



Site Management Strategy Plan

Introduction

Between 2000 and 2002, the US Environmental Protection Agency (USEPA) and the Indiana Department of Environmental Management (IDEM) tested a number of private wells in the vicinity of the Town of Pines. Boron and/or molybdenum were detected in some wells above current USEPA guidelines in two distinct areas of the town. Based on these tests, USEPA decided to extend municipal water service to residences in these two areas. This extension was installed in 2003 by Northern Indiana Public Service Company (NIPSCO) and Brown, Inc. (Brown).

In 2003, USEPA tested a number of additional wells in the vicinity of the Town of Pines. This testing indicated that boron and/or molybdenum were detected in additional wells at levels above current USEPA guidelines.



Recently, USEPA, NIPSCO, and Brown have agreed to undertake the following actions:

- An investigation of the nature and occurrence of coal-combustion by-products (CCBs)-derived constituents, including boron and molybdenum, in groundwater;
- An extension of the municipal water service; and
- Supplying bottled water to additional residences on an interim basis.

These undertakings are documented in two Administrative Orders on Consent (AOCs). Pines Update Issue #1 provided more detailed information about these AOCs, including the history of events leading up to the signing of these AOCs. This update focuses on the next step for the investigation into the nature and occurrence of CCB-derived constituents (including boron and molybdenum) in groundwater.

What are the steps in the investigation process?

The steps in the investigation process have been outlined in AOC II, which was signed by USEPA, NIPSCO, and Brown in April 2004. These steps are:

Site Management Strategy – the scope of the Site Management Strategy is the topic of this fact sheet.

Remedial Investigation/ Feasibility Study (RI/FS) Work Plan and Field Sampling Plan – this document outlines the types of investigations to be conducted, where and what kinds of samples will be collected, how the samples will be analyzed, and how the data will be evaluated.

Remedial Investigation – this is the phase of the investigation when samples are collected and analyzed.

RI Report – this report summarizes the data collected during the remedial investigation.

Human Health and Ecological Risk Assessment Reports – These reports present the analysis of potential risks to human health and the environment.

FS Report – This report identifies and evaluates potential remedial actions.

What is the first step in the investigation process?

As per AOC II, the first step in the investigation process is to define a Site Management Strategy. This issue sheet provides an overview of the proposed Strategy.

What is the Site Management Strategy?

The purpose of the Site Management Strategy is to:

- Review available historical and public information about the area that will be investigated.
- Develop a preliminary conceptual model of the area, which defines the conditions of the area to be investigated. It includes the geology

of the area (what type of soil and rock is present in the area), hydrogeology (where is the groundwater and in what direction is it moving), the possible sources of CCB-derived constituents (including boron and molybdenum) in the area (including natural sources), ecological receptors (what environments or animals are relevant to the investigation), and human receptors (how can humans be exposed within the area).

- Identify additional items that may need to be researched or reviewed to provide more detail to the conceptual model.
- Outline a management strategy or approach to be used to conduct the investigation.

The information presented in the Site Management Strategy does *not* specify the plan or locations of samples to be collected during the investigation; rather, it provides the approach and rationale that will be used to develop specific parts of the sampling plan for the investigation.

What specific strategy items are discussed in the Site Management Strategy?

The specific strategy items presented in the Site Management Strategy document include:

Groundwater Characterization.

Understanding groundwater conditions in the Area of Investigation is important because groundwater is the primary way that CCB-derived constituents can move in the Area of Investigation. The groundwater characterization will include studies of the geology, hydrogeology, groundwater flow directions, interactions between groundwater and surface water, nature and occurrence of CCB-derived constituents in groundwater, seasonal variations in groundwater conditions, and fate and transport of constituents in groundwater.

Human Health Risk Assessment. This part of the Site Management Strategy discusses how certain potential risks to humans will be evaluated. Further, this part of the strategy proposes an initial focused investigation of CCBs that may be encountered during the construction of the municipal water supply extension. As the extension work is being conducted, Respondents will take advantage of this opportunity to collect information on CCBs encountered during the extension project. These data will help to determine the potential risks that may be associated with humans coming in direct contact with CCBs. Additional further investigations into the presence and potential risks of CCBs will take place during the Remedial Investigation.

Evaluating CCBs as a potential source of constituents to groundwater. This part of the Site Management Strategy identifies a process by which the specific factors that cause the constituents bound to CCBs to transfer (or “leach”) to groundwater will be evaluated during the investigation. Different factors may include the types of CCB that contains the constituents (like fly ash, bottom ash, etc.); size, depth, and location of CCBs; and where the CCBs are present in relation to the groundwater. The purpose of these evaluations is to identify the site-specific conditions under which constituents may leach from CCBs to groundwater. Further, this section proposes to evaluate the sources of CCBs that may be present in Yard 520

and those potentially present outside of Yard 520.

Ecological risk assessment. This part of the Site Management Strategy discusses how potential risks to the environment will be evaluated. It is proposed that the ecological risk assessment will be completed to evaluate both aquatic receptors (those receptors living in water or wetlands) and terrestrial receptors (those receptors living on the land) by the tiered approach developed by USEPA.

Accelerated Investigation and Evaluation. An accelerated investigation will be performed in certain areas to try to understand the source of boron and/or molybdenum. This accelerated investigation will be conducted in addition to the broader investigations that will take place during the Remedial Investigation. For example, there are some locations in the Pines area where constituents have been found in groundwater, but the presence of these constituents in groundwater seems less likely to be related to CCBs. The objective of these accelerated studies would be to evaluate other potential sources for the constituents in these areas.

How was the Site Management Strategy prepared?

The Site Management Strategy presents some proposed approaches to certain aspects of the investigation. The Strategy document is currently a draft document undergoing review by USEPA, IDEM, the Agency for Toxic

Substances and Disease Registry (ATSDR), and the National Park Service (NPS).

What is the next step – what happens to the Site Management Strategy?

Upon review and approval of the Site Management Strategy by the USEPA, the specific work plan (i.e., the plan that details the sampling rationale and locations) will be prepared. The work plan will be submitted to USEPA and IDEM (USEPA’s Agency partner). Further, the work plan, and all subsequent documents will also be reviewed by ATSDR and NPS and a local community group to be named.

Our Commitment....

We are committed to keeping you informed on the progress of the municipal water service extension and the investigation of the Pines Area of Investigation. Look for future *Pines Updates* (such as this one) to update you to our progress.

We've also developed a mailing list for the site. Please contact the Communications Coordinator to be placed on the mailing list:

Don Babcock
219-647-4975

Or write to:
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