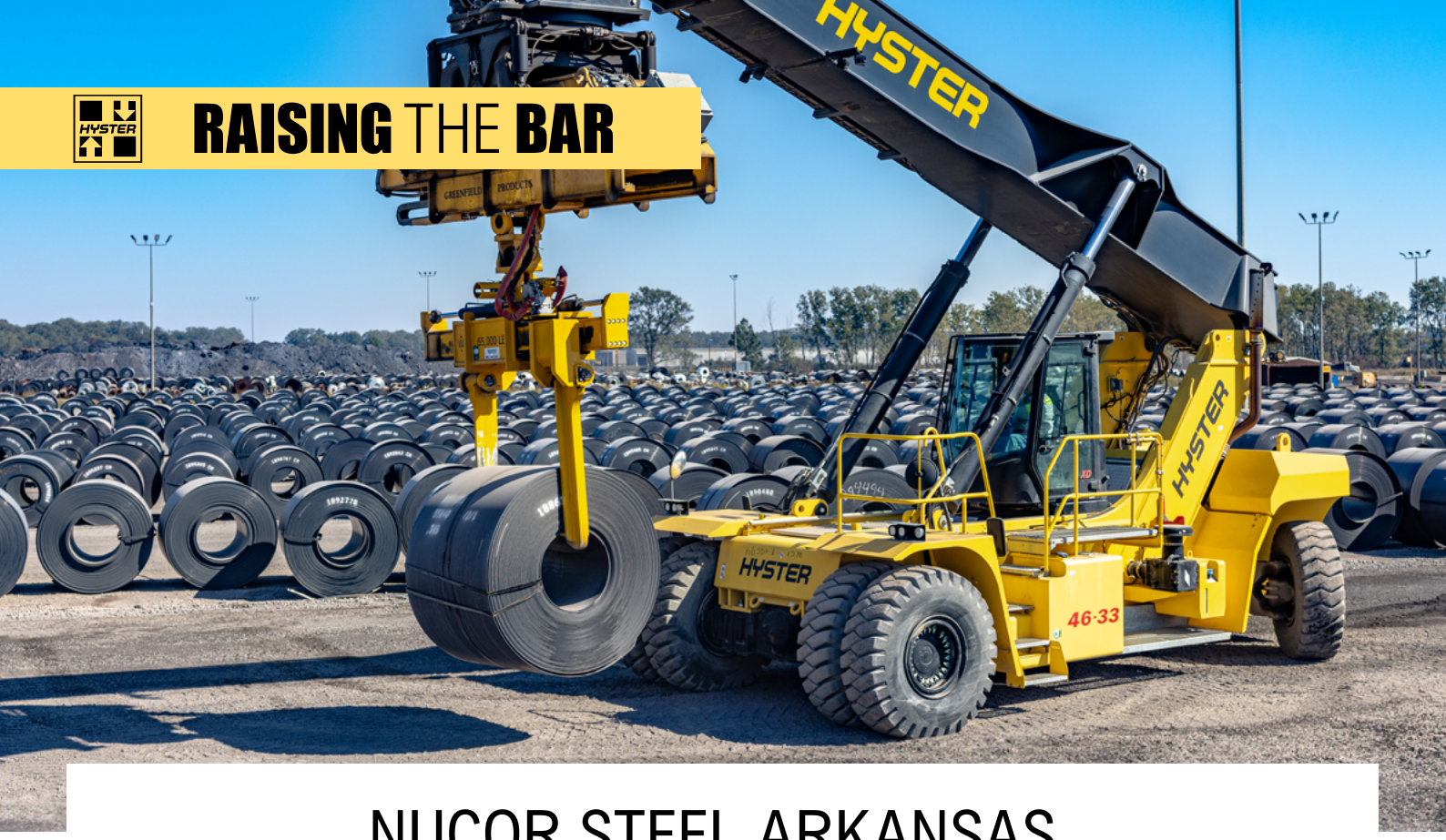

NUCOR STEEL ARKANSAS

// THE CHALLENGE

Nucor Steel Arkansas is located in one of the top steel-producing regions in America and manufactures steel coils for multiple industries. The operation, which includes hot and cold mills, relies on heavy-duty materials handling equipment to transport materials within the mill for processing or storage and to load finished product into customer-bound railcars.

Nucor Steel Arkansas had been using straddle cranes to load the large steel coils, which can weigh up to 64,000 pounds (around 29,000kg), into railcars. In addition to operators being outdoors and exposed to the elements as they worked, this process sometimes required millwrights to be positioned beneath a suspended load while manoeuvring it. Keeping the load centred over the rail tracks as they positioned it in the car was also a difficult and time-consuming process, because the operator's position limited visibility and depth perception. In 2022, Nucor Steel Arkansas decided to pursue an alternative solution, with the goal of improving the safety and efficiency of their coil handling operations.

CHALLENGE: Improve efficiency and safety of loading heavy steel coils into railcars

SOLUTION: Hyster® ReachStacker and specialised coil handling attachments enable side-loading rather than traditional top loading with gantry crane

RESULTS: Operation loads up to 10 times as many cars per day with fewer pieces of equipment and employees feel safer, no longer under a suspended load while manoeuvring

// THE SOLUTION

In search of an alternative to rail loading coils with a straddle crane, Nucor Steel Arkansas called on Hyster for support at their Hickman location. Hyster and the local dealer quickly got to work with site visits and discussions to understand the operational requirements and workflows. The team provided a ReachStacker fitted with quick connecting attachments, and recommendations to optimise the solution in its application.

"We asked our operators to use it and see how it compared to the straddle crane operation, and since they weren't positioned beneath loads, the team had a unanimous feeling of 'this is safer for us to use and keeps us out of harm's way."

BRYAN BELFORD
SHIPPING DAY SUPERVISOR, NUCOR STEEL ARKANSAS

Until the last decade, ReachStackers had primarily been used for moving and stacking shipping containers, often at ports. But more recently these high-capacity trucks have also been adapted to work effectively in steel handling applications. The Hyster RS46 emerged as the right truck for the job, allowing operators to reach and boom nearly 14 feet with a load up to 65,000 pounds (4 metres with a load up to 29,000 kilograms).

"Making a ReachStacker mill-ready isn't as simple as removing the container spreader and mounting an attachment though," said Domenic Niro, Big Trucks Industry Manager for Steel Applications, Hyster. "We worked closely with Nucor to understand the coil sizes, weights, dimensions, loading processes and spacing, and consulted with technical experts in our special products engineering department to recommend the right specifications for the job".

The team also collaborated with Greenfield Products to equip the truck with the two custom attachments – a coil hook and a coil grab – to address the primary application of side loading rail cars and provide flexibility to load railcars in other workflows and even help with truck loading when needed. Equipped with an armored glass top window, curved front and rear windows and steel doors with tempered glass, the operator cab on the ReachStacker provides excellent all-around visibility.

"With the straddle crane, you're having to bend over a lot. With the ReachStacker, you're looking dead on as you're loading, so you're not really having to strain your neck. With this high-performance equipment behind me, it made the job so much easier. Sometimes it would take a whole day to load with the straddle crane, but with the ReachStacker, you can knock out a string of eight to 10 cars."

JERRY GARRIS
OPERATOR, NUCOR STEEL ARKANSAS

The greater visibility, sense of stability and better control over the load enhanced the efficiency of the operation, but the productivity improvements didn't stop there. A single ReachStacker and operator can effectively perform tasks that once required at least two machines and multiple operators and safety spotters. Whereas the previous workflow involved multiple pieces of equipment and operators because the straddle crane relied on a lift truck to get the coil from the yard, operators no longer have to wait on another piece of equipment or another operator. They can grab the coil and load it all with the ReachStacker.

// THE RESULTS

The ReachStacker has allowed the Hickman mill to load much faster than before, up to 10 times as many cars per day.

"It's more efficient, but the more important thing for us is the safety," said Belford. "Safety is our number one value, and we don't label it a priority because priorities can change – values don't. And so when we went through the decision process, that was at the forefront – is this going to be safe for our operation? Is it going to be better than what we have? And the whole team felt like this would be a safer operation and we felt more comfortable using the equipment."

Training lift truck operators on the ReachStacker was a much easier transition than onboarding new users to the straddle crane, because the controls and processes for the ReachStacker share more similarities with the operation of a lift truck. In addition to training, the local authorised Hyster® dealer, Black Equipment, is committed to delivering ongoing support, with parts availability and a fleet of service vehicles and technicians available to provide on-site service 24/7.

"At Black Equipment, we strive to give our customers peace of mind," said Scott Bonnell, CEO, Black Equipment. "Whether that means escalating something up to me directly or leveraging the best-in-class engineering support and ongoing training from Hyster, we have the resources and are committed to doing what it takes to not only deliver the right solution every time, but to keep it running."

"Hyster has been with us from the concept all the way through the use of the equipment, and we've been able to get answers and solutions as questions came up," said Belford. "It's been very important for us because we know that we can rely on them if we do have equipment issues - it's good knowing that you have someone in your corner."

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