

New pipe-handling equipment serves upstream, midstream operators

A new pipe-handling system, initially designed for upstream drillers, finds a home with midstream constructors seeking a hands-off method for picking up, moving and placing pipe.

Jeannie Stell, Editor, *PipeLine and Gas Technology*

The owner and inventor of the Deckhand Pipe Handling System, Jason LaValley, spent many years as a jobsite foreman and laborer personally loading and unloading drill pipe. As a deckhand, he became all too familiar with the hazards of moving drill pipe using slings and cables, and knew the process needed to be simpler, faster and safer.

"I had seen too many friends and

workers hurt while handling pipe—from broken legs and ankles to smashed and cut hands," says LaValley. "I needed to find a way to let the machine do the dangerous work and keep the bodies—including my own—out of harm's way.

"Once our Deckhand attachment was proven to be as useful and versatile as we thought it would be, we were approached by pipeline contractors to develop the same handling system for transportation pipelines, and the rest is making history."

In June, PipeLine Machinery International (PLM), Caterpillar's global pipeline-equipment dealer, teamed with LaValley Industries, designer of the Deckhand, to become an exclusive distributor for the pipe-handling system.

The senior vice president for PLM, Tony Fernandez, underscores the benefits the system brings to the midstream industry. "Precision movement of pipe, until now, necessitated putting the ground crew in close proximity to moving pipe in order to line it up, stabilize



During the winter of 2009, just outside of Bemidji, Minnesota, the Deckhand is tested in U.S. Pipeline Inc.'s pipe yard. An operator can pick up pipe at either end and maintain a horizontal orientation.

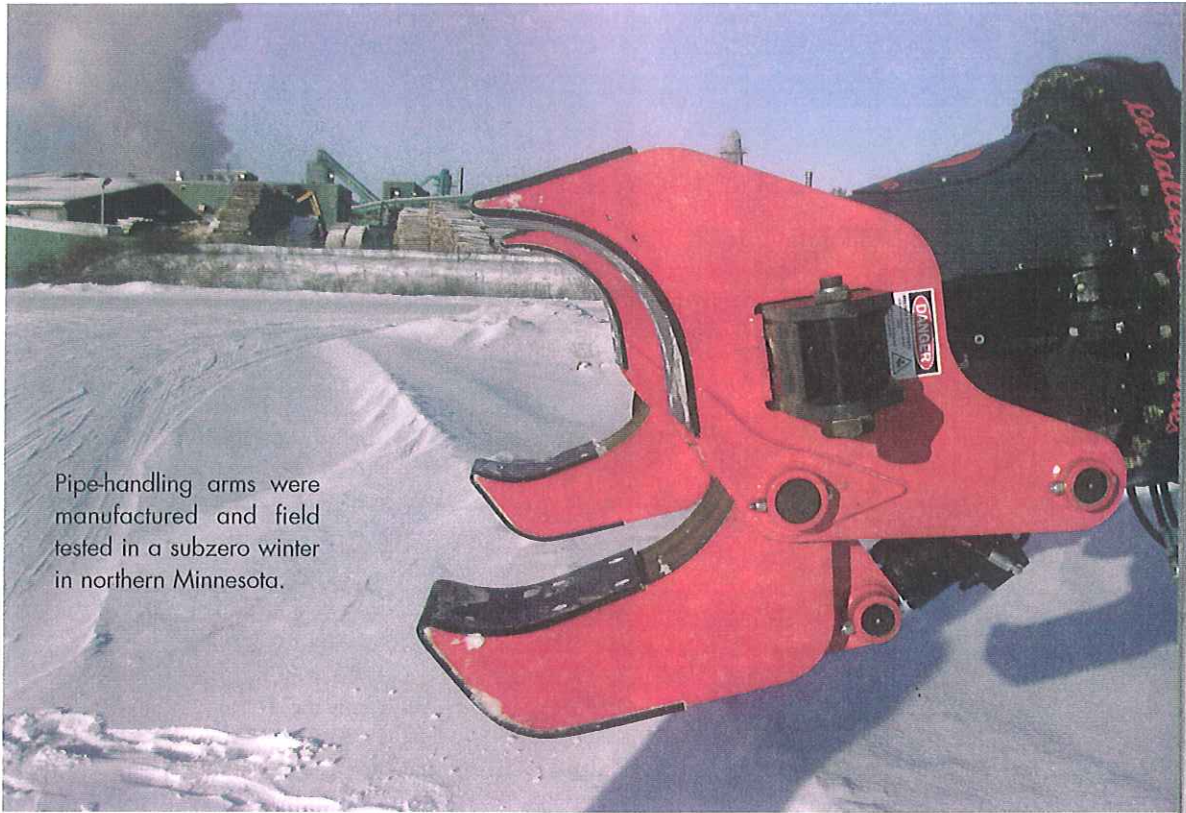
it, and sometimes to clear it of snow or mud debris. Not anymore.”

The pipe-handling system consists of the main head, which mounts to most excavators much like any other tool, through a quick-attach function. The excavator’s hydraulics and electrical systems are connected to the Deckhand using two quick couplers. An interchangeable grab arm can be used with directional drilling pipe, casing, multiple sizes of utility pipes and mainline pipe.

“LaValley developed the pipe-handling grab arms that can move pipe on and off a stock pile without dislodging the stock pile,” says Sherry Gettis, communications and marketing manager for PLM. “It’s safer because it can pick up with stability, even when the pipes are covered in dirt, snow or ice. The ground crew doesn’t have to climb on top of a pipe stack to clean them. Also, the claw section doesn’t have to be centered on the pipe. It can pick up quite close to the end of pipe and securely hold it horizontally.”

The directional-drilling arms securely grip pipe to maneuver it through various angles to stack it, or securely hold it for connection to other equipment or pipes. The Deckhand head has 360-degree controlled movement and side-to-side and tipping capability. An operator working with pipe stockpiles and stringing can use the tilt function to handle pipe in multiple working angles to allow for grade conditions. The shift function on the main beam allows the pipe to be moved 5.5 inches from side to side for precision stacking tasks.

“Traditionally, pipe handles had to grip pipe at its center to be stable and balanced,” explains Gettis. “Many times, in a pipe yard or in a tight rail car, a typ-



Pipe-handling arms were manufactured and field tested in a subzero winter in northern Minnesota.

ical machine can’t get to the center of a stock pile. This capability was tested in USPI’s pipe yard. LaValley went there to demonstrate both the pipe-handling arms and the utility arms.”

Also, specially designed pipe-protection pads on the pipeline and utility arms can be replaced as needed with predetermined and preset hydraulic pressure to prevent pipe damage. Gettis notes that, as strong as the pipe-handling system is, it is safe for pre-coated or insulated pipelines. “The Deckhand units have pressure-sensing controls in the cab of the excavator. The operator can set and monitor the pressure according to any particular pipe design, for any type of wall thickness or coating. That ensures that the integrity of the pipe is retained throughout the lifting process.”

The Deckhand system has been kept busy this year. This past summer, several units were deployed to a river-rock drilling project in the Marcellus shale area in Pennsylvania and to another project tasked with drilling under the Missouri River. Curt Curtis, a pipe-handling technician for Central Trenching Inc. of Minot, North Dakota, oversaw the second job firsthand.

“We had to add a tail string on the project. We had a Deckhand in Nebraska on one side of the river and another one in South Dakota on the other side of the river,” says Curtis. “This system is the

best new product for rig safety I’ve seen in a long time. It freed two men from the drill deck to get on other work. It is a lot safer than traditional systems using callipers, straps or cables.” Curtis says the Deckhands pipe-handling system “easily cut two and a half weeks off our total project timeline.”

In addition to managing distribution for LaValley’s Deckhand, PLM is a heavy-equipment dealer and distributor for Caterpillar Inc.

“This is a new kind of dealership just for pipelines,” says Gettis. “The geographic dealership model doesn’t work well for pipeline construction. Major pipelines can cross several geographic regions and most projects demand a fast turnaround with a short lead time, and have significant heavy-equipment requirements. Pipeline projects need multiple excavators, tractors and pipe-layers for assembly-line style of construction.

“A local dealer doesn’t usually have that much equipment in inventory in anticipation for a possible contract. That is too much risk. At PLM, we know when the projects are coming, so we can supply the equipment, whether it is for a contractor from the Midwest U.S. or Midwest Australia. We can source the equipment from multiple locations. It doesn’t matter what geographical district they are in, we can supply equipment for that pipeline project.” ■