Dan River Coal Ash Spill

Eden, Rockingham County
Updated May 12, 2015

The N.C. Department of Health and Human Services (N.C. DHHS) is working with federal, state, and local government agencies to ensure that the health of residents remains a priority during the cleanup of the Dan River Steam Station coal ash spill.

Situation Overview

The Duke Energy-Dan River Steam Station was completed in 1948 near Eden, Rockingham County, North Carolina. The plant generated electricity by burning coal. This process generated the waste material coal ash. Some of the coal ash was stored on-site in above-ground ponds next to the Dan River. In 2008, Duke Energy announced they planned to retire the coal-burning units. The plant was transitioned to burning natural gas to generate electricity. The coal-burning units were officially retired on April 1, 2012.

On February 2, 2014, there was a coal ash release to the Dan River from a waste coal ash pond. It is estimated that more than 39,000 tons of coal ash were released into the Dan River. The ash has been observed about 70 miles downstream from the release.

What Is Coal Ash?

Coal ash is the waste material left over after coal is burned for energy. It is made of fine sand (called silica), unburned carbon and various metals such as arsenic, cadmium, chromium, copper, lead, selenium, mercury, nickel and zinc. Many of these substances may be harmful to humans depending on the amount and duration of contact.

Is the River Water Safe?

Recreational Safety

Direct skin contact with the coal ash, or with water and sediment containing coal ash may cause skin irritation. Current data indicate it is unlikely that people using the river will come into contact with coal ash. As an added precaution, if you come in contact with what appears to be coal ash, wash your skin off with soap and water.

Municipal Water

The water that comes from upstream sources or public or municipal water systems downstream of the spill remains safe to use. Water treatment plants are monitoring the quality of the water. Testing results show that drinking water meets U.S. Environmental Protection Agency's drinking water standards.

Private Well Water

We have no indication that private wells near the spill have been affected. However, if you are concerned, you may contact your local health department to discuss having your water tested. We generally recommend testing your private well for inorganics every two years.

We will continue to evaluate water data for potential health risks as it becomes available.

Are Fish Safe to Eat?

We recommend that people avoid eating fish and shellfish from the Dan River downstream from the spill in Caswell and Rockingham counties, N.C. This is to protect people's health until we have enough data to determine the long-term fish and shellfish accumulation of coal-ash-related-metals. The N.C. Department of Environment and Natural Resources (DENR) is collecting fish samples from the area. We will continue to evaluate the fish data as it becomes available to identify when health risks associated with eating the fish are not a concern.

Is the River Water Safe for Wildlife and Farm Animals?

The water should not present a risk to farm animals that use or drink the river water. People who want to be extra careful may allow the sediment to settle out of the water or filter the water before providing it to farm animals. Eating wildlife that was exposed to or drank the contaminated water should present no health risk. For additional safety, avoid eating the liver or the kidneys of the animals. These organs can concentrate metals.

Is the River Water Safe for Crops?

The use of river water from the affected area to irrigate crops should not present a health risk. Flooding of agricultural land with the water from the river should not present a health risk either. The concentration of metals in the water, although higher than usual, is not high enough to accumulate significantly in irrigated plants.

How Can Coal Ash Affect My Health?

If metals in the coal ash are at a high enough concentration, and if individuals are exposed to it for a long time, it could affect human health. Direct skin contact with coal ash can irritate skin. Negative health effects can be greatly reduced or eliminated by not touching the coal ash. Even when someone is exposed to coal ash, the metals are not likely to be absorbed through the skin.

Breathing the coal ash dust may irritate eyes and respiratory tract. Breathing in the coal ash dust for a long time may cause cancer. Avoid disturbing dried ash and avoid inhaling the dust.

Other long-term health effects of the coal ash spill are still unknown. We will continue to monitor the situation and will keep the public informed of any changes.

Do You Think You Might Be Sick From Contact with the Coal Ash?

Contact your health care provider. We are available to assist your doctor in figuring out the best course of action to keep you healthy.

Biomonitoring for Heavy Metals

Testing people for environmental chemicals is called biomonitoring. N.C. DHHS has been asked if the general public should be tested for heavy metals using biomonitoring. People have not consumed contaminated water because the water from the water treatment plants is safe and we have no indication that private wells near the spill are affected either.

The main way people might come in contact with the coal ash is by touching it. Since most people have not been in contact with the ash for a long period of time, we do not recommend biomonitoring. If anyone has concerns regarding metal exposure, they should first see their family doctor. The North Carolina Division of Public Health (N.C. DPH) is available to assist your doctor in determining the best course of action. (See contact information below.)

How to Avoid Contact with the Coal Ash?

Stay away from the coal ash as much as possible. Parents should not let children or pets play in the coal ash. Anyone who comes in contact with coal ash should wash thoroughly, including the clothes and shoes they were wearing at the time. Pets that come in contact with the ash or contaminated river water should also be washed.

The N.C. DHHS's Role

- The N.C. DHHS, Division of Public Health is monitoring epidemiological information to be able to identify people who may have been sick from coal ash exposure. As of this date, we have not identified illnesses associated with the coal ash spill.
- The Health Assessment, Consultation and Education Program (HACE) will conduct a public health risk assessment. HACE is part of the N.C. DHHS, and is funded by a cooperative agreement with the Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention. A public health risk assessment is an evaluation of the environmental data, in this case, to determine if people in the community may be in contact now or in the future with the contamination from the coal ash spill, and if that contact may result in negative health effects. During the public health risk assessment, HACE will work closely with the U.S. Environmental Protection Agency (EPA), the N.C. Department of Environment and Natural Resources (DENR), and local health departments to evaluate all the available environmental data and to communicate the findings of the evaluation to the public.
- The EPA and DENR are responsible for the environmental remediation of the area. Duke Energy has been collecting drinking and surface water samples on a regular basis since the spill occurred at numerous points as far downstream as Kerr Lake. The EPA and DENR are collecting water samples at different locations upstream and downstream of the spill. DENR is also collecting fish samples. Local drinking water utilities are also monitoring their drinking water supplies.

Next Steps

N.C. DHHS:

- Will continue to monitor all the environmental data for possible adverse health effects. Fish data will continue to be evaluated to see if the fish are safe to eat.
- Will review and will provide recommendations to the EPA and DENR on the long-term river monitoring plans and remediation.
- Will keep local health departments and the public informed of the evaluation results and will issue or terminate advisories when necessary.

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