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Exclusive: Western New York's Nuclear Monster

Part 1: History

By Judy Einach



Tucked off "the 219" in the hamlet of West Valley, Town of Ashford, Cattaraugus County, 3300 acres of once pristine farmland is off-limits because it houses the most complex mix of nuclear and hazardous wastes in the US. Nuclear and hazardous wastes, taken separately, are dangerous enough, but combined as they are on this site, the danger increases exponentially.

Glaciers carved the land chosen to contain these wastes. By today's standards, if the US Department of Energy followed its own guidelines which it doesn't, nuclear and hazardous wastes would never be buried or housed here in such unstable land subject to erosion. Reason would dictate that these wastes be cleaned up and moved or stored above ground in containers that are monitored and retrievable, but almost nothing about cleaning up nuclear wastes appears reasonable.

The 200 plus acres that actually house the wastes are surrounded by creeks at the bottom of ever deepening and widening ravines. From year to year even an amateur observer sees the banks of the ravines falling, carrying trees with the soil toward the creek beds. Each incident of "slumping" opens the ravines closer to the buried wastes. These creeks feed the Cattaraugus River just upstream of Zoar Valley, one of WNY's most precious natural resources and a very impressive, deep, deep ravine created by the forces of erosion. The Cattaraugus flows into Lake Erie, emptying into the lake just south of the water intake facilities that supply Erie County and City of Buffalo residents with drinking water.

The Cattaraugus River ranks among the top 20 rivers in the US based on its environmental integrity.

Inevitably the land housing these nuclear and hazardous wastes will continue to erode, and if left as is, the wastes will, for certain, be released into the environment long before they degrade into forms less harmful. Canadian researchers have evidence of radioactive isotopes traceable to the West Valley nuclear site found in samples taken from the Niagara River and Lake Ontario. This release was not the result of erosion but of accidents in the 1970's when the nuclear site actively reprocessed nuclear wastes.

The Rockefeller administration, looking for economic development opportunity, positioned NY to jump on and into atomic energy. He authorized a deal with the federal government that every other state turned down. NY and the federal government became the public piece of a public/private partnership to open a commercial facility to reprocess nuclear wastes. West Valley was chosen because it was a community that likely would not be able to stand up to the pressure state and federal government would exert to locate there. It needed employment opportunities. The prevailing winds would carry dangerous particles

in a direction the designers of the project found favorable. The site was very rural and few eyes would be upon it.

At the time there was no demand for reprocessed wastes except to extract weapons grade plutonium and uranium. In the early '60s, besides the military, few institutions or corporations used nuclear material. For the first five years of reprocessing, the US military was virtually the sole supplier of the material to be reprocessed and in turn received the reprocessed nuclear material of value.

The facility only reprocessed nuclear wastes for six years, 1966-1972. To be viable the business would have to expand but by the '70s more was known about atomic energy and more stringent environmental regulations were in place. It was cost prohibitive to expand. Private enterprise walked away leaving government and all of us with the mess.

Over the last 30 years private citizens and the State of New York have battled with the Department of Energy over responsibility for cleanup. This has cost individuals watch-dogging the site many tens of thousands of dollars from their own pockets in legal expenses and hundreds of millions of dollars in taxpayer money paid to and expended by the State. Additionally New Yorkers contribute our federal tax dollars allocated to expenses at the site.

Only New Yorkers are twice taxed to care for nuclear wastes. New York owns the land and NYSERDA holds the Nuclear Regulatory Commission license to operate the site. Better NY should own the land because if the land were to become property of the Department of Energy the DOE would be able to do almost anything it wanted on site, including reopening it, and it would take an Act of Congress to intervene on the public's behalf. The existing complex and costly structure gives WNYers more options to safeguard public health and safety and the environment.

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Part 2: Burial Grounds

By Judy Einach



The West Valley nuclear site began to accept wastes for burial in 1963. For three years it was just a dumping ground while facilities were built for this nation's first and so far only commercial nuclear reprocessing facility. Based on the failure at West Valley, President Carter outlawed commercial reprocessing of nuclear wastes, making it strictly a military function. President Bush overturned that and is looking at sites all over the nation to locate a commercial reprocessing facility as part of the plan to increase reliance on nuclear power both in the US and worldwide.

The site has two unlined burial grounds. A 14-acre burial ground is managed by the state and is known as the SDA, State Disposal Area. The Department of Energy manages the other, 5-acres, known as the NDA or NRC-licensed Disposal Area (NRC meaning Nuclear Regulatory Commission.)

The SDA is a series of deeply dug trenches. In the early days nuclear wastes were treated pretty much like ordinary garbage. Wastes were piled in the trenches in cardboard boxes held together with duck tape or in ordinary metal drums. While experts can make educated guesses to reconstruct what materials were buried, accurate record keeping was not the norm. No one seems to know if it was a railroad car or a the trailer on a tractor-trailer rig, but it is accepted that one large transport container that was so contaminated that it had to be buried in one of the trenches.

While the facility operated as a nuclear reprocessing center the SDA trenches were vulnerable to the elements. Over time they filled with water, a combination of rain and groundwater seeping into the trenches, causing an affect known as "bathtubbing." Running water, unattended, fills a bathtub and eventually spills over the sides. This is what happened in the trenches. But this wasn't ordinary water. Anything that touches radioactivity becomes radioactive. The water in the trenches was radioactive from contact with the wastes. Cardboard boxes disintegrate when wet and the drums rusted easily. The radioactive water filled the trenches and spilled over the land contaminating it, making the land radioactive. The SDA is now covered with a cap and is well-maintained by NYSERDA.

While the site operated under private management there were a series of accidents. Radioactivity built up behind the dam in the Cattaraugus Creek. Through miscommunication the dam was opened and the radioactive isotopes were released into Cattaraugus Creek. Traces of radioactivity can still be found in some spots along the creek. It is presumed that the isotopes traceable to West Valley found in the Niagara River and Lake Ontario by Canadian researchers came from this period when accidents were more common.

The NDA is a series of holes bored into the ground 30-60 feet deep filled with nuclear and hazardous wastes. They are one of most technically difficult cleanup problems nuclear engineers will have to solve. These are now "bathtubbing". The holes are filled with wastes and soil. Looking at the NDA a person sees an open field of grass. The DOE has a plan to cover the NDA with a cap similar to that over the SDA in time to what amounts to turning off the tap before the bathtub overflows. We're very close to overflowing now.

Also buried on site are 3 wastes tanks. The tanks are at the end of their useful lifespan, about 40 years. Originally the plan was to dig up and replace the tanks, assuming the wastes would remain inside. But the DOE has never dug up tanks on any of its sites. The biggest tanks are about 30 feet deep and 70 feet in diameter. They are very radioactive and contain radioactive sludge.

Through what it an absolutely marvelous engineering feat, in 1996 the high level wastes were removed from the tanks, leaving sludge behind, and vitrified or made into a glass-like form. These glass logs are stored above ground in canisters made to hold this very hot nuclear material. There are 275 of these canisters on site. They are in a room with walls 4-feet thick. Any work done in the room is with done using robotics. If you were to "hug" one of these canisters for 20 minutes your life would be over.

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Part 3: The Plume

by Judy Einach



The 275 canisters of vitrified high level wastes at the West Valley nuclear site live in what is known as the Process Building. For 15 years it has been known that coming from somewhere in the Process Building cesium and strontium are leaking and migrating beyond the Process Building through glacial till, contaminating a loose mix of gravel and soil. Cesium moves more slowly than strontium. The strontium moves 60 feet per year. It has been moving toward Frank's Creek and now leaks into the creek in small amounts.

Cesium and strontium have relatively short half-lives. Their half-life is 30 years. Every 30 years they transform into another element, often referred to as a decay daughter. But it takes on average 10 decay cycles for a radioactive element to become something that is not radioactive. This doesn't mean it isn't harmful, just that it's not radioactive. It takes 300 years for cesium and strontium to degrade to a non-radioactive form. That's 15 human generations. That's great grandchildren with 13 greats preceding grandchild before the cesium and strontium reach a non-radioactive state.

Cesium and strontium are radioactive isotopes with short half-lives. Some radioactive isotopes at the West Valley nuclear site have a half-life of over a million years. We cannot conceive of what will be 10 million years or more into the future. But we know material "traceable to West Valley," will be somewhere

in the mix. The majority of radioactive material on site has half-lives in the tens of thousands of years; posing a threat for an impossible to deal with long time before the radioactivity decays.

What is known as the plume of cesium and strontium on the West Valley nuclear site that has leaked through groundwater and into soil has contaminated as many as 61,000 cubic meters of soil which will have to be decontaminated or removed if the site is ever to be cleaned to a standard that meets the NRC rule for license termination.

Thanks to a push by the Environmental Protection Agency, DOE is finally agreeing to look at demolishing the Process Building which has contamination issues of its own. By demolishing the building engineers will find the source of the leaking cesium and strontium and stop it. Before the Process Building can be demolished the 275 canisters of vitrified wastes will have to be removed – carefully – and placed in another above ground storage unit that will have to be built. Other than storing them here, there's no place for them to go. If we had a national repository for high level wastes they would be in the cue for transport. Yucca Mountain may or may not materialize. Even if Yucca were in place, there's 40 years of material ahead of us in line to be moved there.

In the meantime DOE is examining the possibility of building an in-ground decontamination wall to stop the strontium from migrating further and leaking into Frank's Creek. There is an existing wall that was built several years ago. But no one knows everything there is to know about radioactivity and the strontium outsmarted the engineers by finding a way around the wall. Hopefully the engineers will be able to outsmart the strontium this time. As awful as it is to live with radioactivity, we have an opportunity to develop technologies that will be helpful here and helpful to others in other parts of the country where nuclear wastes threaten health and safety.

The plume has been a huge bone of contention between DOE and NYSERDA. DOE manages about 200 of the 3300 acres. The acres DOE manages are known as the West Valley Demonstration Project. All things considered, DOE management has been pretty good. Employee injury and accident rates are among the lowest in the county for DOE managed nuclear sites. But throughout the Bush administration there has been virtually no progress toward cleanup until very recently when a breakthrough occurred.

As stated, the source of the plume is coming from somewhere in the Process Building which is within the West Demonstration Project acreage. But as the plume migrated it crossed the line and contaminated land that NYSERDA manages. DOE didn't stop the plume before it reached the West Valley Demonstration Project boundary. Yet DOE has maintained that they are not responsible for cleaning up contamination beyond the West Valley Demonstration Project boundary. These kinds of disputes drive everyone crazy.

Consequently, NYSERDA has filed a lawsuit against the DOE which spells out how much federal waste is on site and makes a case for federal responsibility for cleanup. At the same time, the public watchdog group, the Coalition on West Valley Nuclear Wastes working with one of its members who has standing in court, is engaged in another court case that argues DOE and the USA are in violation of National Environmental Policy Act.

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Part 4: Cleanup

By Judy Einach



In the best of all possible worlds, which this is not, it should take 20 years to cleanup the West Valley nuclear site to a standard that would allow people to live on the land and farm it. But the site is such a complex site the Nuclear Regulatory Commission argues that cleanup to a resident-farmer standard, which is also the standard for license termination, should be flexible. Basically, this means the NRC doesn't want to be held to its own standard in order to terminate the license and call it a day.

The hamlet of West Valley is part of the Town of Ashford. Ashford has paid a huge opportunity cost by having a nuclear dump in its midst. All around Ashford, in Springville and Ellicottville, economic development rooted in tourism and recreation is taking place. Ashford should be part of this trend yet it is not.

If DOE and NRC committed to cleanup the nuclear site and NYSERDA agreed to cleanup that portion of the site it is directly responsible for, we would see jobs creation and the development of new technologies for cleanup of other nuclear sites. This is a long-term cleanup project that will provide jobs for at least 200 years.

But cleanup comes with risks. Anytime we move nuclear materials we put health and safety at risk. Obviously we want to minimize risk to workers, to the public and to the environment. Those of us who want all the wastes dug up and at the very least stored above ground in containers that are monitored and retrievable have been asked about risk to workers. Our reply is that when we started the process of vitrifying the high level wastes no one had ever created glass logs as a way to solidify high level wastes.

Yet we did it. We can go slowly and we can think through each step carefully. We cannot afford to leave the wastes in place. We know that option will absolutely result in tremendous harm, or if monitored and maintained over a very long period of time, so long we don't even know if government will exist, be outrageously expensive. Cleanup costs but failing to cleanup costs more.

We don't know what the affects of climate change will be. If predictions are correct we will see longer periods without rain which will cause the earth to dry and crack. And we will see more torrential rains which will hasten erosion and potentially expose the nuclear wastes sooner.

Most likely if there were a release of the buried wastes the material that would make its way through the creeks to Lake Erie would be radioactive fine silt. The silt could move from the site to the lake in one day's time. A major release would be catastrophic. Potentially the entire water supply for Erie County, the City of Buffalo, Niagara County, some wells in Cattaraugus County and Erie County would be contaminated. There is no way enough water could be brought into the area. The area would become uninhabitable.

In spite of what's at stake the Environmental Impact Statement for decontamination and decommissioning of the West Valley nuclear site is the longest unresolved EIS in the history of the US. Right now cleanup actions proceed without a vision for a final end-state, or preferred alternative. The politics, negotiating through which government agency is responsible for what appears more exciting than cleaning up the site. Recently DOE celebrated the safe transport of 20,000 drums of solidified low level wastes from the West Valley Demonstration Project to the Nevada Test Site.

These were wastes solidified in concrete. Moving these wastes, while an accomplishment, was one of the easier cleanup tasks. The West Valley Demonstration Project has within its own name the potential to be great. The DOE could lead the way and use the West Valley site to demonstrate, through development and implementation, new technologies and methodologies to deal with cleanup of nuclear wastes.

Regardless of anyone's position on expanding the use of nuclear power, and there are substantial drawbacks, the one issue the public is extremely concerned about is what we do with nuclear wastes. It certainly seems that cleaning up the West Valley nuclear site, to the most protective standard, should be something everyone should be championing, including every NY politician regardless of what district he or she represents or what office he or she holds.

How clean we clean the West Valley nuclear site is on the nation's radar. We need to do this right. There was no nuclear threat in WNY until nuclear material was brought into the region. We paid a heavy price for our contribution to the war efforts of the previous 100 years, but in exchange WNY played a strong national role and our local economy benefited. A clean environment will set up WNY to survive and thrive economically during the next 100 years. In spite of arguments to the contrary, strict cleanup standards applied to the West Valley nuclear site and all the other nuclear and hazardous sites throughout WNY are our best hope.

Future of Scobey Hill Dam discussed at meeting

More than 50 show up to learn and comment on plans for the dam

By LAURA MAGEE

Journal Editor

The Scobey Hill Dam currently blocks the passage of steelhead trout and other fisheries to the upstream areas of Cattaraugus Creek. That might not always be the case, though. By modifying the dam, the fish would be able to reach the upper 34 miles of the creek, but altering the dam is not without controversy.

The U.S. Army Corps of Engineers held its first of many meetings regarding the dam in Springville on Sept. 27 at the Concord Town Hall. The economic benefits to the area, the history of the Scobey Hill Dam and the environmental tolls were brought up during the public comment section of the meeting, which was attended by more than 50 people.

In partnership with the state Department of Conservation, the Corps is currently evaluating the feasibility of fish passage at the dam. Implementation costs for a fish passage system and a sea lamprey assessment trap have been estimated to be \$4,055,000. This alternative and others will be further evaluated during the next phase of study.

Project Manager Laura Ortiz explained that section 506 of the 2000 Water Resources Development Act allows the Corps of Engineers to provide planning, engineering and construction support in the development of the Great Lakes Fisheries and Ecosystem Restoration.

A fact sheet passed out at the meeting explained that steelhead trout cannot pass through the Scobey Hill Dam, a 40-foot-high and 338-foot-long structure, which originally functioned as a power generating facility. Since the dam is no longer being used to generate power, there is a desire by resource agencies to enable steelhead trout from Lake Erie to pass to the upstream reaches and tributaries of Cattaraugus Creek.

The first step, Ortiz explained, would be a feasibility study, which includes conducting an inventory of existing conditions and evaluating the economic and environmental benefits associated with a fish passage at the dam, and culminates in selecting a plan of action. The feasibility study will cost about \$600,000, Ortiz said, and will be paid for by the federal government.

“Regardless of what we do, there is going to be some good information gained from the feasibility study,” Ortiz said, adding the structural stability of the dam is unknown at this time, as well as potential impacts on the fishery.

One concerned individual asked if the dam will be removed and Ortiz said it will be one of the alternatives addressed.

Another individual asked about sea lamprey, an invasive species that with the dam in place cannot travel to the upper reaches of the Cattaraugus River and its tributaries. DEC Region 9 Fisheries Manager Paul McKeown said the DEC doesn’t want the lampreys “to get up there” and fish passages can be made so lampreys can’t get past. One suggestion, he added, is putting a lip on the ladder so that lampreys, which use suction to advance, cannot get past, while steelhead trout can jump over the ladder.

“You may get one or two,” McKeown said about the lamprey and a fish ladder. “But you’ll get the majority.”

One example of a lamprey barrier exists on Spooner Brook, just downstream from County Route 39.

DEC Fisheries Biologist Jim Markham said only a few streams in the area offer the opportunity to increase a wild run of steelhead and called the Cattaraugus Creek a “unique opportunity.” Steelhead has become the most popular sportfish in the tributaries of Lake Erie since this fishery expanded over the past decade.

Another issue discussed is the fact that the Scobey Power Plant and Dam is designated a historic structure by the New York State Office of Parks, Recreation and Historic Preservation and by the National Historic Register.

"We are aware that anything we do has to be coordinated with the National Register," Ortiz said.

In response to individuals concerned about the historical impact of the dam, one attendee said the dam may have been at the site for nearly 100 years, but the creek was there without a dam for a million years before that.

Concord resident Bob Church asked why the issue of a fish ladder was even being discussed. He believed, since the dam is a national historic site, it can't be altered but Ortiz said the ladder could go around the dam and leave it intact.

McKeown clarified that the law does not say the dam cannot be altered, but its historic nature has to be considered during the permit process.

"Are we going to destroy the Statue of Liberty just because we don't want it there?" Church countered.

A spokesman from Trout Unlimited reiterated that the Army Corps is just doing a feasibility study now and no action has been taken yet, saying, "Everyone is getting all up in arms about this."

"We're not even anywhere close," Ortiz said about a final decision. "We're not getting the bulldozer out tomorrow."

Another individual said there are not many places fisherman can actually fish from the upper Cattaraugus, but McKeown said the DEC continues to pursue public fishing rights.

As for present plans, a dam stability and geotechnical analysis will determine the condition of dam and help formulate alternative plans, Ortiz said, and this will be done in fiscal year 2008, along with a hydrology and hydraulic analysis. Sediment sampling has been done, although Ortiz said she is awaiting results.

The feasibility phase will last between 36 and 48 months, while determining the plans and specification will last 12 to 18 months and construction, depending on recommended alternative, will last 12 to 18 months.

If the project were to go ahead, the cost sharing would be set at 65 percent federal and 35 percent non-federal.

Ortiz said the next public meeting will be in nine months to a year and there will be "concrete information" available at that time.

Scobey Dam decision won't be made in a vacuum

Although people generally look to the editorial space in newspapers around the country to provide an opinion on matters of consequence, this one time we are not able to give an opinion. Not just yet anyway.

The issue at stake is the future of the Scobey Hill Dam in Springville. It's a contentious one because there is historic value attached to the dam. But there is also economic value if the dam is removed or altered with a fish ladder.

Of course, this area's economy could certainly use a "pick me up," and the fishery has the potential to bring millions of dollars to the economy. On the flip side, even if you haven't been to the dam in years, nearly everyone from this area has memories of going there to fish with their father or grandfather. Plus, it is on the national register of historic places.

The good news is the U.S. Army Corps of Engineers certainly won't be moving at lightning speed in its decision making process. The project manager, Laura Ortiz, reiterated time and time again, throughout the informational meeting, that nothing is going to be done behind closed doors and nothing will be decided upon immediately. We certainly can't expect anything done by the government to be completed fast - but, in this instance, that's a good thing. Starting now, our readers should spend time gathering facts, discussing the issues and alternatives with friends and stakeholders and voicing your opinion. Ortiz generously supplied those at the meeting with her contact information and asked that any questions be directed to her at 879-4407 or laura.v.ortiz@usace.army.mil.

Up next for Ortiz is generating a project management plan and associated documents; gathering input from team members, public interest groups and the public; and developing a feasibility phase schedule. She promised that a Web site will be created, a database of interested individuals established, information meetings held periodically, press releases published as study progresses and fact sheets updated quarterly and posted to the Web site when the site is completed. It may seem drawn out and tedious for the average person, but we should be thankful that the Corps is taking its time, and soliciting input from the public, to make sure the final decision regarding the future of the Scobey Hill Dam is the right decision.

ECA BULLETIN

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SITE NEWS FROM AROUND THE COMPLEX

Here's the latest scoop on what's going on at DOE sites across the country:

- **Hanford:** Greater than Class C, NRD lawsuit, Black Rock reservoir
- **Savannah River:** surplus plutonium consolidation, liquid waste RFP
- **West Valley:** newly released "Way Ahead Plan"
- **Idaho:** tank waste grouting milestone

At Hanford – Washington state's Department of Ecology is opposing DOE's Greater Than Class C Environmental Impact Statement. Hanford is being considered as a potential site to host the low-level waste, but Washington state is not buying in. In a letter to DOE, Ecology says the proposal is unacceptable because it ignores current cleanup efforts at Hanford, which are well-behind schedule. Also making headlines this month, U.S. District Judge Lonny Suko denied DOE's request to dismiss part of a natural resource damages lawsuit that would hold it liable for costs associated with a cooperative assessment. This case could be precedent setting, as it is the first in a long line of NRD cases allowing natural resource trustees to recover assessment costs this early in the cleanup process. Finally, the Black Rock reservoir, a site being considered by the Bureau of Reclamation to ease water shortages in Washington, could significantly affect the movement of contaminants in the vadose zone and in the groundwater beneath the Hanford site. DOE has requested to be a cooperating agency as the Bureau of Reclamation prepares the Environmental Impact Statement for the site.

At Savannah River – DOE announced its intention to consolidate surplus plutonium from around the complex at the Savannah River Site. The move is said to enhance security and reduce storage costs. The surplus plutonium to be consolidated at SRS will come from Lawrence Livermore Laboratory, Los Alamos National Laboratory, and the Hanford Site. Once consolidation occurs, DOE plans to dispose of the plutonium by using the Mixed Oxide (MOX) Fuel Fabrication Facility and the existing H Canyon facility. Also on the table of disposal options is a newly proposed vitrification plant. In addition to the surplus plutonium consolidation announcement, DOE also announced its final Request For Proposals for "the safe receipt, storage, and disposition of liquid wastes, and the operational closure of the LW storage tanks."

At West Valley – As the final drums of low-level radioactive waste are shipped from the West Valley Demonstration Project, parties involved in the project have developed a "Way Ahead Plan". The framework, agreed to by DOE, EPA, and NYSERDA, addresses the historically contentious issues of transferring high-level waste canisters on-site from the old processing facility, drying out underground storage tanks that held the high level waste, capping a landfill, and containing a groundwater plume of contamination. The new "Way Ahead Plan" is a promising step forward in a cleanup effort that has stalled due to lawsuits and the inability of parties to agree to an end state for the site.

At Idaho National Lab – DOE recently announced the successful completion of a substantial phase in its grouting of underground radioactive waste storage tanks at INL. DOE completed this important milestone contained in the Idaho Settlement Agreement ahead of schedule. The grouting of storage tanks that once held liquid radioactive waste associated with spent fuel reprocessing moves DOE closer to its overall safe closure completion date of 2012.

SAVANNAH RIVER SALT WASTE SCHEDULE SLIPS TO LATE 2013

New Estimates Places Start-Up Four Years Behind Original Schedule

The Savannah River Site's Salt Waste Processing Facility, a key component in the Department of Energy's plans to address millions of gallons of radioactive waste, has fallen behind schedule again, with a new project baseline formally approved by Deputy Secretary Clay Sell in recent weeks placing the start of operations in November 2013. The new schedule is two years behind previous estimates of starting the facility in 2011, and four years behind an initial start-up date of 2009. As previously reported by *WC Monitor*, the new baseline also increases the overall project cost from \$680 million to \$900 million (*WC Monitor*, Vol. 18 No. 41). The delays in beginning operation of the SWPF could further exacerbate what both DOE and state regulators have described as a "space crisis" within the Savannah River Site's underground high-level waste tanks, complicating other cleanup efforts at the site.

In addition, the Department is at risk of incurring millions of dollars in fines from state regulators due to the delay. However, DOE last week praised the new baseline, which was validated by independent review teams, saying it allowed the project to move forward. "The Department now has a validated cost and schedule from which we can effectively plan, build and operate this first-of-a-kind facility," DOE Savannah River Operations Office Jeff Allison said in a Sept. 27 press release. "Today's milestone continues the momentum for waste clean-up at the Savannah River Site and supports the Department's highest priority of closing nuclear waste tanks and reducing risk to the environment." Parsons Corp., which is carrying out the design and construction of the SWPF, did not return requests for comment last week.

SWPF to Help Process Salt Waste for On-Site Disposal

The SWPF is intended to help process approximately 33 million gallons of radioactive salt waste in Savannah River's 49 remaining underground tanks for eventual disposal on-site. The facility, according to DOE, will separate high-activity radionuclides from the salt waste through the use of extraction technology to remove cesium and monosodium titanate sorption/filtration technology to separate strontium and actinides. The separated high activity material will then be sent to Savannah River's Defense Waste Processing Facility, where it will be vitrified with high-level sludge waste removed from the tanks for eventual off-site disposal in a geological repository. The remaining low-activity salt waste will then be converted to a cement-like grout called saltstone for disposal at SRS. The SWPF is one of several planned salt waste processing measures to be used at Savannah River, along with two interim measures to be employed before the facility begins operation—a Deliquification, Dissolution and Adjustment process and the Actinide Removal Process/Modular Caustic Side Solvent Extraction Unit. Start-up of those systems, though, have also either been delayed or pushed back, further complicating DOE's efforts to clean and close the Savannah River tanks (*WC Monitor*, Vol. 18 Nos. 37&38).

Increases Linked to Design Changes

The cost and schedule increases experienced by the SWPF project are tied to design issues, according to DOE, primarily a Department decision in late 2005 to follow a recommendation by the Defense Nuclear Facilities Safety Board to use a more stringent design standard to better protect workers in the event of an earthquake or other natural events. The upgraded design requirements included “increasing the safety classification for the facility and resulting technical requirements; cost of materials and labor; enhancements to address seismic/structural design issues and associated construction modifications,” the DOE release states. Previously, the change in design standard was anticipated to increase the cost of the SWPF from earlier estimates of \$440 million to \$680 million and to push back facility operations from 2009 to 2011. Such estimates, though, were based on a “rough order of magnitude” estimate prepared by Parsons, according to Julie Petersen, spokeswoman for the DOE Savannah River Operations Office. “That was their rough order of magnitude based on what they anticipated in making the necessary jump [in design standard]. ... Even then, that was a good estimate at the time,” Petersen said last week. “From there, we’ve had the external reviews come in to look at the Parsons-submitted baseline to verify that.” Among the reviews conducted on the SWPF project was an external independent technical review in November 2006, an independent cost review completed in March of this year and a DOE Headquarters external independent review completed in August 2007. “Collectively, the purpose of these reviews was to conduct detailed review and evaluation of the project’s performance baseline and schedule,” Petersen said. “All reviews support validation of the approved SWPF baseline.” While the Dept. of Energy currently does not anticipate further cost or schedule increases, it remains to be seen whether the current baseline can be maintained as construction moves forward. “We are certainly looking to keep those costs down and to move forward to get this facility expeditiously built and operational by that date,” Petersen said. “We do not anticipate [further increases] at this time, but again, because it is a first-of-a-kind facility, there can be unknowns unplanned for, but with this added validation from the external teams, and this has been a very complex, thorough, process, I think the Department feels very confident about moving forward with this figure, this schedule, and getting this critical facility up and running.”

Delays Could Lead to \$75 Million in Fines

The new SWPF baseline could result in more expense to the Dept. of Energy than just from the increased project cost. As part of a permit modification granted by South Carolina state regulators earlier this year to allow interim salt waste processing to begin, DOE agreed to a series of milestones for getting the various processing systems up and running, including a Sept. 30, 2011, milestone for the SWPF to begin operation. Failure to meet such milestones, though, could lead to fines of up to \$105,000 per day.

Under the new SWPF baseline, that could result in fines of up to more than \$75 million—an amount equal to approximately one year of funding for the cleanup of the West Valley Demonstration Project in New York state—unless mitigated by South Carolina. Among the factors that could lead to potential mitigation, under the permit modification, is delays caused by acts of God, project funding cuts by Congress or labor disputes. “We certainly haven’t discussed any change to that permit requirement,” Shelly Sherritt, federal facilities liaison for the South Carolina Department of Health and Environmental Control, said last week. “We haven’t actually received any request from DOE to change the permit start-up date or talk about any possible reason for change.” Petersen said that DOE has been in “close contact” with South Carolina regulators concerning the new baseline. “We are very much aware of the stipulations outlined in the permit and committed to upholding those, to working with the state and, as the permit states, any changes to that have to be mutually agreeable to both parties,” she said. “We have been above board in communicating the progress of this critical project to the state. I think everybody has the same feeling, that this is certainly a good thing, at least we’re moving in the right direction. It took longer than when we would’ve liked, but we’re here now and

we're ready to move forward." It remains unclear, though, as to why the Dept. of Energy agreed to use preliminary estimates to set the SWPF operational start-up milestone in negotiations with South Carolina state regulators given the threat of such heavy fines if those milestones were failed to be met. "From our perspective, we went with the information we had at the time," Petersen said. "Everybody was aware of where we were in that process of trying to get this project validated, of trying to get the cost and schedule validated." She added, "The Department committed to getting this facility up and running as quickly, but yet safely, as possible and we'll have to work with the state on how we go from here when it comes to the permit modification."

The threat of such steep fines should motivate the Dept. of Energy to find ways to accelerate the SWPF schedule, Sherritt said. "We expect operations of that facility, the big workhorse facility for treatment, to begin as soon as possible to support getting the waste out of those tanks," she said. "So that certainly leaves the door open for DOE to look at different ways to speed up the schedule or to close the gap between the permit date and their expected start-up date."

Construction to Get Underway

Meanwhile, with the new SWPF baseline formally approved, construction of the facility is set to get underway. Already some site preparatory work at Savannah River has been conducted, and the facility design is about 65 percent completed and expected to be finished by next summer. To keep the design on schedule, the Dept. of Energy recently transferred more than \$50 million in FY07 funding from other sites and DOE Headquarters to Savannah River (*see related story*). Parsons is now set to begin site grading and excavation for the main SWPF facility and construction of the facility's administration begin, Petersen said, adding that a "groundbreaking event" for the project was set to occur within the next month. However, "We're not going to wait on that groundbreaking event to begin construction," she said. "Now that we have the go, we're moving forward."■

—Mike Nartker

Springville Journal, Thursday, October 4, 2007

Corps of Engineers to hold information session on Scoby Dam

The U.S. Army Corps of Engineers, Buffalo District (the Corps) will be holding an information session regarding the Scoby Hill (Springville) Dam on Thursday evening, Sept. 27, at 7 o'clock in the Concord Town Hall, 86 Franklin St., Springville. The purpose of the meeting is to get input from the public about a study the Corps is doing to determine the feasibility of making modifications to the dam.

The Scoby Hill Dam is a 40-foot high, 338-foot long structure that originally functioned as a power generating facility. The study is being performed under Section 506 of the Water Resources Development Act of 2000, Great Lakes Fisheries and Ecosystem Restoration Authority. The dam currently blocks passage of native fish species and acts as a barrier for sea lamprey to the upper reaches of Cattaraugus Creek. The study will evaluate the economic and environmental benefits associated with the development of a plan which may expand fishery resources to the upstream reaches of Cattaraugus Creek. If the dam is modified, anglers will have greater fishing opportunities for steelhead and other native species. "It is important to involve the community in the decision-making process," said Laura Ortiz, the Corps' project manager. "Having everyone involved from the beginning ensures that we will thoroughly evaluate the alternatives and assess potential impacts."

For additional information about the study or the meeting, contact Ortiz at (716) 897-4407.