

What's New?

Much ink has been expended in industry newsletters and magazines about the new reactor designs that will make up the next generation of nuclear power plants. These designs represent years of research, experimentation, demonstration, until now they are ready for the final test: providing electricity for an energy-hungry world.

It's likely less well known, but in the world of nuclear waste management and decontamination and decommissioning, research, experimentation, and demonstration have also resulted in new technologies to make the jobs of waste managers and the D&D folks easier and safer. In this issue of *Radwaste Solutions*, we look at some of these innovations.

The plasma arc centrifugal treatment, or PACT, system is described in an article beginning on page 11. This system can process whole drums of organic or inorganic toxic and nuclear waste as well as loose waste. After a demonstration project in Switzerland, the system is now in use in Japan as well.

One of the trickiest jobs in the D&D pantheon is cleaning out the single-shell waste storage tanks at Hanford. Pumping out the toxic liquid soup was relatively easy, compared to the job of retrieving the remaining solids and sludges clinging to every interior surface of the tanks. Several new technologies are being tested at the tank farms, many of them, for some reason, named after animals. In this issue, in an article beginning on page 16, we look at a veritable zoo of new technologies. My personal favorite? The possum, without doubt. Gotta love the possum.

Microwaves are being enlisted in a liquid waste drying system from Ger-

many described in an article beginning on page 21. In addition to reheating your coffee, microwaves can provide a tenfold reduction in liquid waste processing time, as demonstrated during a pilot project in Germany.

New technology doesn't necessarily mean simply new hardware. New procedures can make tricky, or impossible, jobs possible. Just such a procedure is described in the article beginning on page 25, where engineers were faced with the challenge of checking welds on spent fuel overpacks in a situation where nondestructive examination was not feasible.

To round out this issue, we have another article by my favorite contributor, Dr. Michele Gerber, this time on an open-air demolition project at Hanford (see page 31). What was unusual about this job is that it took place not at a closed site where the only workers to worry about were the demolition staffers, but rather at a site with multiple nearby buildings routinely occupied by non-demolition workers. How to take down a contaminated building while protecting the adjacent structures was a challenge that Hanford workers met head on.

An upgrade in the control room that oversees liquid waste operations at the Savannah River Site is the subject of a short article beginning on page 40.

Finally, this issue features the annual Index to Articles in *Radwaste Solutions*, which lists all the articles published in the magazine since its beginning in 1994. The index makes it easy to track progress at cleanup sites around the country, and also to check the developments in nuclear waste management worldwide. The index is available online at the *Rad-*



New Technologies to Make Nuclear Waste Management and D&D Easier, Safer

waste Solutions Web site (www.ans.org/pubs/magazines/rs/). Look in the upper right section of the Web page.—Nancy J. Zacha, Editor