At Plant in Coal Ash Spill, Toxic Deposits by the Ton

By SHAILA DEWAN

In a single year, a coal-fired electric plant deposited more than 2.2 million pounds of toxic materials in a holding pond that failed last week, flooding 300 acres in East Tennessee, according to a 2007 inventory filed with the Environmental Protection Agency.

The inventory, disclosed by the Tennessee Valley Authority on Monday at the request of The New York Times, showed that in just one year, the plant’s byproducts included 45,000 pounds of arsenic, 49,000 pounds of lead, 1.4 million pounds of barium, 91,000 pounds of chromium and 140,000 pounds of manganese. Those metals can cause cancer, liver damage and neurological complications, among other health problems.

And the holding pond, at the Kingston Fossil Plant, a T.V.A. plant 40 miles west of Knoxville, contained many decades’ worth of these deposits.

For days, authority officials have maintained that the sludge released in the spill is not toxic, though coal ash has long been known to contain dangerous concentrations of heavy metals. On Monday, a week after the spill, the authority issued a joint statement with the E.P.A. and other agencies recommending that direct contact with the ash be avoided and that pets and children should be kept away from affected areas.

Residents complained that the authority had been slow to issue information about the contents of the ash and the water, soil and sediment samples taken in and around the spill.

“They think that the public is stupid, that they can’t put two and two together,” said Sandy Gupton, a registered nurse who hired an independent firm to test the spring water on her family’s 300-acre farm, now sullied by sludge from the spill. “It took five days for the T.V.A. to respond to us.”

Richard W. Moore, the inspector general of the authority, said he would open an investigation into the cause of the spill, the adequacy of the response, and how to prevent spills from similar landfills at other authority plants, according to a report in The Knoxville News Sentinel.

Elevated levels of lead and thallium and what the Environmental Protection Agency called “very high” levels of arsenic have been found in water samples taken near the site of the spill.

Though the E.P.A., the Tennessee Department of Environment and Conservation and the authority have spoken daily about their efforts to monitor air, soil and water quality, complete results have been released for only two samples, both taken from a drinking water intake site that is upstream of the spill. The water there met drinking standards.
A test for heavy metals in water, soil or sediment should take two to eight hours, said Peter Schulert, the chief executive of the Environmental Science Corporation, an environmental laboratory near Nashville. “There’s no reason why you couldn’t have the results within a day,” Mr. Schulert said.

The data on the toxic compounds produced by the plant was filed with the E.P.A. this year, said Barbara Martocci, a spokeswoman for the power authority. It was posted on the authority’s Web site only in a section labeled “air quality.”

At full strength, the plant uses 14,000 tons of coal a day and supplies enough electricity for 670,000 households. Its refuse, the ash, rose 55 feet above the banks of the Emory River, which flows into the Clinch River and then the Tennessee.

Early last Monday, after a period of heavy rain, the earthen dike that contained the ash breached and 5.4 million cubic yards slid away, covering 300 acres in muck and knocking a nearby home off its foundation, according to the T.V.A.’s estimates. Mike Farmer, the Roane County executive, said three houses were left uninhabitable and 36 more residential properties had sustained damage.

The authority has been using backhoes and heavy equipment to clean up the ash and is building weirs, or underwater dams, to try to keep it from traveling downstream. Officials do not have an estimate of the cost of the cleanup or how long it will take, said a spokeswoman, Catherine Mackey.

The spill has reignited a debate over whether coal ash should be regulated as a hazardous waste. In 2000, the E.P.A. backed away from its recommendation to do so in the face of industry opposition, promising instead to issue national guidelines for proper ash disposal, though it never did.

Stephen Smith, the executive director of the Southern Alliance for Clean Energy, a nonprofit policy group based in Knoxville, criticized the T.V.A. for not providing more information to residents, including the sample results.

Mr. Smith also criticized the agency for increasing the flow of the Tennessee River to keep the ash from approaching the drinking water intake for Kingston, a town a half-mile up from the confluence of the Clinch and the Tennessee.

“They’re actually moving the stuff further downstream, in order to protect the drinking supply at Kingston,” he said.