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G-000-1006.11

**PROGRESS REPORT INTERIM CLEAN UP
ACTIONS BEGIN SPRING 1989**

04/15/89

**DOE-FMPC/PUBLIC
4
REPORT**



Interim Clean-Up Actions Begin

This RI/FS Progress Report is one in a series of Progress Reports that discuss the Remedial Investigation and Feasibility Study (RI/FS) underway at the U.S. Department of Energy's Feed Materials Production Center (FMPC) in Fernald, Ohio. This Progress Report talks about FMPC environmental clean-up activities that are underway or planned for the near future. This includes:

- *What Is the Clean-Up Process?*
- *Four Clean-Up Actions Slated*
- *Opportunities for Community Input*
- *How to Learn More*

This Progress Report also explains how these interim cleanup actions relate to the FMPC RI/FS. Information provided in this Progress Report is based on a technical presentation prepared for the May 15 Community Meeting about the RI/FS.

WHAT IS THE CLEAN-UP PROCESS?

The entire RI/FS process is prescribed and monitored by the U.S. Environmental Protection Agency (U.S. EPA). The Remedial Investigation now underway is designed to identify environmental problems associated with the last 37 years of FMPC operation. The Feasibility Study will develop and evaluate the clean-up actions to correct those problems.

Interim clean-up actions go hand-in-hand with the RI/FS. Once an environmental problem is identified in the Remedial Investigation, U.S. EPA allows two approaches to clean-up. These are "remedial actions" for final clean-up and

"removal actions" that call for more immediate action. This Progress Report focuses on removal actions.

A removal action is an interim clean-up action that is necessary but may not provide the complete solution to an environmental problem. While the RI/FS may identify a particular clean-up action to prevent further spread of contamination, there is not yet enough data to identify a final clean-up action. However, any removal action performed at the FMPC will support the final remedial actions available. In other words, interim clean-up actions will not detract from final clean-up actions.

FOUR FMPC CLEAN-UP ACTIONS SLATED

Four interim clean-up actions have been identified. They are:

- Containment of ground water in an area south of the FMPC, known as the south plume.
- Pumping and treating pockets of ground water from beneath FMPC facilities.
- Controlling stormwater runoff from the FMPC Waste Pit Area.
- Controlling radon gas in the K-65 silos.

These four needs were identified as a result of environmental monitoring and data analysis during the Remedial Investigation. (*Current Remedial Investigations are discussed in a separate Progress Report based on data presented during the May 15 meeting.*) A brief description of each action and interim clean-up goals follow.

Clean-Up Action #1:**CONTAIN WATER IN THE SOUTH PLUME**

The Remedial Investigation has revealed a region of ground water just south of the FMPC with concentrations of uranium that are above background levels. It is called the south plume. The exact boundaries of the plume are not well established yet. Additional wells are being installed to learn more about this area.

It will take time to evaluate the plume fully and to develop a final clean-up strategy. Scientists do know that the plume is slowly moving southward. The south plume interim action is designed to halt this migration.

The process to identify an interim solution is prescribed by U.S. EPA. The first step -- identifying the problem -- is done. Now, solutions are being analyzed by environmental engineers. The FMPC team is working with the U.S. EPA and the Ohio EPA to identify alternatives for correcting the problem. Once an alternative is selected, the public will be informed, and engineers will design a solution. Then the "removal action" can begin.

Clean-Up Action #2:**PUMP AND TREAT POCKETS OF WATER**

During non-RI/FS construction on FMPC property in July 1988, pockets of ground water with concentrations of uranium above background levels were found. Known as "perched water", these pockets of ground water are isolated by clay from other ground water. Because water does not flow easily through clay, these pockets of water have not moved from this area and, therefore, have not affected local supplies of drinking water.

Since this perched water was found, the FMPC has been pumping this water, removing the uranium, and discharging the cleaned water from the site. In addition, more wells will be

installed to define the problem further; any additional water that may be present will be removed.

**UNDERSTANDING PERCHED
GROUND WATER
(An Experiment)**

To understand how water flows through different materials, perform the following experiment.

MATERIALS NEEDED:

- 2 wide-mouth jars
or glass beakers
- sand
- clay
- water

WHAT TO DO:

1. Fill the first jar with 4" of sand. Tamp the sand. Set aside.
 2. Fill the second jar with 2" of sand. Tamp the sand. Top with 2" of clay. Pack the clay tightly, leaving no air pockets between the clay and the inside of the jar.
 3. Pour a few ounces of water into the jar with the clay and sand. Notice how the water remains ("perches") on top of the clay?
 4. Pour a few ounces of water into the jar with the sand. Notice how the water travels through the sand, leaving a darkened path?
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Clean-Up Action #3:**TREAT STORMWATER**

The next interim clean-up action involves controlling and treating stormwater from the Waste Pit Area on plant property. This action is designed to contain the stormwater, channel

K-65 REMOVAL ACTION

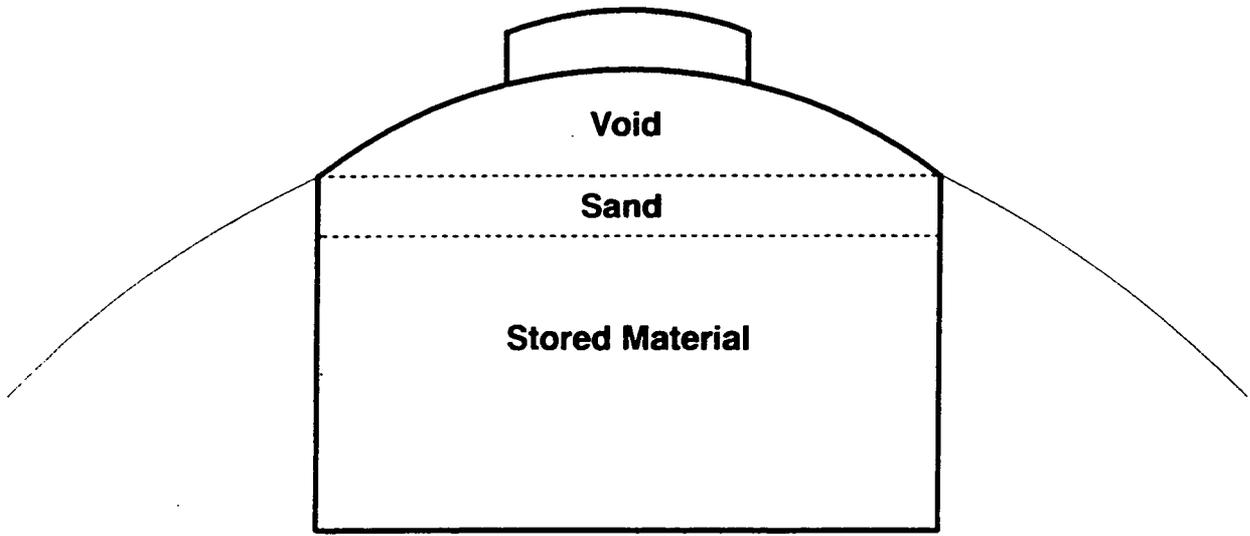


Figure 1.

it, then pump it through the FMPC wastewater treatment system before it leaves plant property. The FMPC will install trenches and culverts to collect the stormwater.

Engineering design of this stormwater runoff control system has already begun. Construction is planned for summer in 1990.

**Clean-Up Action #4:
FILL K-65 SILOS WITH SAND**

Two of the K-65 silos are filled with processing residues from World War II bomb production. They contain about 3-1/2 pounds of radium. During the process of radioactive decay, radium changes into radon, which is a gas. Radon gas, which occurs naturally in the environment, can cause human health problems. The FMPC's goal for this interim action is to continue to isolate the K-65 wastes from the environment.

To minimize potential radon gas emissions, a four-foot layer of sand will be placed inside these two silos. (See Figure 1.) This action will support anticipated final clean-up options. The project is expected to be completed by the end of 1989.

OPPORTUNITIES FOR COMMUNITY INPUT

Interested members of the local community have several opportunities to learn about and provide input into the clean-up process -- both interim actions and final actions. U.S. EPA specifies the process for public participation.

Interim clean-up actions are announced in major newspapers of general circulation. They are discussed at community meetings, where public comments and questions are welcomed; pertinent reports are available for public review in local reading rooms, according to the FMPC RI/FS Community Relations Plan.

The public input process for longer range final remedial actions is more precisely defined by the U.S. EPA. The process just described intensifies after the draft Remedial Investigation and Feasibility Study reports have been submitted to the U.S. EPA.

A formal public comment period follows. *All comments received during this period will be reviewed and considered by the DOE, U.S. EPA, and Ohio EPA as they decide on the final remedial actions for the FMPC.*

The selected final clean-up plan will be published in the Record of Decision, or ROD. The ROD must be announced in local newspapers of general circulation. Persons on the RI/FS mailing list are also notified. Once the plan is finalized, remedial design and remedial action can begin.

HOW TO LEARN MORE

To find out more about the FMPC Remedial Investigation and the Feasibility Study, the following opportunities are available:

ATTEND PUBLIC MEETINGS
Scheduled throughout the year

WRITE
U.S. Department of Energy
P. O. Box 398705
Cincinnati, Ohio 45239

VISIT READING ROOMS

Filled with reports, fact sheets, plans, and other pertinent information. They are located in:

FMPC Administration Building
7400 Willey Road
Cincinnati, Ohio 45239
(513) 738-6376
Mon - Fri: 7 a.m. - 5 p.m.

Lane Public Library
North Third & Buckeye Streets
Hamilton, Ohio 45013
(513) 894-7156
Mon - Sat: 9 a.m. - 9 p.m.
Sun: 1 p.m. - 5 p.m.