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Minnesota Pollution Control Agency

A Superfund Fact Sheet on

South Andover:

EPA and MPCA Propose Changes to Soil Cleanup Plan

April 1994

This fact sheet, prepared by the U.S. Environmental Protection Agency (EPA) and the Minnesota Pollution Control Agency (MPCA), presents the amended proposed plan for cleanup of the organically contaminated soil at the South Andover Superfund Site in Andover, Minnesota. The original cleanup plan was documented in the legal Record of Decision (ROD), published by EPA in December 1991. That plan included the following features:

- excavation of 11,400 cubic yards of contaminated soil;
- biological treatment of 2,100 cubic yards of soil organically contaminated with polynuclear aromatic hydrocarbons (CPAHs, chemicals typically found in creosote and coal-tar products);
- disposal of 9,300 cubic yards of predominantly metal-contaminated soil; and
- replacement of excavated soil with clean soil from the site.

During the Remedial Investigation of the site, the volume of organically contaminated soil was estimated to be 2,100 cubic yards. However, based on actual soil samples taken in 1993, only 250 cubic yards of organically contaminated soil needs treatment. Because of this significantly smaller volume of soil, the EPA and MPCA are proposing to amend the original cleanup plan to replace biological treatment of the organically contaminated soil with one of two forms of off-site thermal treatment, either rotary kiln incineration or thermal desorption (see descriptions of these technologies on page two). For the volume of soil now known to be on site, either of these thermal alternatives would be more cost-effective and could be completed in less time than the biological treatment originally proposed.

After all the metal- and organically contaminated soil has been excavated, ground water would be monitored for three years to ensure that the ground-water performance standard has been met. Under the amended cleanup plan, no

South Andover Superfund Site
Comment Period:

The EPA and MPCA will accept comments on the revised soil cleanup proposal for the South Andover Superfund site during the following period:

Monday, April 18 - Wednesday, May 18, 1994

Public Meeting:

The EPA and MPCA will hold a public meeting, to explain and accept public comments on the revised soil cleanup proposal, at the following time and location:

Wednesday, May 4, 1994
7:30 p.m.
Andover City Hall

contaminated soil would remain on-site, and the potential source of future ground-water contamination would be effectively removed.

Additionally, this proposed amendment serves to update the Maximum Contaminant Levels (MCLs) for ground water. MCLs are the maximum permissible level of a contaminant in water that is delivered to any user of a public water system. MCLs are the ground-water performance standard for the site.

Before making a decision about the proposed amendment, the EPA and MPCA will accept and consider the views and opinions of community residents and others interested in the cleanup of the site. To gather comments from the public, EPA and MPCA have scheduled a comment period and a public meeting (please see announcement on page one).

What is the history of the site?

The 50-acre South Andover Superfund site, located south of Bunker Lake Blvd. and west of Hanson Blvd. in Andover, includes several privately owned parcels of land that have been used over the years for disposal of industrial waste, junked vehicles, and an estimated three million tires. In addition, two tire fires occurred at the site, one in 1988 and the other in 1989.

Starting in 1973, Anoka County and the MPCA made numerous attempts to compel the property owners to handle their wastes properly. An investigation by EPA, from 1985 to 1988, found ground water at the site to be contaminated with metals, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs), some at levels slightly above the acceptable MCL standard. (VOCs and SVOCs are solvent-like chemicals. VOCs change from liquids to gases at relatively low temperatures; SVOCs change at higher temperatures.) Additional ground-water investigations performed in 1991 indicated that the previously detected contaminants were generally below the acceptable MCL standard.

What is the new proposed soil remedy?

The EPA and MPCA are proposing that the organically contaminated soil from the South Andover site be excavated and transported off-site for treatment with either rotary kiln incineration or low-temperature thermal desorption.

For rotary kiln incineration, the contaminated soil would be placed in a cylindrical, refractory-lined, rotating kiln and heated until combustion results in breakdown and destruction of the organic compounds. Ash and exhaust gases would be collected and treated as necessary. Incineration is a well-established technology that has a contaminant-destruction rate of 99.99 percent.

Low-temperature thermal desorption (LTTD) reduces the volume and mobility of wastes by separating and collecting the organic contaminants. Although LTTD would use heat to treat the soil, it is not incineration because it does not destroy the contaminants. As the soil is heated (roasted) in the desorber, the organic contaminants volatilize and are collected. Then, the collected contaminants would be treated with either an afterburner or carbon filtering.

Organically contaminated soil has been successfully treated with LTTD. Selection of LTTD as the treatment of choice would be dependent on assurance that the selected desorber would be able to adequately treat the soil.

As proposed, both thermal treatments of contaminated soil would take place off-site.

How do the old and new remedies compare?

Staff from the EPA and MPCA evaluated each of these proposed cleanup technologies against the following cleanup criteria developed by EPA:

Overall protection of public health and the environment. To what degree does the change in soil treatment eliminate, reduce, or control threats to public health and the environment?

Either of the new soil remedies could be completed in less time (three to four months) than biological treatment (two years). Earlier completion of soil treatment would remove the source of potential ground-water contamination at the site and reduce the public's potential exposure to both soil and ground-water contamination.

Compliance with state and federal regulations. Does the cleanup change meet environmental or other regulations?

Both of the new proposed remedies and the old remedy meet all of the federal and state environmental laws concerning soil-cleanup levels.

Cost. How do the costs of the new proposals compare to that of the original?

The estimated cost for biological treatment of the organically contaminated soil (volume estimated at 2,100 cubic yards in 1991) was $2.4 million. Incineration of the organically contaminated soil (volume now known to be 250 cubic yards) would cost $67,000. Low-temperature thermal desorption would cost $60,000.

Implementability. Is the appropriate technology available?

Technology is available for the original and both of the new proposed thermal treatment plans. Both a fixed-site rotary kiln incinerator and low-temperature thermal desorbers are available in the local area. The incinerator holds a valid operating permit; the selected desorber would need to be issued a permit by the MPCA for the treatment.

Short-term effectiveness. Does implementation of the cleanup change pose any risks to workers and nearby residents?

Soil excavation, part of the original proposal and both of the new ones, would cause temporary dust, noise, and traffic at the site. Because both of the new proposals would take the soil off-site, on-site activities

Organically contaminated soils	Original plan	Revised plan
Volume	2,100 cubic yards	250 cubic yards
Treatment	biological treatment	thermal treatment
Time	two years	three to four months

Comparison of treatment plans for organically contaminated soils.

would be of significantly less duration than with the original soil cleanup plan. Health and safety plans would require that all workers, whether on-site or off-site, be adequately protected during the work.

Long-term effectiveness. Will the cleanup change be reliable in protecting public health and the environment over many years?

All of the proposals (the original, to treat biologically; the new plans, to treat with incineration or thermal desorption) would result in removal and destruction of the organically contaminated soil. Ground-water monitoring, ensured under the ground-water ROD, would provide information on the effectiveness of the soil remedy and would ensure continued ground-water quality on the site.

Reduction of contaminant toxicity, mobility, and volume. How well does the cleanup change reduce the harmful nature of the chemicals, prevent chemicals from moving off-site into the surrounding areas, and decrease the levels of pollution?

The originally proposed remedy (biological treatment) would effectively reduce the volume of organically contaminated soil. The new proposals, either thermal desorption or incineration, would reduce the toxicity, mobility, and volume of organically contaminated soil.

State acceptance. Does MPCA support or oppose EPA's proposed ROD change?

The State of Minnesota supports the proposed amendment.

Community acceptance. What comments do local residents and other members of the public have about the proposed ROD amendment? Does the public support or oppose the changes?

Community opinion is an important part of the Superfund process. The community is encouraged to review the proposed changes to the soil ROD and other technical documents related to the site. Any comments on the proposed amended soil ROD offered during the 30-day comment period will be reviewed by the EPA and MPCA. These comments may cause the agencies to modify the proposed changes. All comments and the agencies' responses to them will be included in the Responsiveness Summary of the amended Record of Decision.

Other questions?

The cleanup proposals summarized in this fact sheet are described in more detail in the Focused Feasibility Study, which is available at the following two locations:

- Administrative Record:
  So. Andover Superfund Site
  Andover City Hall
  1685 Crosstown Blvd. NW
  Andover, MN 55304

- MPCA
  Ground Water/Solid Waste
  520 Lafayette Rd.
  St. Paul, MN 55155.

For more information about the South Andover Superfund Site or the proposed change in the soil cleanup plan, please contact:

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This fact sheet can be made available in Braille, large type, and audio tape.