

Decommissioning Successes

*Progress Continues at the Nation's Commercial
and Government Decommissioning Sites*

A technical session on Decommissioning Successes at the 2002 American Nuclear Society (ANS) Annual Meeting (held June 9–13 in Hollywood, Fla.) looked at progress being made at decontamination and decommissioning (D&D) sites around the country. The session was organized by James Byrne, of GPU Nuclear; sponsored by the ANS Decommissioning, Decontamination, and Reutilization Division; and cosponsored by the ANS Operations and Power Division.

Trojan

Decommissioning workers at Portland General Electric's Trojan plant are finishing the final survey of the containment and preparing for the movement of fuel from the spent-fuel pool to the independent spent-fuel storage installation (ISFSI), stated Mike Lackey, general manager for decommissioning at the plant. To survey the dome, workers built scaffolding on top of the polar crane, some 150 feet in the air. The challenge, Lackey said, has been to do the survey safely.

The decommissioning work is scheduled to be finished in 2004, and the license termination is scheduled for 2005.

West Valley

Many of the challenges in the D&D of the old West Valley fuel reprocessing plant center around the fact that the previous operating contractor "just walked away" from the facility, leaving a shield door half open, leaving inoperable equipment behind, and, in general, leaving a mess for someone else to clean up, noted Ken Schneider, project manager of the Head End Cell Project at the West Valley Demonstration Project.

then had to establish physical access to failed or inoperable equipment, and finally had to replace or repair the equipment. Only then could actual cleanup activities begin.

The keys to success in what has been accomplished so far at the site, Schneider said, have been the early establishment and continuity of the project team and the involvement of field personnel in all aspects of the job. "Let them know what's coming," he recommended. In other words,

The keys to success in what has been accomplished so far at the West Valley site have been the early establishment and continuity of the project team and the involvement of field personnel in all aspects of the job.

For example, to clean up some of the remote operation cells, Schneider said, workers first had to replace or repair leaded glass windows so they could see what the cells contained,

"communicate, communicate, communicate."

One continuing obstacle to site cleanup that remains is that there "is no approved disposal facility" where

the site can send its waste, but, Schneider said, "we are hoping for access to WIPP [the Waste Isolation Pilot Plant in New Mexico]." In the future, the site also hopes to be able to package its waste so as to avoid additional sampling and analysis and future repackaging.

Mound

The Mound site is a 206-acre site on a hill overlooking the town of Miamisburg, Ohio, and is completely

inert concrete and use it as fill at the site.

San Onofre-1

At Southern California Edison's (SCE's) San Onofre-1 D&D Project, the work passed the three-year mark at the end of 2001, said Richard St. Onge, manager of the Decommissioning Project. The work is now about 29 percent complete, is slightly behind schedule, and is slightly under budget, he reported.

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surrounded by private property, noted Don Krause, a project manager for BWXT Services Inc., the cleanup contractor. The biggest concerns at the site are thorium, plutonium-238, and "lots of tritium," he said. And the greatest help in site cleanup has been new technologies brought to the site from other U.S. Department of Energy cleanup projects, Krause stated.

One of the largest problems at Mound is the amount of tritiated mixed-waste oil. There are some 100 000 curies of tritium in that oil, he said, and if you add a little mercury, it "becomes a big headache." Here, a new technology called the petrobond process worked to bind up the mercury and heavy metal in the contaminated oil; what remains can then be shipped to the Nevada Test Site for disposal, Krause said.

Technology has also helped solve the problem of cleaning up what Krause described as "miles of small-diameter double-sleeved stainless steel piping" contaminated with tritium. A crimper (found by the folks at the Princeton Plasma Physics Laboratory, Krause said) crimped the pipe closed at 3-ft intervals. The pipe was then cut in 15- to 20-ft segments and folded along the crimps, making final packaging easier.

And a concrete crusher purchased from the Hanford Site enabled cleanup workers to crush noncontam-

So far, the site has removed some 25 000 tons of material, 10 000 tons of it low-level waste. The reactor internals cutting project was done in 12 months, with a dose cost of 22.5 rem. Abrasive water jet cutting and a metal disintegration machine were used during the project. The resulting greater-than-Class-C waste filled 14 canisters, which will fit into one ISFSI canister.

Now the site is working on large-component removal and transport. Also scheduled for this year are the installation of upgrades to the access bridge, sphere lid cutting, installation and load testing of the trans-lift crane, and removal of the reactor pressure vessel (RPV), steam generators, pressurizer, RPV head, and sphere lid openings. At the end of the year, the trans-lift crane will be removed and transported.

Removal of the components is one thing; transport will be quite another, St. Onge said. Originally, SCE planned to ship the steam generators to the Envirocare of Utah site and the reactor vessel to Barnwell, S.C. The most viable route had the reactor vessel transport going from SCE to Houston by rail, from Houston to South Carolina by barge, and then by rail again to the Barnwell site. However, the transportation contractor, Bechtel, was unable to obtain either the railcar needed for the shipment or the rail contract. The contractor was

also unwilling to consider ocean transport. In addition, the railroads requested what St. Onge referred to as "unreasonable" insurance coverage (initially, \$9 billion, which was later reduced to \$560 million with no liability and no limit on claims).

The lessons learned from this experience, St. Onge said, include the following:

- The vendor was not proficient at transport contracting.
- The utility interests were not well represented during the negotiations.
- The railroad companies are apparently antinuclear (made unreasonable requests, refused to negotiate, and ignored Common Carrier duties, St. Onge said).

This does not bode well for fuel transport in the future, he surmised.

Now, as an alternative, SCE is looking into ocean transport from Camp Pendleton through the Panama Canal to the Savannah River. Even this route would involve some rail transport to the Fort Pendleton shipping site.

The Regulations

Larry Camper, branch chief in the Decommissioning Branch at the U.S. Nuclear Regulatory Commission, spoke on the changes in the regulations for decommissioning projects. We have made much progress, he said, going from an ad hoc procedure to a well-regulated infrastructure.

What are still missing, however, are regulations on partial site release (that is, release of a portion of a nuclear power plant site while the remainder of the site remains under license). There are many attractive sites out there, he said, and carving off 200 or 300 acres can be an attractive idea. Thus, he said, that is an area where the NRC staff is actively working.

Entombment is another area in which the staff is doing active work, following a directive from the commissioners. One reactor owner is expressing interest in the concept, he said, and the NRC is engaging in talk with the Nuclear Energy Institute, among others.

Other challenges include regulating restricted release of solid materials (an area where the NRC is "seeking guidance," Camper said) and "memorializing" what current decommissioning plants have learned for the benefit of future decommissioning projects.—*Nancy J. Zacha, Editor* ■