STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION V
ID# 3157

Northwestern Steel and Wire Company

Sterling, IL
(signed March 22, 1993)

Facility/Unit Type: Industrial landfill
Contaminants: Cis-1,2-Dichloroethene (cis-1,2-DCE); Trichloroethylene (TCE); Vinyl Chloride
Media: Ground water, sediments
Remedy: Institutional controls for ground water, ground-water monitoring, natural attenuation

FACILITY DESCRIPTION

On September 27, 1987, EPA issued a RCRA permit to the Northwestern Steel and Wire Company (NW Steel) for a facility located in Sterling, IL. The permit, pursuant to Section 3004 of HSWA, required NW Steel to conduct a RFI for a SWMU at the Sterling facility identified as the pre-RCRA Landfill.

The pre-RCRA Landfill covers an area of approximately 13.5 acres, is 8 to 10 feet deep, and is located 200 yards from the Rock River. The landfill was in active use from 1974 until 1980. NW Steel identified the primary materials placed in the landfill as electric furnace slag, emission control dust/sludge from the production of steel in electric furnaces, and lime-neutralized pickle liquor sludge. Other materials placed in the landfill were mill scale, brick, and wood.

During the RFI, sampling was conducted of soils in the vicinity of the landfill, of surface water pathways leading from the landfill site to the Rock River, and of ground-water pathways which would come in contact with any leachate generated in the landfill. A plume of ground-water contamination approximately 600 feet in width and extending from the southern face of the landfill to the river was discovered during the sampling. The ground water was found to contain TCE, DCE, and vinyl chloride. On August 20, 1990, based on the results of the RFI, EPA ordered NW Steel to conduct a CMS to evaluate cleanup alternatives. NW Steel then performed the CMS.

EXPOSURE PATHWAYS

Human exposure could occur via three pathways. First, if the soil and fill in the pre-RCRA Landfill were disturbed, there could possibly be exposure through contact with or ingestion of the soil and fill. Secondly, if ground water were extracted from the plume of contamination, contact with or ingestion of the water could result in exposure. Finally, contact with the water or sediments in the river, either directly by humans or indirectly by the ingestion of plants and animals exposed to the constituents, could occur. Non-controllable pathways of concern involve releases to the river which may result in inhalation of air containing vinyl chloride and dermal exposure to recreational users of the river.

SELECTED REMEDY

The selected remedy consists of restrictions on the usage of ground water that could be affected by the contamination from the landfill, restrictions on activities that would disturb the soils or fill material in the landfill, periodic monitoring of the ground water that could be affected by the contamination from the landfill, and provisions to implement additional corrective measures if any significant increases in contaminant levels occur. The remedy is

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Maximum Concentration (µg/l)	Action Level	Cleanup Goal*	Point of Compliance
sediment	N/A	cis-1,2-OCE Vinyl Chloride	4 18	70 ppb 2 ppb	70 ppb 2 ppb	Landfill boundary of the plume until it reaches the river.
ground water	N/A	cis-1,2-DCE Vinyl Chloride TCE	900 520 5.5	70 ppb 2 ppb 5 ppb	70 ppb 2 ppb 5 ppb	

* Cleanup goal is the Maximum Contaminant Level federally enforceable under the Safe Drinking Water Act.

based on the finding that, under present conditions, the releases to the ground water at the site do not present a significant threat to either human health or the environment, and that natural degradation and attenuation of the constituents will lead to a safe cleanup of the release.

The total cost of the selected remedy is estimated at approximately $179,575 (Capital costs $28,125 and O&M costs $151,450).

INNOVATIVE TECHNOLOGIES CONSIDERED

The following innovative technologies were considered:

- In-situ vapor extraction
- In-situ bioreclamation
- Fix film bioreactors
- Oxidation with UV photolysis.

PUBLIC PARTICIPATION

The public comment period extended from January 21, 1993 through March 8, 1993. No comments were received and no public hearing was requested.

NEXT STEPS

NW Steel will continue to do quarterly groundwater monitoring of the wells along the perimeter of the landfill for a year, and will report the results to EPA. If no significant increase in the concentration of hazardous constituents is found during the quarterly monitoring period, semiannual monitoring will be conducted until there are no releases above MCLs detected.

KEY WORDS
ground water, sediments; ingestion, dermal contact, inhalation; VOCs, heavy metals; institutional controls, monitoring, natural attenuation

CONTACT
Gale Hruska
U. S. EPA, Region V
RCRA Program Management Branch (HRM-8J)
77 W. Jackson Boulevard
Chicago, IL 60604
(312) 886-0989