T.C. Gotcher, left, and Eric Tague position the pipe clamp.

Expert Touch

PG&E GC crews put in long hours to assure integrity of gas transmission system

Photos and Story by Eric Wolfe

The air is chilly. It's still pitch dark. More than a dozen PG&E General Construction gas employees are assembling for work at Irvington Station in Fremont, CA.

The work they do today on PG&E's gas transmission system won't generate big headlines or congressional hearings or national safety investigations. They will hardly be noticed at all. But as PG&E seeks to move beyond San Bruno and restore the public's trust in its gas delivery system, no one has a more important role to play than these members of IBEW Local 1245.

To substantiate that PG&E's gas transmission system is safe, about a thousand miles of pipe will be tested with high-pressure water, section by small section. Mobile PG&E GC crews are constantly on-the-go to restore the pipes to service after they've been tested.

"We're kind of a 'Johnny-on-the-spot.' When it's ready, we go," says Jake Trogdon, a burly soft-spoken GC welder who, at 30, is serving as foreman on this job.

"We've been traveling from the Bay Area south to the Arizona border and everywhere in between," he says. "We've got guys on the job today who were tying in lines day before yesterday in Bakersfield. It's a very aggressive schedule."

It's a painstaking process. First, the line is taken out of service, rendering it safe for the GC crews to work on. Crews isolate the sections and do any necessary work on lines that are still tied to an energy source.

Then the job is handed over to contractor ARB to run the actual high-pressure water test, which verifies that the pipe can hold a certain amount of pressure for a specified amount of time. ARB then removes the water from the line and blows in super-dry air to eliminate any remaining moisture.

Gas is cleared out of adjacent sections of pipe and the GC crews get busy on both ends of the section of pipe that was tested. One crew is at Irvington Station, the other a few miles away near the intersection of McCarthy and Dixon Landing Roads.

"We'll cut off our caps and prep our ends up and get our ends looking back into each other," says Trogdon, who is leading the crew at the McCarthy end of the job.

Wearing protective face gear and heavy leather gloves, these Local 1245 members work amidst a shower of orange sparks as they bevel the ends of the pipe with a grinder, readying it to be welded.

They are dealing with a gap of about 12 feet in the pipe. The section of pipe they drop into this gap must line up almost perfectly with the two sections of pipe already in the ground, with just the right amount of room for the welds at either end.

Lowering the pipe into the vault is a tricky business. For one thing, there's little room to maneuver. For another, the pipe's heavy as sin. Trust me on this, you don't want to get caught between the pipe and the side of the vault.

Even with ventilation the vault gets smoky when they start the actual welding. The first pass of the weld—root bead—fuses the inside of the pipe. Then it is ground down to clean the joint in preparation for subsequent passes of weld material.

Next, the welds are x-rayed, followed by a soap test with 100 pounds-per-square-inch (PSI) of gas in the line. If no leaks are detected, the line is restored to full pressure (which can vary from 350 to 400 PSI depending on the particular line) and tested again.

Hundred Hours a Week

This is precision work. The sort of work these men have been trained to perform to perfection day after day.

Trogdon says PG&E will test about 150 miles of pipe this year, and then about 200 miles a year for the next four years. The company will be demanding a lot from its crews to keep this work on schedule.

"We've worked over a hundred hours a week in some weeks. It's pretty standard right now to have a 75 to 80-hour week," says Trogdon.

Traveling long distances, working long hours, welding at hot temperatures, climbing in and out of deep holes, maneuvering massively heavy pipe in close quarters: this is not work for the meek or the careless. Any lapse in attention can have serious consequences.

"The safety of our crew and the public is our number one concern. It's a part of the work—it's not a process that you do in the work, it *is* the work," says Trogdon.

The intense schedule says something about the urgency of the task. But it also suggests that PG&E has run short on welders.

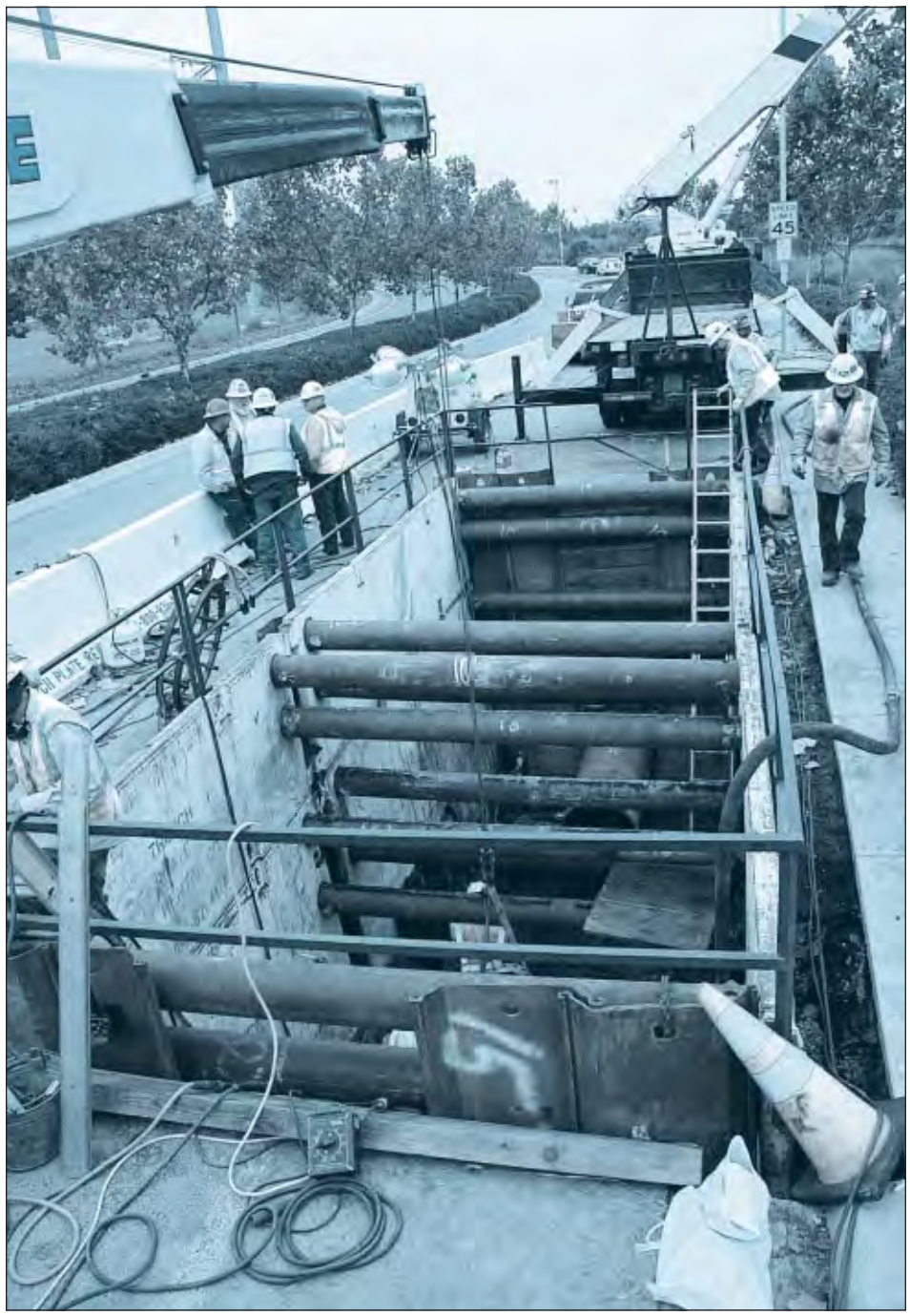
"We're down to 34 or 35 journeyman welders in GC," says Trogdon, who believes that number was around 200 a few decades ago. "We've lost tons of experience and knowledge with guys just moving on and moving into different departments."

The company is trying to do something about the shortage, he believes.

"They're trying to hire. They really are making a valid effort to bring these numbers back up."

In the meantime, the current GC crews will continue to travel around the state, bringing an expert touch to creating solid welds that will endure through the decades on lines whose integrity has been rigorously tested.

San Bruno will remain in the headlines for months, perhaps years to come. But the real news can be found in the trenches where Local 1245 members are quietly performing the hands-on work that will keep the public safe as PG&E delivers the gas that all of us need.



The job site at McCarthy and Dixon Landing Road in Fremont.

A temporary pipe used in the high-pressure water test rises out of the vault. The horizontal portion of the pipe will have to be replaced before the line can be put back in service.

The pipe that will be lowered into the vault must be just the right length.

Sparks fly as the pipe is beveled.

Prepping the pipe ends to weld.

The pipe is carefully maneuvered into the narrow space through which it will be lowered into the vault.

Making sure the ends of the pipe are aligned.

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Expert Touch

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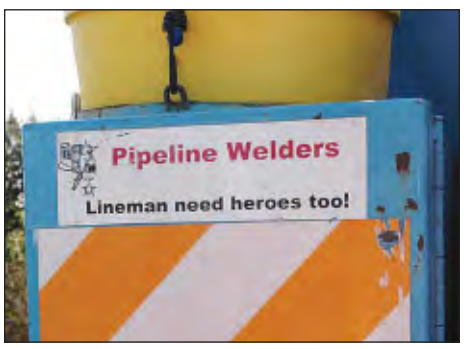
Expert touch, precision fit.

Making the weld on the inside of the pipe.

Smoothing out the inside weld in preparation for the outside weld.



Welder pride.

Standing guard overnight is Canus worker Gary Hughes, a Local 1245 member and former business representative for the union.

Ready to work at the McCarthy and Dixon Landing Road end of the job are, from left: T. C. Gotcher, Welder; Mitchell Bowles, Miscellaneous Equipment Operator; Michael Hernandez, Apprentice Welder; Cesar Cobos, Welder; Eric Tague, Apprentice Welder; Oscar Martinez, Gas Control Tech; Jake Trogdon, Foreman.