New Jersey Zinc/Mobil Chemical Superfund Site DePue, Illinois

Proposed Plan - Operable Unit 4

Illinois Environmental Protection Agency

June 29, 2016

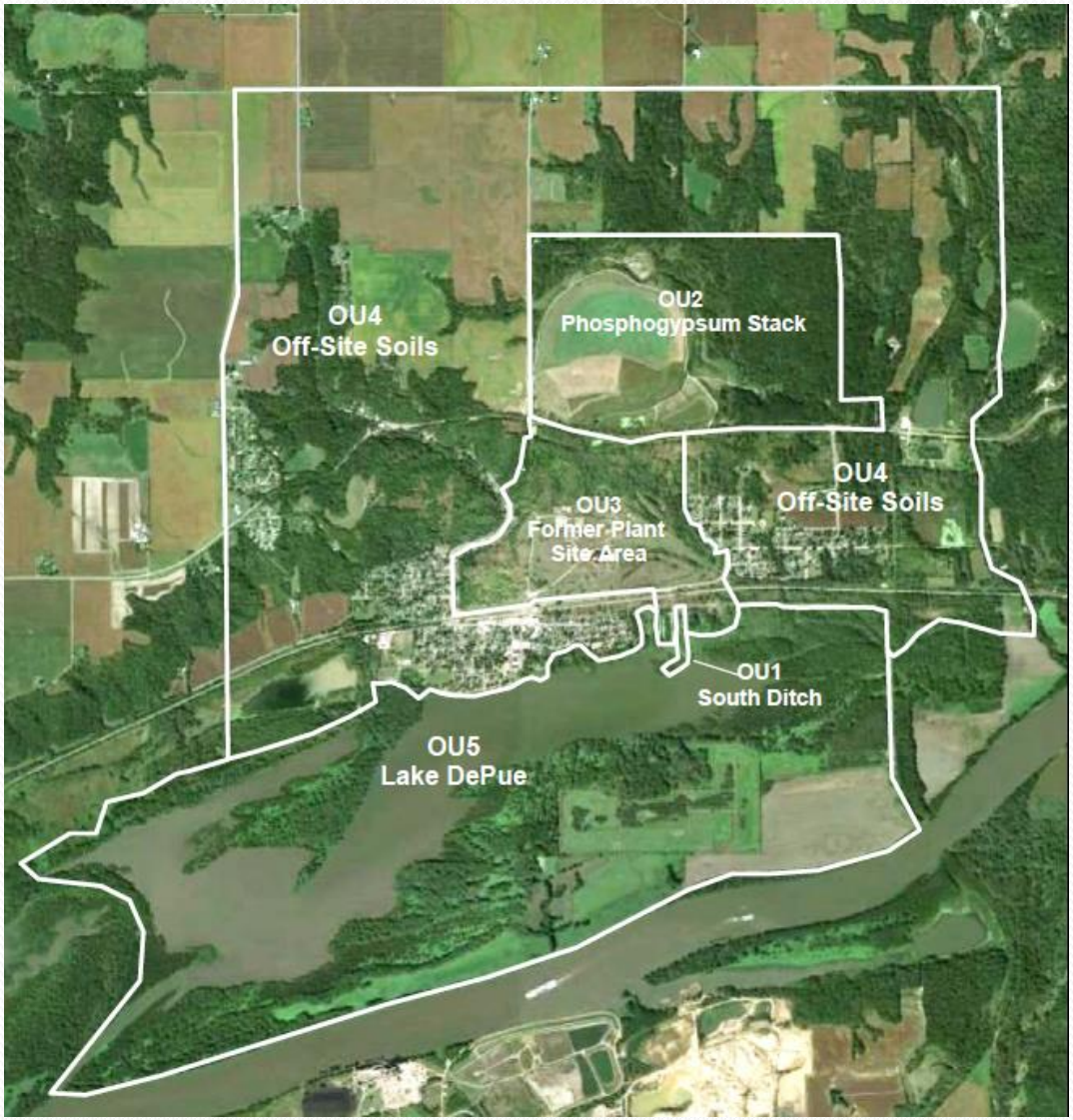
Introductions

- Charlene Falco, Illinois EPA, project manager
  - 217-785-2891; charlene.falco@illinois.gov
- Jay Timm, Illinois EPA, community relations coordinator;
  - 217-557-4972; jay.timm@illinois.gov
- Connie Sullinger, Illinois EPA risk assessor
- Clarence Smith, Illinois EPA, Manager, Federal Sites
- Heather Nifong, Illinois EPA, Chief, Bureau of Land
- Kevin Phillips, Ecology & Environment, Inc., Illinois EPA contractor

Agenda

- Presentation of Proposed Plan
  - Description of Operable Unit 4
  - Summary of investigation findings
  - Description of cleanup alternatives and Illinois EPA preferred alternative
  - Description of cleanup goals
  - Next Steps
- Questions
- Opportunity for public comment

New Jersey Zinc Superfund Site

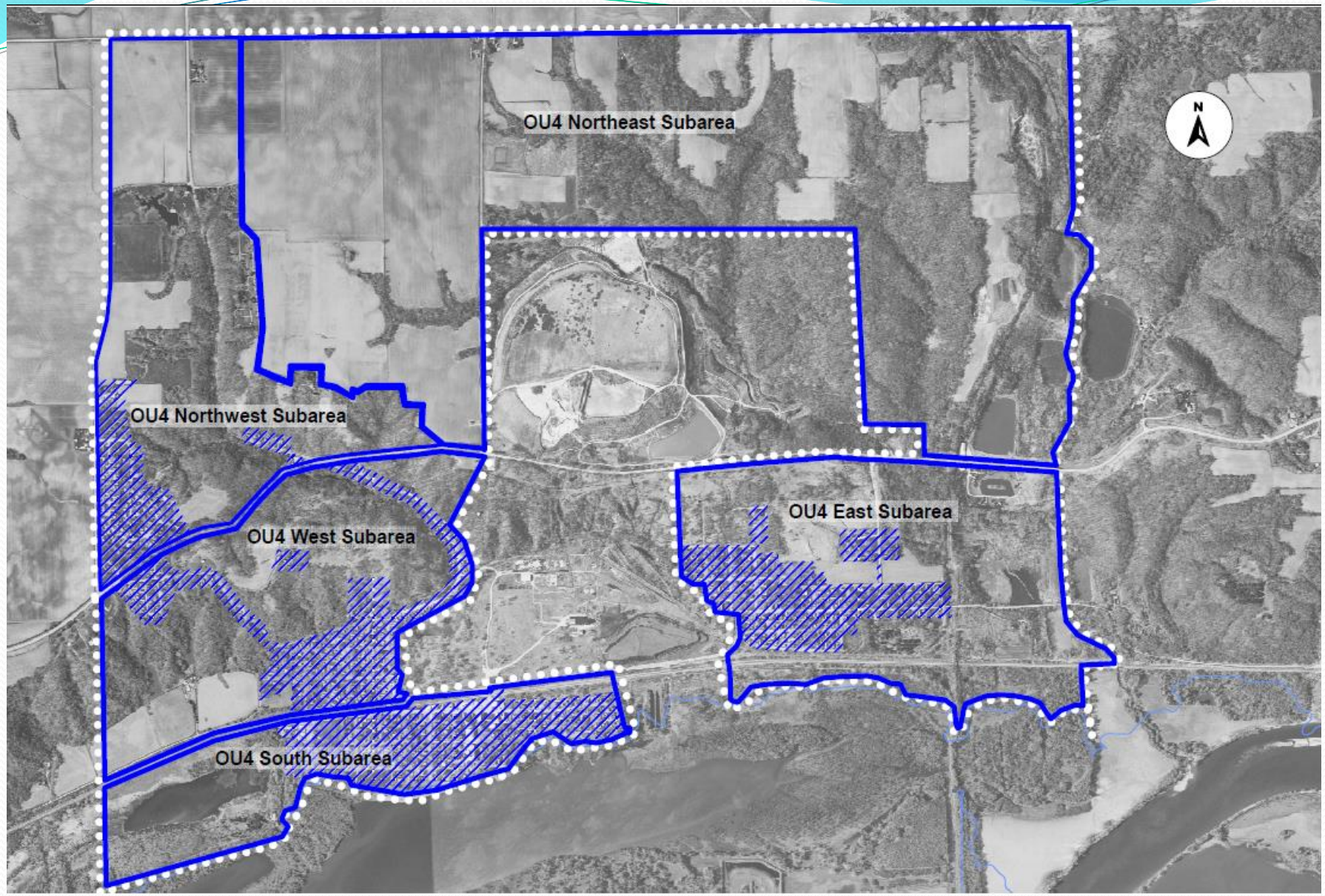


Superfund Process

- Remedial Investigation & Feasibility Study
- **Proposed Plan/Public Comment/Record of Decision**
  - Illinois EPA will respond to public comments in a Responsiveness Summary
  - The selected alternative will be presented in a Record of Decision
    - Community will be informed via public notice
- Remedial Design/Remedial Action

Operable Unit 4

Off-Site Soils


OU4 Northeast Subarea
N
OU4 Northwest Subarea
OU4 West Subarea
OU4 East Subarea
OU4 South Subarea

Pilot Study Investigation (2013)

- Purpose: to determine the kinds of metals present in Village soils and their concentrations
- 41 randomly selected residential properties
- Over 1200 samples taken from these properties
- Samples were analyzed for metals: antimony, arsenic, barium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, thallium, and zinc

Pilot Study Results

- Samples were taken to 24 inches below surface
- Some metals exceeded "screening" levels:
  - Arsenic, Cadmium, Cobalt, Lead, Manganese
    - Arsenic & Lead: Present throughout the Village, mostly in the surface to 18 inches
    - Cadmium: Less frequently detected, generally in the surface
      - In gardens: from the surface to 18 inches
    - Cobalt: Rarely, 2 samples from 2 properties, in the surface
    - Manganese: Infrequently, generally in subsurface, below 6 inches

Operable Unit 4 Proposed Remedial Action

Purpose of the Cleanup

- To prevent ingestion, inhalation, and dermal contact of soil contaminated with metals concentrations above the designated cleanup goals for resident child, adult, and construction worker

Scope of the Action

- Residential property
- Select commercial properties
- Residential vacant lots
- Public Property: parks, alleys and the school

Scope of the Action

- Properties to be addressed:
  - 814 residential lots (including vacant lots)
  - 5 special use areas: athletic fields, school, 3 parks, about 22 acres
  - Alleys, about 16 acres

Scope of the Action

- Soil samples will be collected from properties and analyzed
- If the cleanup goals are exceeded, that soil will be removed from the property
- Site-related material used as fill will also be removed
- Excavated areas will be backfilled with clean soil
- Properties will be restored with grass and landscaping
- Estimated 55,000 cubic yards to be removed
  - 27,000 cubic yards from residences
  - 28,000 cubic yards from special use areas & alleys

Remedial Alternatives

Evaluated within Scoping Document (October 2015), including an evaluation against nine criteria, as required by law.

- Alternative 1: No Action
- Alternative 2: Excavation and Management of Soils on the Former Plant Site Area
- Alternative 3: Excavation and Off-Site Disposal

Nine Evaluation Criteria

Criteria 1 & 2

1. Overall protection of human health
2. Compliance with applicable or relevant and appropriate requirements

- If an alternative does not meet one of these requirements, it cannot be considered further

Nine Evaluation Criteria

Criteria 3-7

3. Long Term Effectiveness
4. Reduction of Toxicity, Mobility, and Volume through Treatment
5. Short Term Effectiveness
6. Implementability
7. Cost

Nine Evaluation Criteria

Criteria 8 & 9

8. Support Agency Acceptance
9. Community Acceptance

Alternative 1

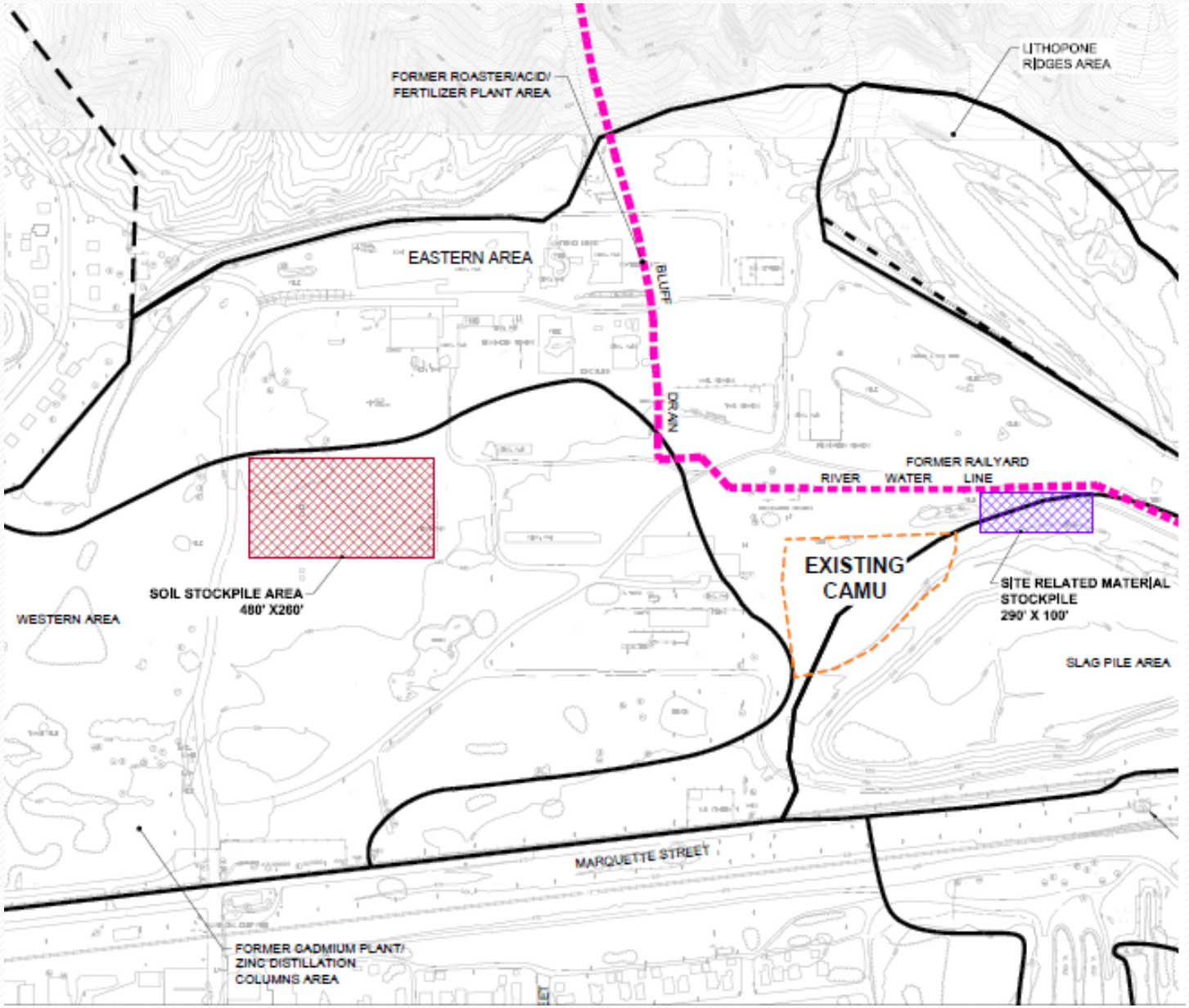
No action

- Required by the Superfund law to be evaluated
- Is not considered a valid alternative for OU4 because it does not meet the first criterion: overall protection of human health and the environment

Alternative 2

Excavation and Management of Soils on the Former Plant Site Area

- Soil samples taken from yards, parks, alleys, school
- Soil above cleanup goals will be excavated from these areas
- Excavated soil and fill material will be stockpiled in the plant area for future management
  - Fill material and more highly contaminated soil will be stockpiled at the base of the slag pile
  - Less contaminated soil will be stockpiled on plant site separately
- Estimated Cost: $13.1 million


FORMER ROASTER/ACID/
FERTILIZER PLANT AREA
LITHOPONE
RIDGES AREA
EASTERN AREA
BLUFF
DRAIN
FORMER RAILYARD
RIVER WATER LINE
EXISTING
CAMU
SITE RELATED MATERIAL
STOCKPILE
290' X 100'
SOIL STOCKPILE AREA
480' X260'
WESTERN AREA
SLAG PILE AREA
MARQUETTE STREET
FORMER CADMIUM PLANT/
ZINC DISTILLATION
COLUMNS AREA

Alternative 3

Excavation and Off-Site Disposal

- Same as Alternative 2, except:
- Excavated soil and fill material will be transported and disposed off-site in a landfill
  - Assuming all soil is "non-hazardous," estimated cost is $21.2 million
  - Assuming all soil is hazardous, estimated cost is $30.8 million

Elements of the Action

- Access agreement with property owner to allow sampling and cleanup work
- Excavated areas will be backfilled with clean soil and restored to previous condition
- Owner will receive a letter from Illinois EPA documenting sample results and activities conducted on their property
- Use of Institutional Controls may be needed on certain properties
  - Marker barrier
  - Notification, possibly through a one-call system
  - Uniform Environmental Covenant on public property
  - Construction Support Program
  - Soil Repository

Comparative Analysis

Evaluation Criteria	Alternatives		
	1	2	3
	No Action	Excavation and Management of Soils on Plant Site	Excavation and Off-Site Disposal
Overall Protection of Human Health and the Environment	—	✓	✓
Compliance with ARARs	—	✓	✓
Long-Term Effectiveness and Permanence	—	✓	✓
Reduction of Toxicity, Mobility, or Volume Through Treatment	—	—	— (3A) ✓ (3B)
Short-Term Effectiveness	—	✓	✓
Implementability	✓	✓	✓
Cost (Net Present Worth)**	$0	$13.1 million	$21.1 million – 30.5 million
Support Agency Acceptance	U.S. EPA support will be determined after the public comment period ends.		
Community Acceptance	Community acceptance will be evaluated after the public comment period ends.		

Preferred Alternative

Alternative 2: Excavation and management of soil on the former plant site

- Less risk to community and workers due to less truck traffic on Village streets
- Less risk to other communities from possible trucking accidents or spills
- Same level of risk reduction within the Village at lower cost
- Responsibility for soil brought back to the plant site remains with the DePue Group

Cleanup Goals

Cleanup Goals for OU4

- Cleanup goals are based on protection to the most sensitive receptor, generally the residential child.
- Exposures from OU4
  - Ingestion (soil)
  - Inhalation
  - Skin contact
  - Ingestion of garden produce grown in contaminated soil
- Exposures from OU5
  - Ingestion (sediment, surface water, soil, fish)
  - Inhalation
  - Skin contact during swimming, boating, fishing

	Residential (mg/kg)	Garden (mg/kg)	Construction Worker (mg/kg)
Antimony	31	31	140
Arsenic	21	21	140
Barium	15,000	15,000	66,000
Cadmium	70	24	280
Total Chromium	120,000	120,000	510,000
Cobalt	23	23	930
Copper	3,100	3,100	14,000
Lead	400	400	940
Manganese	1,800	1,800	6,200
Mercury	23	23	680
Thallium	6.3	6.3	160
Zinc	23,000	10,000	100,000

Cleanup Goal - Lead

- Risk from lead is assessed differently from other metals
- Protective levels in soil based on lead level in children's blood
- 400 mg/kg is considered protective, based on a blood lead level of 10 µg/dL
  - This level is under review at the federal level.
  - 400 mg/kg currently being used as cleanup goal at Hegeler Zinc near Danville and proposed for Mathiessen & Hegeler in LaSalle

What's Next

Next Steps

- Review public comments/Responsiveness Summary
  - Illinois EPA will respond to public comments
- Complete the Record of Decision Summer 2016
  - The selected alternative will be presented in the Record of Decision; community will be informed via public notice
- Remedial Design 2016
- Negotiate new consent order Fall/Winter 2016
- Begin remedial action 2017

Public Comment

- Provide oral comment today
- Provide written comment today or by midnight, July 14,2016
- Comment period may be extended for 30 days upon request
  - Request must be received prior to July 14, 2016

Public Comment

- Comments accepted via e-mail: epa.publichearingcom@illinois.gov
- Comments accepted through US mail, to:
  - Jay Timm, Illinois EPA
    Office of Community Relations
    1021 North Grand Avenue East
    Po Box 19276
    Springfield, IL 62794
- More information available at the Selby Township Library, or Illinois EPA's office, or Illinois EPA's website
  - http://www.epa.illinois.gov/highlights/document-explorer
  - http://www.epa.illinois.gov/public-notices/general-notices/index
  - http://www.epa.illinois.gov/topics/community-relations/sites/new-jersey-zinc/index