



Countdown to Destruction

Ballistic Missile Sites Launched During Cold War Now Targeted for Demolition

Fifty years ago a young engineer at Burns & McDonnell helped pinpoint locations for Minuteman missile silos in the American Heartland, an array designed to project military strength, U.S. power and national resolve.

Now a handful of the firm's professionals are finishing up another set of plans — this time to wipe dozens of remaining missile sites off the map.

"It's basically making sure that everything on the surface, and everything down to a certain depth, is destroyed and no longer accessible," says Jennifer Ross, who is working on the team

designing demolition of 113 sites in Montana, Wyoming and California.

The team is working under contractual orders from the U.S. Army Corps of Engineers, the agency charged with seeing that designated concrete silos and associated missile-alert facilities are more than deactivated. They must be destroyed.

Such finality is dictated by START II, a treaty mandating reductions and modifications for many of the strategic offensive arms stockpiled during the past 60 years by the United States and the Soviet Union, now the Russian Federation. As noted two years ago by Secretary of State Hillary Clinton while

the treaty's instruments of ratification were exchanged in Germany: "When it comes to the button that has worried us the most over the years — the one that would unleash nuclear destruction — today we take another step to ensure it will never be pushed."

113...112...111...

That definitive step includes a final stomp on sites included in the Burns & McDonnell demolition contract: 103 launch facilities in Montana, Wyoming and California, plus another 10 missile alert facilities that tied them together. The facilities already have been rendered harmless, with their missiles long since disassembled, their nuclear warheads removed and their vital components



Jennifer Ross looks over surface access to an underground launcher equipment building (LEB) near F.E. Warren Air Force Base in Wyoming. Filling the cavity of a single LEB will require 346 tons of sand, rock or other aggregate.



Perry Ryan, project manager, peers into a launch silo near Vandenberg Air Force Base in California. Plans call for all 103 launch tubes in the contract to absorb a combined total of 58,892 tons of fill — material weighing as much as a fleet of nearly 20,000 bulldozers.



At missile facilities — including this one in Montana — to be filled and then covered with concrete, below-ground inspections will be history. “The cap is going to be there forever,” Jennifer Ross says.

disconnected. Even the sites’ walls and blast doors have been sealed with tales of inactivity, scribbles left behind by crews who marked their final stints on active duty.

“It’s a lot of history,” Ross says.

The contract also offers a bit of history that hits home for the Burns & McDonnell team. Back in the early ’60s, none other than Dave Ruf Jr. — who would become the firm’s chairman and CEO three decades later — worked to identify sites for missiles and their associated equipment and crews.

That Cold War-era contract, with the Ballistic Systems Division of Air Force Systems Command, followed the Soviet Union’s launch of Sputnik and picked up speed as East Germans built the Berlin Wall and the Soviets prepared to arm nuclear missiles 90 miles off the coast of Florida, igniting the Cuban Missile Crisis.

“We worked from sunup to sundown, until the government told us we were done,” Ruf would recall.

The sites were placed in relatively remote areas and built to withstand anything an enemy could both deliver and detonate. That meant extending each missile tube as far as 90 feet below ground, encasing the cylinder in concrete and capping it with a 110-ton reinforced-concrete door — measuring 12 feet long, 12 feet wide and 3.5 feet thick — that could be displaced only by specialty charges blasted from inside.

Mission: Indestructible

Now, of course, Burns & McDonnell engineers are the ones figuring out just how to destroy all these out-of-the-way encampments originally designed to be indestructible.

“They’re made with a top-secret concrete mix,” says Perry Ryan, leading demolition design as a project manager from the Burns & McDonnell Minneapolis office.

“They’re supposed to be able to take a direct missile strike.”

Ryan’s team has been busy documenting each missile site, producing schematics and other data to help qualifying contractors submit demolition bids. Original plans to use dynamite were set aside, as corps officials preferred to outline an option considered less expensive but equally effective: good, old-fashioned fill.

Such rubble, sand, gravel or soil will be poured into silos, down elevator shafts, through personnel access hatches and throughout earthen cavities that once accommodated missiles that could hit 15,000 mph to deliver unthinkable destruction on targets more than 6,000 miles away.

Soon, a small force of cranes, dump trucks and excavators will eliminate them entirely.

“After this happens, for sure, nobody else will ever go back down there,” Ross says. “You just grade it and walk away. It’ll be like there’s nothing there.”

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