NIPSCO Bailly Generating Station: Areas A & B

U.S. EPA

Statement of Basis

Public Meeting

July 2011

What is a Statement of Basis?

- A document in which EPA ***proposes*** a remedy to address contamination at a particular site.
- The Statement of Basis is available for public comment so EPA may better serve the community by selecting the best ***final*** remedy.

Background

- NIPSCO is a coal-fired power plant that generates electricity
- The facility is located on Lake Michigan and is bordered by the Indiana Dunes National Lakeshore
- NIPSCO has investigated contamination at the site since 2005
- Areas A & B have been investigated and assessed
- EPA issued this Statement of Basis to ***recommend*** remedies for Areas A & B and solicit your comments

Your Input is Important to us!

Study Area: Process Overview

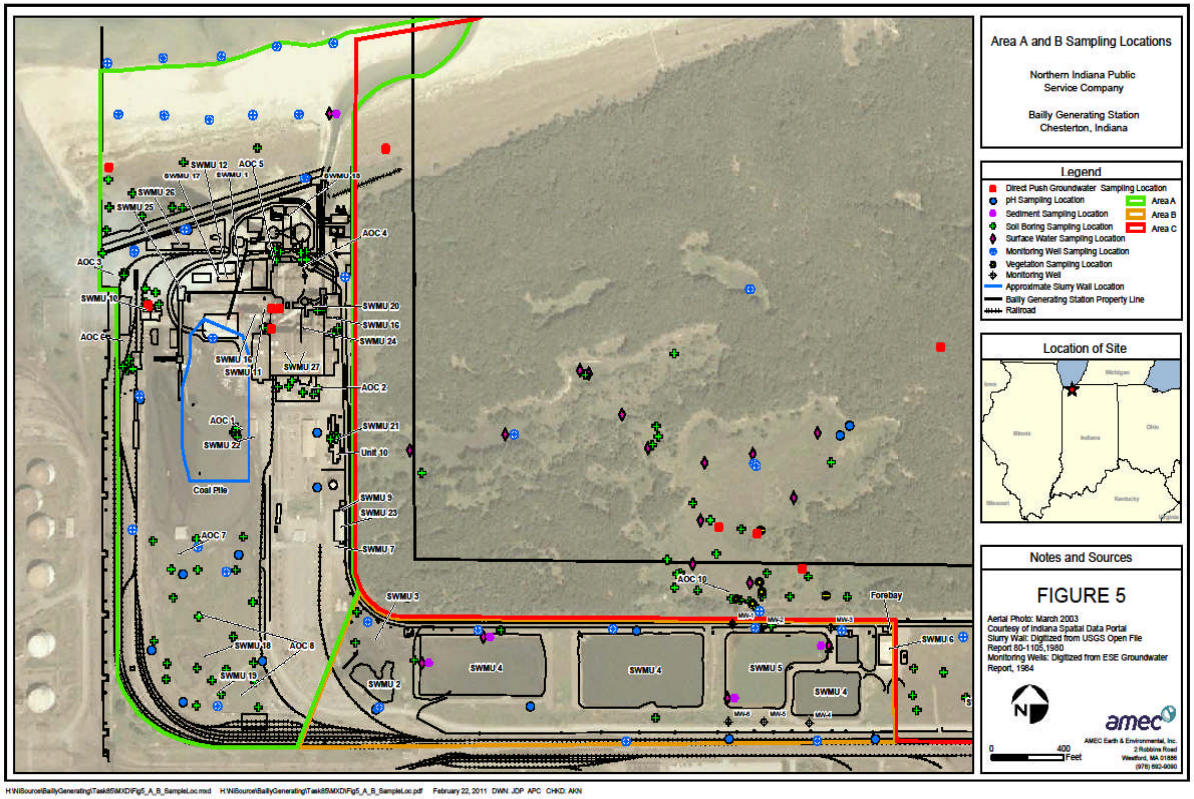
Areas A & B

- 3008h RCRA Order
- Investigation; Is there contamination?
- Data Evaluation; Does that contamination pose a risk?
- Remedy; How should that risk be reduced or mitigated?

Investigations in Areas A & B

- Lake Michigan Beach
- Soil
- Groundwater
- Sediment
- Surface Water

Areas A & B: Investigation Activities



Samples Collected and Soil Removed

Soil Samples 300+

Groundwater Samples 400+

Contaminated Soil Removed 24,424 ft^3

Interim Measures: Removed 24,424 ft^3 Contaminated Soil

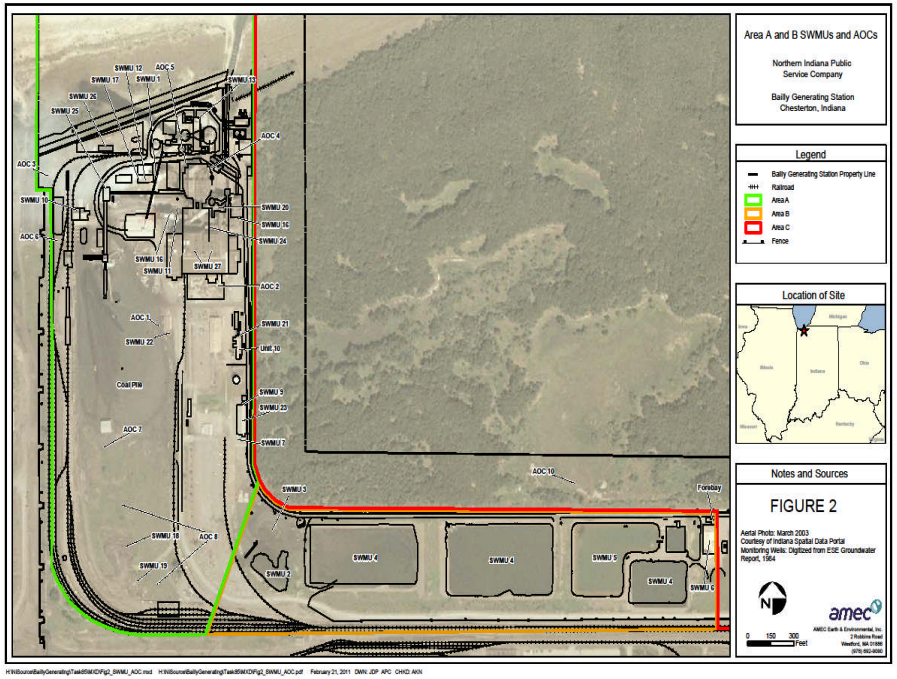
SWMU 10 4,757 ft^3

SWMU 20 2,250 ft^3

AOC 1 7,440 ft^3

Areas A & B: General Findings

- Interim Measures
  - Removed contaminated soil immediately
- Metals Remaining
- Source: SWMU 18
  - Proposed remedy to address remaining metals
- Human Health and Ecological Risk* Assessed
  - No Human Health Risk
  - Minimal Ecological Risk



*Ecological risk was evaluated in Area A only

Contamination Remaining: What's the Risk?

Human Health

Receptor	Cancer Risk	Is there risk?
Current Facility Worker	$9x10^{-6}$	NO
Current Trespasser	$2x10^{-7}$	NO
Future Facility Worker	$9x10^{-6}$	NO
Future Construction Worker	$6x10^{-7}$	NO

Ecological

Receptors	Risk?
Mammals:	
– Shrew	NO
– Meadow vole	NO
– Fox	NO
– Mink	NO
Birds:	
– Woodcock	NO
– Piping plover	NO
– Canada goose	NO
– Robin	NO
– Hawk	NO
Soil Invertebrates	YES
Plants	YES

Ecological Risk:
Lake Michigan Focus

What's the Receptor?

The piping plover is an **endangered** species within the Great Lakes. It feeds and nests on beaches. Some shoreline is designated *critical habitat* by Congress.

Where Did We Sample?

We sampled shallow groundwater along the beach and compared results to conservative screening values specifically for the piping plover. There is no site related risk.

Ecological Risk: Soil Invertebrates & Plants

Potential risk to earthworms and plants:

- Active, industrial portion of facility
- Used conservative no-effect toxicity values to evaluate risk
- Risk Management Decision
  - Appropriate land use
  - Source control to further reduce risk from groundwater

http://www.industcards.com/st-coal-usa-in.htm

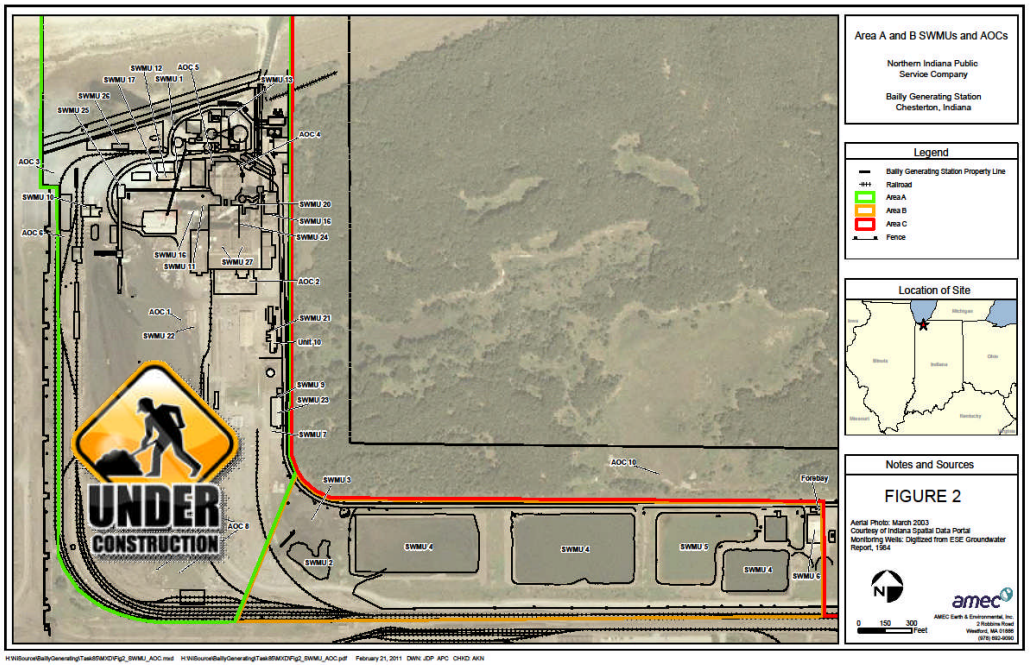
Proposed Remedy

- Soil Excavation and Off-Site Disposal
  - Remove contaminated soil to levels that prevent metals from migrating from soil to groundwater
  - Monitor groundwater until final goals are consistently met
- Institutional Controls
  - Ensure land is used for industrial purposes in the future
  - Ensure groundwater is not used for drinking water
- Financial Assurance
- Interim Measures

Proposed Remedy: SWMU 18

3 Step Process

1. Sample soil to refine area of digging: 0-6”, 6-12”, 12-24” for a total of 48 samples
2. Dig up and remove soil to off site permitted landfill
3. Monitor groundwater



Groundwater Monitoring:
Measures Success of Remedy

- Remedy Endpoints
  - Endpoints are numbers based on site goals
    - EPA's goals for the groundwater here are:
      - Protect Lake Michigan as an ecological receptor
      - Protect Lake Michigan and the groundwater as a drinking water source

Proposed Endpoints

- Great Lakes Initiative Values; EPA criteria developed specifically to protect the Great Lakes ecosystems
- Maximum Contaminant Levels; EPA criteria developed to protect real or potential drinking water sources

Groundwater Endpoints

Proposed Endpoints

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Why Two Sets of Criteria?

The Great Lakes criteria are very low, but, for some metals the Maximum Contaminant criteria are even lower. EPA has an obligation to restore groundwater to the maximum beneficial use where possible. We propose to use the lower of the two criteria in order to do so.

Questions or Comments?