

Foley Mechanical's radiant system — the undisputed winner

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Polar Vortex — vs. — Foley Mechanical

WASHINGTON — The homeowners admit they had no premonition of things to come. But there was no doubt that their Northern Virginia home needed a new heating system.



Last year's fall season gave no

warning of a climactic condition that would quickly turn a climatologist's term — polar vortex — into an all-too familiar expression spoken with clenched, chattering teeth across America.

The lucky few, like this homeowner and his family, were those who made the fortuitous decision to improve heating systems (or to top off fuel tanks and buy new snow shovels) before the dreaded polar vortex of 2013 made a nuisance of itself across vast stretches of the Northern and Midwest U.S.

Heavy ice brought down trees that slammed into power lines, which quickly overwhelmed utility crews. Many homes lost power for several weeks in the dead of winter — one of the worst winters in recorded history.

“I guess you could say it worked out for us amazingly well, better than we could have anticipated,” said the homeowner. “When the vortex set in, we were far more comfortable inside than we were during any previous winter, even the mild ones.”

Heating system overhaul

Their decision to undergo a total heating system overhaul in the summer of 2013 — work that was completed by Brian Golden, installation manager for Lorton, VA-based [Foley Mechanical Inc.](#) — was a decision that kept them cozy-warm last winter while walls of snow and ice stacked up outside.



“We were tired of

extremely uncomfortable heating seasons and had no idea what nice, even heat throughout the home felt like,” recalled the homeowner. “We were so fortunate to have commissioned the work when we did. But that barely expresses how we felt in the midst of the several winter storms that affected our area. It was awful outside. Inside, we were completely comfortable.”

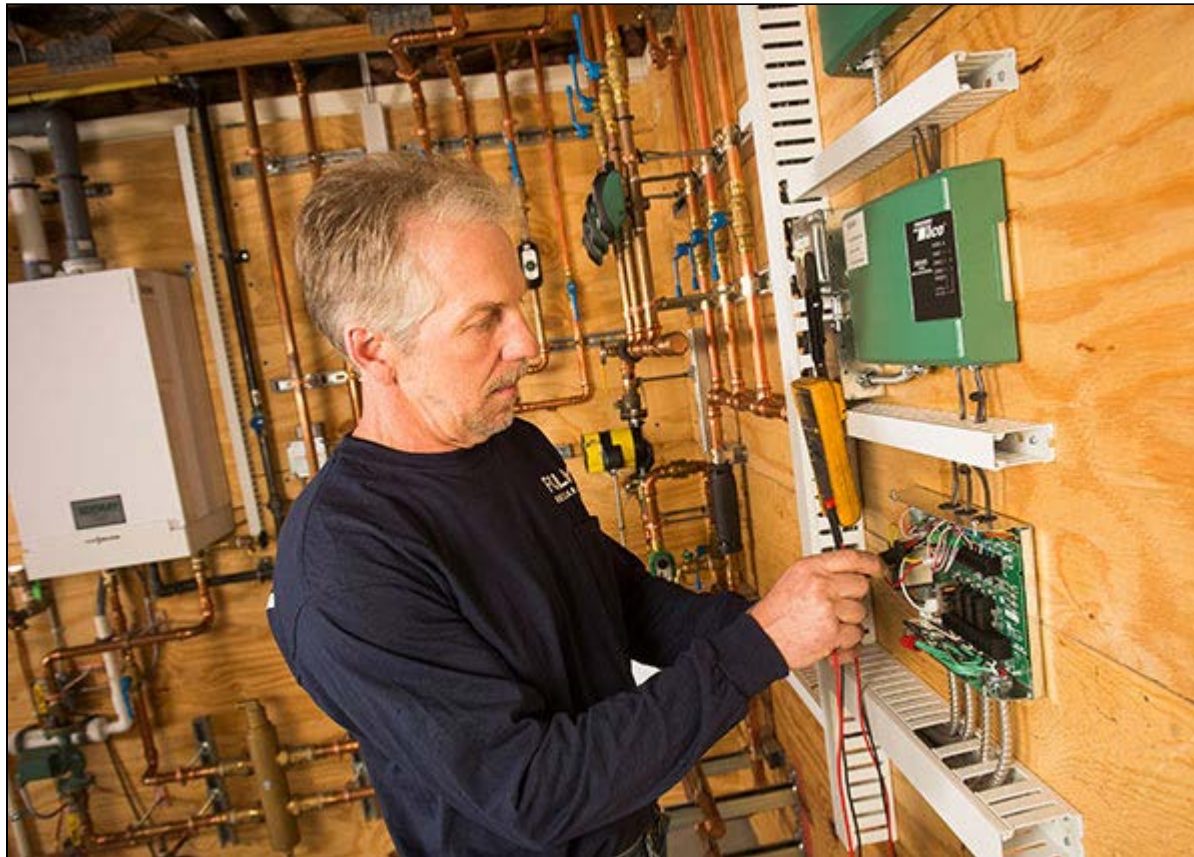
The family lives in a 4,500-sq.ft., four bedroom vintage contemporary home in a beautiful subdivision a few miles from the center of Washington, D.C.

Fortunately, their “scorched air” gas furnace proved to them the year before that it was unable to keep up with the home’s heating needs. Also, the 50-gal. tank style water heater failed to provide the family sufficient domestic hot water. After almost 18 years in the home, they decided enough was enough. They asked neighbors and others for referrals. Foley Mechanical was the undisputed winner.

“We wanted a system where we could live comfortably inside with T-shirts and bare feet while snow fell outside,” said the homeowner. That simple explanation was just about enough for owner Dan Foley, and Brian Golden, to go on. Of course, the foundation for the their comfort solution was a thorough heat

load calculation, one that revealed the need for a total of 125,000 BTUs.

“Starting in June, the first phase of work was the removal of the old drop tile ceiling and paneling in the basement to prep for the piping of the large panel radiators chosen to heat the basement,” explained Golden.



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Viessmann Vitodens condensing gas boiler was piped in, sending priority heat to an 80-gal. stainless steel indirect water heater, which provides for all of the domestic hot water needs.

According to Golden, the eight downstream heating zones receive warmth from the boiler that is sent to the first floor’s in-floor radiant heat and to the nine panel radiators and three towel warmers heating the basement and second story of the home.

The Radson panel radiators and the Runtal towel warmers feature thermostatic radiator valves for individual room control.

While the existing conventional forced air gas furnace couldn’t keep up with all of the previous winters’ heating demands, it was still in perfect working order to operate the existing air conditioning system’s A-coil, so they left it in place.

The Foley Mechanical crew then installed drywall behind the radiators, so that when the homeowners would decide to completely finish the basement, they wouldn’t have to deal with installing drywall behind the existing radiators.

While the basement work was underway, the first floor carpet was being ripped out. In its place went an

above-subfloor radiant track with 2,500+ lineal feet of 5/16-in. radiant PEX tubing, covered by either tile or hardwood flooring.

On the second floor, the homeowner opted for panel rads and towel warmers as heat sources. One-half inch PEX tubing is used to feed the towel warmers, while the radiators are fed by 1/2-in. PEX al PEX. The manifolds that serve them are supplied by 3/4-in. PEX al PEX.

Taco switching relays and zone valve controls manage all of the home's zones. Taco i-valve mixing valves are used to maintain desired temperatures for the radiant heat system. A Taco low water cut-off monitors boiler fluid levels.

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"A 007 circ is used for the boiler, while a second 007 pumps to the indirect water heater," explained Golden. "A Bumble Bee Delta-T ECM circulator takes care of all radiant demands, and another — the panel radiators and towel warmers." Each panel radiator has a thermostatic radiator valve.

"We prefer Taco hydronic components," said Golden. "Our recipe for hydronic systems varies somewhat, but rarely when it comes to the components; we use what we know will work reliably."

Customer care, a top priority

Taking care of the customers, and exceeding their expectations, has always been Foley's top priority.

"We make sure the systems we design and install perform exceptionally well and that — when the work is complete — the homes are cleaner than when we arrived," added Golden.





“During the entire work process, we were never inconvenienced,” said the homeowner. “We didn’t run out of hot water or stumble over a misplaced wrench. Not once did we feel we had strangers in our home. We never had to clean up after Foley’s crew; they left it cleaner than when they came, every single day.”

Ready for El Niño

Recently, the homeowner had their snow plow serviced. They even bought a new snow shovel and bag of rock salt for the driveway.

With those needs seen to — now that the heating season is ready for another run — they’re ready and taking on the 2015 winter, which is wreaking havoc along the Eastern seaboard.

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