

US EPA ARCHIVE DOCUMENT

Update: Environmental Investigation at Power Plant

Northern Indiana Public Service Co. Site

Chesterton, Indiana

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For more information

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An ongoing environmental investigation at Northern Indiana Public Service Co.'s (NIPSCO) Bailly Generating Station is entering a new phase focusing on pollution releases from the power plant into a nearby national park and Lake Michigan. Under a 2005 legal order between NIPSCO and U.S. Environmental Protection Agency Region 5, the utility company is required to investigate whether contamination from the Bailly site is affecting soil, underground water and the lake. This fact sheet is an update on what the investigation has found so far and what actions will happen in the future.

The investigation is important because the Bailly Generating Station sits next to the environmentally important and unique Indiana Dunes National Lakeshore (IDNL) and Lake Michigan.

Focus on three areas

EPA is currently directing NIPSCO to focus the investigation on three main issues: 1. Areas on-site that may need to be cleaned up; 2. Lake Michigan; and 3. Indiana Dunes National Lakeshore.

On-Site: The Bailly facility (*see map P. 2*) covers 320 acres in an L-shaped property bordered to the north by the lake and to the northeast by the national lakeshore. The plant is coal-fired and supplies electricity to the northern half of Indiana. Some on-site sections have already been cleaned up by NIPSCO including contaminated soil at seven locations where, for instance, old tanks had leaked. At EPA's request, NIPSCO has recently submitted a plan to perform a large excavation where the facility formerly stored fly ash directly on the ground. Fly ash is a coal combustion byproduct. The waste contained metals that soaked into the soil and ground water (underground water) of the facility. Removing the contaminated soil will remove the source of metals found in the ground water. Earth excavated in this project will be backfilled with clean soil. Other on-site areas that may need to be cleaned up include two former landfills, which will be discussed later in this fact sheet.

Lake Michigan: EPA recently requested ground water and Lake Michigan samples be collected because an operational section of the plant sits next to the lake and metals have been found in on-site ground water above screening levels. Samples close to the lake have told experts that the metals are not entering Lake Michigan with the ground water but staying in the soil on-site. Samples were also taken from the beach east of NIPSCO in front of IDNL. The national lakeshore is a protected habitat for the endangered Piping Plover, a small shorebird. Sampling results from the beach will be used to assess possible risk to the bird. For more information about the Piping Plover, you can visit <http://www.fws.gov/midwest/endangered/pipingplover/index.html>.

(text continued on P. 2)

Indiana Dunes National Lakeshore: IDNL continues to be sampled and surveyed by NIPSCO at the direction of EPA and national lakeshore officials. Samples have been collected from ground water, soil, surface water and plant life. IDNL represents one of the most diverse and unique plant and wildlife habitats in the U.S. In addition, the 15,000-acre lakeshore contains unique geographical features such as Cowles Bog (*see text box P. 3*).

EPA's goal is to protect this precious resource from pollution. As a national treasure, the park belongs to all of us, therefore, community input will be solicited for the best ideas to preserve the shoreland even while research is being conducted and cleanup plans discussed between EPA and NIPSCO.

Some of that research includes surveys which are currently under way to evaluate the health of the plant and amphibian life. The first phase of the investigation showed metals have penetrated the ground water, surface water and plant life within IDNL. EPA has been working with IDNL officials to develop the next assessment phase in order to define the health and environmental risks the metals may pose to humans, wildlife and vegetation. The sources of IDNL metals appear to be two former landfills on the Bailly property.

Two former landfills

The two landfills were not engineered disposal areas but more like simple dump sites where fly and bottom ash was disposed of. The multi-acre areas have long been grown over and now look like vacant fields. NIPSCO is no longer using these landfills and have been properly disposing of ash offsite for many years.

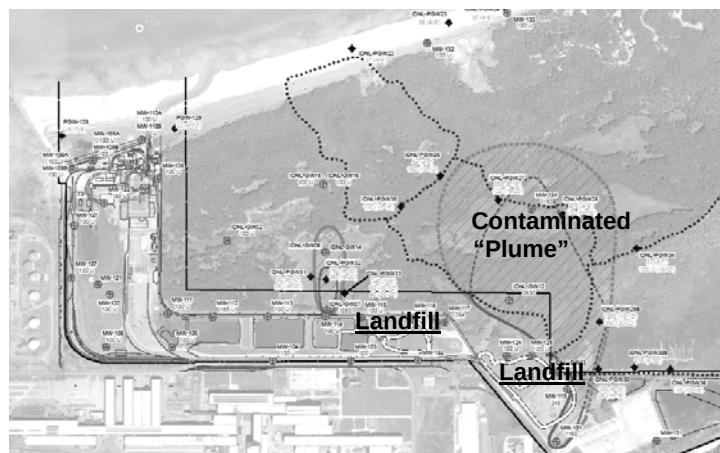
The landfill ash is underground, so as rain percolates through the soil it comes into contact with the ash before entering the ground water below. As water seeps through the ash some of it picks up metals which form a "plume." A plume is a mass of contaminated ground water, or underground water. At this location, ground water moves naturally towards Lake Michigan, and where ground water is shallow it breeches the surface to become surface water and form wetlands. A plume of aluminum and boron is extending north off the Bailly Station property into the national lakeshore. Some good news though -- monitoring wells show the plume has not reached Lake Michigan and doesn't appear to be moving. EPA has requested NIPSCO evaluate alternatives to stop the metals from leaving the landfills even while the investigation phase continues.

Next steps

As mentioned earlier, NIPSCO has submitted a plan for a large excavation on the western portion of the facility. Soil contamination in this area cannot exceed screening levels designed to protect workers. However, the ground water appears to have been affected by elevated concentrations of boron and selenium. The ground water is being screened against a more stringent pollution limit designed to protect the Great Lakes. Because of the threat to Lake Michigan, EPA requested a more conservative evaluation of the soil pollution that considers the potential for the metal contaminants to move into the ground water and eventually the lake. EPA believes controlling the source of the ground water contamination by removing the tainted soil will protect the ground water and Lake Michigan in the future.

EPA will also be performing a risk assessment to determine if Bailly pollutants would harm the Piping Plover if it were to use the beach (*see picture P. 3*). Results could be known this summer.

Throughout this process EPA and other federal and state agencies will be seeking public input on the best ways to proceed. Protecting the lakeshore, while ensuring reliable electrical power to your community, will require the cooperation of all stakeholders.



Above: This map shows the boundaries of the Bailly Generating Station and Indiana Dunes National Lakeshore. The circular shaded area represents contaminated groundwater, or underground water. The dashed lines which extend north to Lake Michigan are some of the many hiking trails within the national lakeshore. The on-site former landfills are also labeled.

A Word from the National Lakeshore. . .

Within the park, just northeast of the Bailly Station property, is a particularly sensitive ecosystem of national significance. The Cowles Bog Wetland Complex (CBWC) is so unique in its plant and animal life that it was designated as a National Natural Landmark by Congress in 1965. In fact, it was where Henry Chandler Cowles, considered the “father” of modern ecology, did his exploration and studies.

Through the 1970’s and early ‘80s, the CBWC underwent significant decline in some of its plant life due to the adjacent industrial development and introduction of non-native plants. Studies from 2002-2004, however, demonstrated exceptional wetland characteristics which will help in further restoring this important ecosystem. It is clear that CBWC can be restored to near its original state.

National Park Service



Top: The migratory Piping Plover breeds in only three locations in North America including the Great Lakes shoreline. EPA’s investigation has included groundwater samples along the lake to determine if the plover could be exposed to pollution. Although the plover has not been known to visit this exact beach, EPA will evaluate the risk as if it has, just to be safe. Preserving the habitat is critical to the species health.

Public Participation

Although this fact sheet is not associated with any formal public participation period, the attached comment sheet is provided for your questions or comments. EPA believes the community is an important stakeholder in the process of cleaning up facilities, such as the Bailly Station property.

Public participation at this facility in particular is so important because of its location next to a national park. For that reason, EPA has divided the work at the Bailly Station. While longer-term studies continue within the park, EPA is simultaneously working to cleanup the active portion of the site. This is being done in order to provide the public with an opportunity to formally comment twice; once for the proposed cleanup on the active portion of the site and again once the proposed cleanup for the inactive portion (including any work which may take place with IDNL in the park). EPA believes that by doing so, it not only provides the community with adequate opportunities to participate, but it also moves some important, yet straight-forward, cleanup along faster. The unique ecosystems within the park require more study and careful consideration of all ramifications of a cleanup.

Currently, EPA is reviewing risk assessments for the active portion of the facility. Once that review is complete, a proposed cleanup will be shared with the community for your thoughts and comments. Prior to making final cleanup plans, EPA considers the public comments received, responds to them formally and revises the cleanup as appropriate. A similar process will take place for the inactive portion of the facility, such as the historic landfills, and the park.

EPA values your input and is looking forward to serving your community by taking appropriate action at the Bailly Station property.