

Freestanding Hoist Increases Safety and Productivity at Major Refinery

Results in annual savings over \$250k

› At most refineries, scaffolding is a constant part of the landscape. Whether it's daily maintenance work like inspections; incidental repairs like replacing a flare tip or swapping out a valve; or a large-scale turnaround project involving the shut-down of an entire production unit; scaffold is always in use to reach curves, corners, nooks and crannies within the miles of twisting pipe, towers, tanks, and equipment found at most plants.

At one refinery, located in Illinois and producing more than 300,000 barrels of

petroleum products per day, thousands of scaffolds are in use at any given time. This amounts to 2,800 tons of movable access equipment spread across hundreds of acres and requires a team of BrandSafway employees – at times more than 300 strong – to handle the necessary coordination, engineering, erection and dismantle of all that scaffold.

With a relentless focus on safety, BrandSafway has maintained a full-time presence at the refinery and has an excellent track record, spanning many years. And due to the company's focus on continuous ›



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"With the freestanding hoist, the job of elevating scaffolding segments went from a task requiring as many as 10 people to a two-person job."

Improvement, the BrandSafway scaffolding program recently got even safer and faster, thanks to an innovative new tool.

Ropes, pulleys and cranes

In a large refinery, the tons of scaffolding used every day are typically hoisted to the areas

"This hoist is an example of how we're constantly focused on enhancing performance and increasing productivity," explained Wooley. "It improves efficiency, it fits within the often cramped environment of the refinery, and it keeps our crews safer. The plant management loves it, because we can be more responsive than ever



"The key is a basket at the end of the telescoping boom, able to lift 550 pounds of scaffolding up to 78 feet." ^

where they're assembled – often as high as 100 feet – by hand, using ropes and pulleys. It's slow, and it takes a lot of people.

The alternative – until now – has been to use cranes. However, cranes, in addition to costing as much as \$2,500 a day, are not very nimble. And cranes can't reach some areas in the tangle of equipment that is a modern refinery.

"Today at the refinery, all that's changing," said Richard Wooley, BrandSafway's site manager at the plant.

The key is a new freestanding hoist – a basket at the end of the telescoping boom, able to lift 550 pounds of scaffolding up to 78 feet in the air at 150 feet per minute. The unit is easily repositioned within the plant, and it costs a small fraction of what a crane costs.

when they need access to a particular area, even if it's a high area and requires tons of scaffolding to be built up. The freestanding hoist will make quick work of it," he said.

"With the hoist, the job of elevating scaffolding segments went from a task requiring as many as 10 people to a two-person job," added Wooley, "and this makes labor power available for the actual assembly of the scaffold."

"When you think of safety improvement related to erecting scaffolding, preventing falls may be the first thing that comes to mind. But there are other, less dramatic potential injuries that can occur that the new hoist helps prevent," says Pamela Brangenberg, BrandSafway's safety supervisor at the plant and one of three full-time BrandSafway safety professionals at the refinery.

"The single hoist that BrandSafway employed initially saved 10 to 15 labor hours per day, which translates to an annual cost savings of \$260,000."

“These include muscle strain and sprains, pinched point injuries, and caught-in-between injuries – all injuries that can be avoided now by utilizing the freestanding hoist,” she explained.

“Using the material hoist reduces the at-risk time for our team members by approximately 18 to 24 worker hours a day,” she said, adding, “Safety is the goal – but improved efficiency and increased productivity are the bonuses.”

AFPM Merit Safety Award

In fact, the group at this plant was among 10 BrandSafway crews receiving a Merit Safety Award from the American Fuel and Petrochemical Manufacturers (AFPM) association, based on their outstanding record of safety. This crew has 373,088 work hours with one incident, for an OSHA total recordable incident rate of 0.5.

Wooley noted that, at the plant’s request, BrandSafway ordered two additional freestanding hoists to multiply its benefits, including one that can reach heights of 118 feet.

BrandSafway primarily uses the gas engine on the hoist to power it, although the hoist will also run on its integrated 220v AC motor when conditions make electric power more feasible.

The German-built hoist can be moved around the plant with a half-ton truck, and its position can easily be fine-tuned by hand by two people. So unlike a crane, it can be quickly repositioned several times throughout the work day.

Annual savings of \$260,000

The single hoist that BrandSafway employed initially saved 10 to 15 labor hours per day, which translates to an annual cost savings of \$260,000. It’s already been used on hundreds of scaffolds throughout the plant.

In one case, it was used to help construct a scaffold needed to service a very high piece of equipment. With the freestanding hoist able to move the scaffolding segments up to a height of 70 feet, expensive crane time was only needed for erection above that point, saving money and shortening the build by two days.

Managers of various project around the sprawling plant have heaped praise on BrandSafway’s efficiency, good attitude, and successful focus on safety. >



Project Summary

Start date: **2017**

Location: **Illinois**

Scope of work: **Ongoing routine maintenance and repair**

Product/Services: **Freestanding hoist and scaffolding**

Safety record: **Incident free**

› The construction coordinator for a plant subcontractor, whose workers depend on BrandSafway's scaffolding, said BrandSafway's approach makes a noticeable difference in the way his team works.

"The amount of time to erect and tear down scaffolding for the internal heater (a major project at the plant) surpassed aggressive schedules," he said, adding, "The BrandSafway foremen were on top of everything, and the men working in the crews all had positive attitudes."

He also noted the BrandSafway team took time to understand all the crafts' needs for various aspects of the job and planned accordingly, so scaffolding would need no, or very few, modifications as different trades cycled through, keeping the job on budget.

"I'd give BrandSafway a 100 percent grade on safety, quality, schedule and cost. In a nutshell, a great job," he said.

Wooley added, "When we think about how to do something better, we don't just mean faster or at less cost. It's about taking care of the customer in all respects. More efficient methods often mean safer methods as well. This is key to our approach and what we aim to bring to every job."



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