

PIT 9: From "Black Eye" to Part of DOE Cleanup Success

There was a time back in the late 1990s and early 2000s when the words "Pit 9" were synonymous with failure. Failure on the part of a large company to execute its contract to clean up Pit 9. Failure on the part of the Federal government to meet the deadlines to clean up nuclear waste. And failure of a new approach to government contracting – "privatization" – that was supposed to make contractors more results-oriented and accountable.

Now, as we head toward the end of 2010, you'll probably be hearing about Pit 9 again, but in a much different context. Sometime near the end of this year, CWI, our cleanup contractor, will begin digging up buried radioactive and hazardous waste from Pit 9. This will be the beginning of the end of the Pit 9 saga, and offers a good time to reflect on what went wrong with the contracting approach that made "Pit 9" code words for failure; it's also a good time to put Pit 9 into the context of all the things that have gone right with cleanup at DOE's Idaho Site since.



The original Pit 9 project included a retrieval building constructed on rails. It was designed to roll over the pit and remotely excavate buried waste. The retrieval facility was never used, and the contractor was ordered by the courts to pay for its removal.

It all started back in the mid-1990s, when the Department of Energy was beginning the robust task of cleaning up what was then the Idaho National Engineering Laboratory (INEL), which had been placed on EPA's National Priority List in 1989 for environmental remediation. The federal government was facing huge bills and big technical challenges in cleaning up Department of Energy sites like the INEL, which had become contaminated with radioactive and hazardous materials during the Cold War nuclear weapons build-up from the 1950s through the 1980s. At the INEL, for example, tons of radioactive and hazardous waste, generated during nuclear bomb-making at the Rocky Flats Plant in Colorado, had been disposed in unlined pits and trenches from 1954 to 1970. The waste was disposed of above the Snake River Plain Aquifer, a primary drinking and irrigation water source for much of southern Idaho.

The Department of Energy signed an agreement in 1991 with the Environmental Protection Agency and the state of Idaho, which included a commitment to remediate this buried waste. But no one was exactly sure how to go about the process, and the bill for such an undertaking was sure to be a significant one. Recognizing that the cleanup process was going to be extremely

costly around the DOE complex, private industry began to step forward with a plan. Instead of using the current management and operations contractors that were already on board to run DOE's national laboratories under "cost-plus-award fee contracts" to conduct this cleanup, some private companies had other ideas. Specifically, they suggested to DOE that several "off-the-shelf" cleanup technologies were already available, and that the Department could "privatize" the cleanup task by simply bidding out the work to companies that already possessed such technologies. Under this approach, private industry would agree to a fixed price for a specific cleanup activity, and some of the risk for completing the work would shift from the taxpayer to the private sector.

The idea, at least in theory, made sense, and DOE decided one of the first major "privatization" demonstrations would take place in Idaho. The agency carved out a one-acre area where radioactive and hazardous waste had been buried at the INEL from 1967 to 1969. Identified as "Pit 9," it contained waste that included radioactive contaminants like plutonium and americium, and volatile organic chemicals like carbon tetrachloride. The Department's M&O contractor at the INEL at that time, EG&G Idaho, then put out a request for proposals to clean up Pit 9 under a fixed price, pay-for-performance subcontract. Three companies submitted proposals; two were selected for technical demonstrations of their technologies, and ultimately Lockheed Environmental Systems and Technology (LESAT) was selected to clean up the waste. A fixed-price contract (\$179 million) with a corporate guarantee of performance was negotiated, and LESAT began work designing an impressive waste retrieval, characterization, treatment and transportation system.

Unfortunately, for a wide range of reasons, LESAT and its successor company, Lockheed Martin Advanced Environmental Systems (LMAES), never got to the point of operating the system, even though it began construction on both the waste retrieval and treatment facilities. DOE made "progress payments" to LMAES as it met pre-designated milestones in the project, but the "Pit 9" project continued to fall farther and farther behind schedule, and the state of Idaho and EPA began assessing fines against DOE for the failure of the project to meet regulatory commitments.

LMAES began to submit claims for more money for the project, claiming DOE presented inadequate information about the contents of the pit, and claiming that DOE and its new M&O contractor, Lockheed Martin Idaho Technologies Co., were inappropriately interfering with the design and construction of the 37,500-square-foot, skid-mounted retrieval facility and the 84,600-square foot treatment facility, and the systems that went in those facilities. DOE and LMITCO denied the claims, which would have more than doubled the original contract price.

Ultimately, LMITCO terminated the Pit 9 contract with its sister company, LMAES, for non-performance, and began litigation against Lockheed to enforce its "corporate guarantee" of performance. Ultimately, a federal judge ruled in the favor of LMITCO and the federal government, ordering Lockheed corporate to repay the progress payments it received, to cover the cost of tearing down and removing the never-completed retrieval and treatment facilities, and to pay attorneys fees and court costs.

A lot of agencies scrutinized the Pit 9 project to try to determine what contributed to the project's failure. The Government Accountability Office, for one, concluded that fixed price contracting and full private financing, the two main underpinnings to "privatization," do not necessarily work effectively for all cleanup projects – especially complicated, "first of a kind," or technically challenging projects. Rather, a complex matrix of decision factors must be

analyzed before deciding how to contract for, and finance a specific cleanup project. These factors include how much is known about the characteristics of the waste, the number of contractors willing to compete, the financing options, and the risks posed by the project and the entity that is best prepared to assume them.



After the initial Pit 9 failure, meanwhile, The current approach to buried waste retrieval involves using specially-fitted backhoes inside temporary containment facilities to dig up the targeted waste

DOE and its cleanup contractors took a different approach to buried waste cleanup in Idaho. The Department initially went back to its prime contractor to demonstrate a much more simple approach to buried waste retrieval, using specially designed backhoes to dig up the waste and remote glovebox technology to sort and characterize it, all housed under temporary containment structures built over the waste pits and trenches. When that approach was proven safe and effective on a small scale at Pit 9 under the GEM (Glovebox Excavator Method) Project, it was expanded to larger-scale operations, initially by BBWI, and then eventually managed by CWI, who was hired specifically to run the major portion of the cleanup activities at DOE's Idaho Site. But when CWI competed for the Idaho Cleanup Project contract, they had a much better technical understanding of the work they were bidding for, and the risk they were assuming.

Certainly, the initial "Pit 9 approach" was a learning experience for just about everyone involved. It left the Department of Energy with a black eye and a loss of credibility, and it left Idahoans with the worry that cleanup of buried waste at what is now the Idaho National Laboratory Site might not be completed. The good news, however, is DOE and its contractors got past the stumbling blocks that led to the initial Pit 9 failure, and cleanup of buried waste at the Idaho Site is progressing nicely. Through the end of October of 2010, CWI has exhumed and packaged 4,313 cubic meters of targeted buried waste from Pits 4, 6 and 5. So far, 3,637 cubic meters of that waste has been characterized and shipped to licensed facilities off site for disposal. And come late this year the buried waste cleanup efforts will extend to the targeted waste remaining in Pit 9.

While the initial Pit 9 project failed, it laid the foundation for the much more successful approach CWI is using today. That, in turn, has resulted in the buried waste remediation effort keeping up with the regulatory commitments DOE has made to the state of Idaho and EPA. It has allowed CWI to remove the largest sources of radioactive and hazardous chemical contamination from above the aquifer – and to do so safely and efficiently. It has allowed the taxpayers to get their money's worth in cleanup, and it has allowed a responsible, effective contractor in CWI to earn a profit while delivering to the government what they promised.

So when you hear the term “Pit 9” again in the next month or so, it’s okay to remember the many problems it signified a decade ago – as long as you’re aware of the successful cleanup effort it’s about to become a part of today.

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