

Work to install temporary cover over toxic pile at AltEn has finished

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In mid-February, Posi-Shell, a combination of cement, clay and polyester fibers, was applied to a pile of wet cake and sludge produced by the AltEn ethanol plant near Mead.

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Once marked by its lime green color, the estimated 99,000 tons of pesticide-contaminated distiller's grains and sludge at AltEn is now concrete gray.

The heaping pile of solid waste created at the ethanol plant south of Mead is now entombed underneath a Posi-Shell cover, a mixture of clay, polyester fibers and Portland cement.

At least for now.

Consolidating several piles of wet cake into one and covering it -- a project that took six months -- is a temporary solution, the AltEn Facility Response Group has said.

The six former suppliers of the biofuel plant -- Bayer, Corteva, Syngenta, AgReliant, Beck's Superior Hybrids and Winfield Solutions -- are exploring options to permanently dispose of the wet cake, samples of which have shown high concentrations of pesticides.

"This will be part of the Remedial Action Plan that will be submitted to (the Nebraska Department of Environment and Energy) following completion of our analysis of remedial options," said Chris Tutino, a senior crop protection communications manager for Syngenta.

After losing its license to sell the wet cake as a soil amendment, and after being shut off by area landfills, AltEn stockpiled the solid waste product on its site.

The material, left out in the open, routinely came into contact with rainwater, which ran downstream across a University of Nebraska research farm, a Nebraska National Guard training site, and through private properties as it made its way toward the Platte River.

Since August, environmental contractors hired by the facility response group worked to consolidate three separate wet cake piles into one, even replacing the ground underneath the piles with "clean soil" as part of the remediation efforts.

A 111-page plan submitted by NewFields, an environmental engineering firm developing a cleanup proposal for the site, also indicated that nearly 100,000 cubic yards of soil, sludge and other solids dredged from the damaged lagoon system were also added to the pile.

Once that was completed, the cleanup then focused on how to cover the 16 acres of toxic material at the "northwest wet cake pile," which can be seen from County Road 10 south of Mead.

The facility response group identified Posi-Shell, a mortar like substance used as a landfill cover and in other environmental cleanup and stability projects as the best option to temporarily cover the pile until a more permanent solution is identified.

Manufactured by LSC Environmental Products of Apalachin, New York, Posi-Shell has been used at several Superfund sites -- two in New Jersey and one each in Arizona and the Pacific Northwest.

At Quanta Resources, a former roofing tar plant in Edgewater, New Jersey, Posi-Shell has been mixed with contaminated soils to lock up heavy metals, coal tar and other waste products to prevent them from moving further into the environment.

The Environmental Protection Agency used Posi-Shell in a similar way at American Cyanamid, a 435-acre former chemical plant in Bridgewater, New Jersey, locking up the soil before sending it offsite for "thermal destruction," according to local news reports.

Posi-Shell also has been used to keep contaminated dust from being stirred up at the Iron King Mine and Humboldt Smelter in Arizona, as well as the Hanford Nuclear Reservation in Oregon and Washington.

In its plan filed with the state, the AltEn facility response group called Posi-Shell "the most durable long-term coating offered."

With the piles consolidated and the cover identified, contractors also worked to build a containment berm and drainage system around the pile, in an effort to catch any water that may come into contact with the pesticide-contaminated wet cake.

A total of 2,230 feet of 6-inch perforated pipe was laid in a trench dug around the pile at AltEn, the plan submitted to the state indicates.

The pipes, buried under drainage gravel, connect to a pair of sump pumps, which will divert any water that comes off of the wet cake into a nearby holding pond, where it will be treated on site.

The earthen berm is meant to catch any water running off the surface of the Posi-Shell cover to be pumped to a separate lagoon system, according to the plan.

The pile, trench and berm were all covered by the Posi-Shell in a weeklong project that took advantage of unseasonably warm February weather, with most of the mortar -- roughly 10 acres - - spray-applied by a truck that slowly circled the pile.

The areas that couldn't be reached by the truck were later covered by helicopter, which dumped 800 bucket loads of Posi-Shell on the pile, according to Tutino.

In all, about 20 acres of Posi-Shell -- equal to the surface area of about 15 football fields -- was applied to the pile, the trenches and the dirt berm surrounding it. The shell hardened completely within 24 hours of application, according to the response group.

Both the Department of Environment and Energy and a watchdog group monitoring the AltEn cleanup have raised concerns about the cover, even as work was progressing.

They have noted there is nothing preventing the chemicals in the pile from leaching into the groundwater below, and said cracks in the cover could allow the smell from the pile to return, or potentially hazardous gases to be vented near Mead.

The facility response group said a layer of clay 15-20 feet thick below the topsoil would help prevent the chemicals from reaching the water table below, and said it planned to do monthly inspections of the cover for the first six months after its application.

After the six months, those inspections would take place twice annually.

"It is not expected that significant maintenance will be needed," the group told the state in its plan.

The facility response group declined to say how much the project to cover the wet cake pile cost.

In federal court filings last week, the seed companies said they have spent millions of dollars to address environmental remediation at AltEn since February 2021.

"The site stabilization work is ongoing," Tutino said. "We don't have a breakout of the cost at this time."