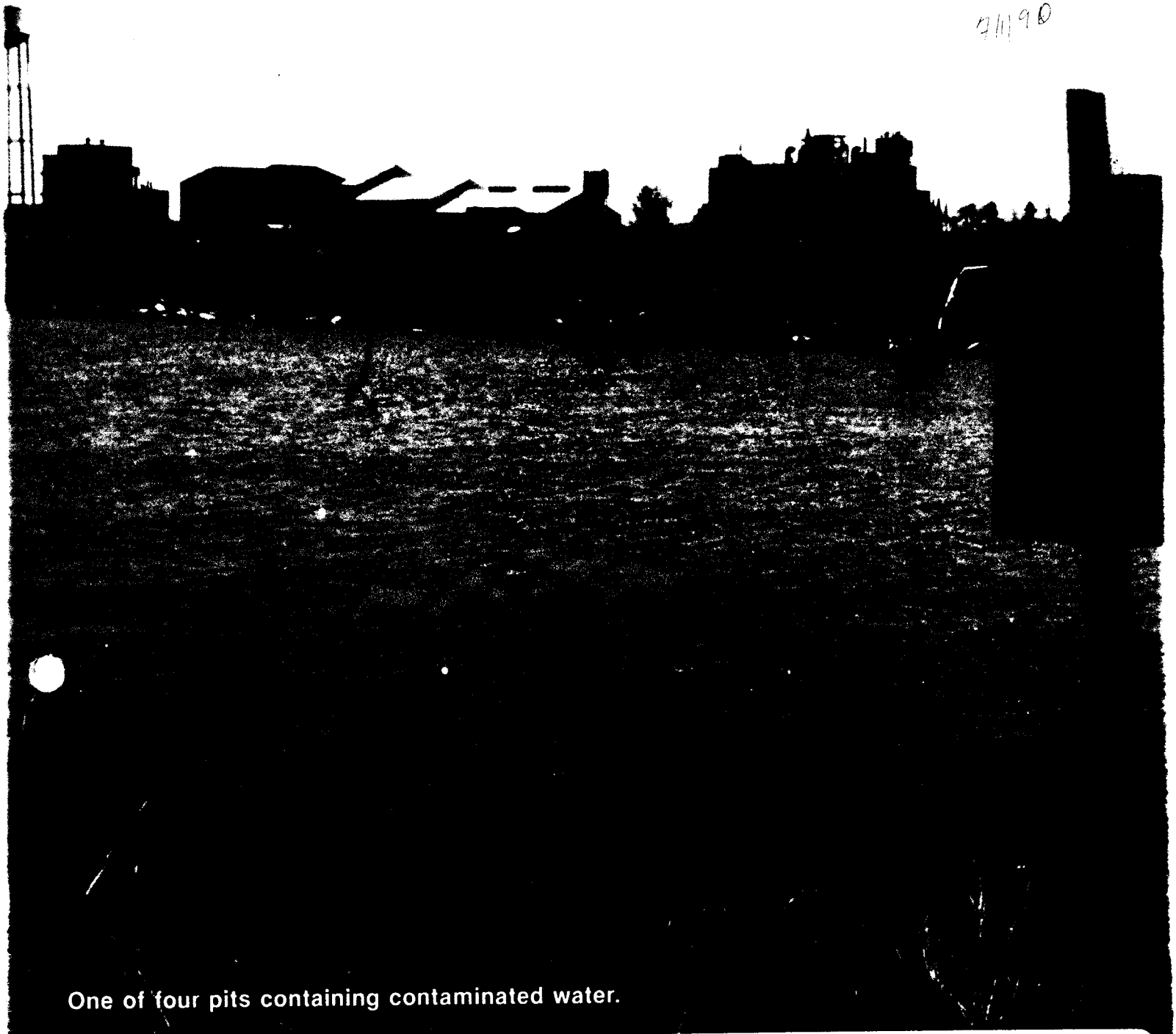
INFORMATIONAL BULLETIN

9/1/90



One of four pits containing contaminated water.

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DEPARTMENT OF ENERGY · UNITED STATES OF AMERICA

DOCUMENT NUMBER:

This bulletin is for the people of St. Charles and St. Louis counties who want to participate in decisions regarding the United States Department of Energy's plan for treatment of contaminated surface water impounded at the Weldon Spring Chemical Plant site.

WASTE WATER TREATMENT SYSTEM FOR THE CHEMICAL PLANT SITE

Cleanup activities at the Department of Energy's Weldon Spring Site Remedial Action Project (WSSRAP) are being carried out in order to protect human health and the environment. As outlined on page 3, a number of steps have already been taken to reduce hazards and limit migration of chemical and radiological contamination.

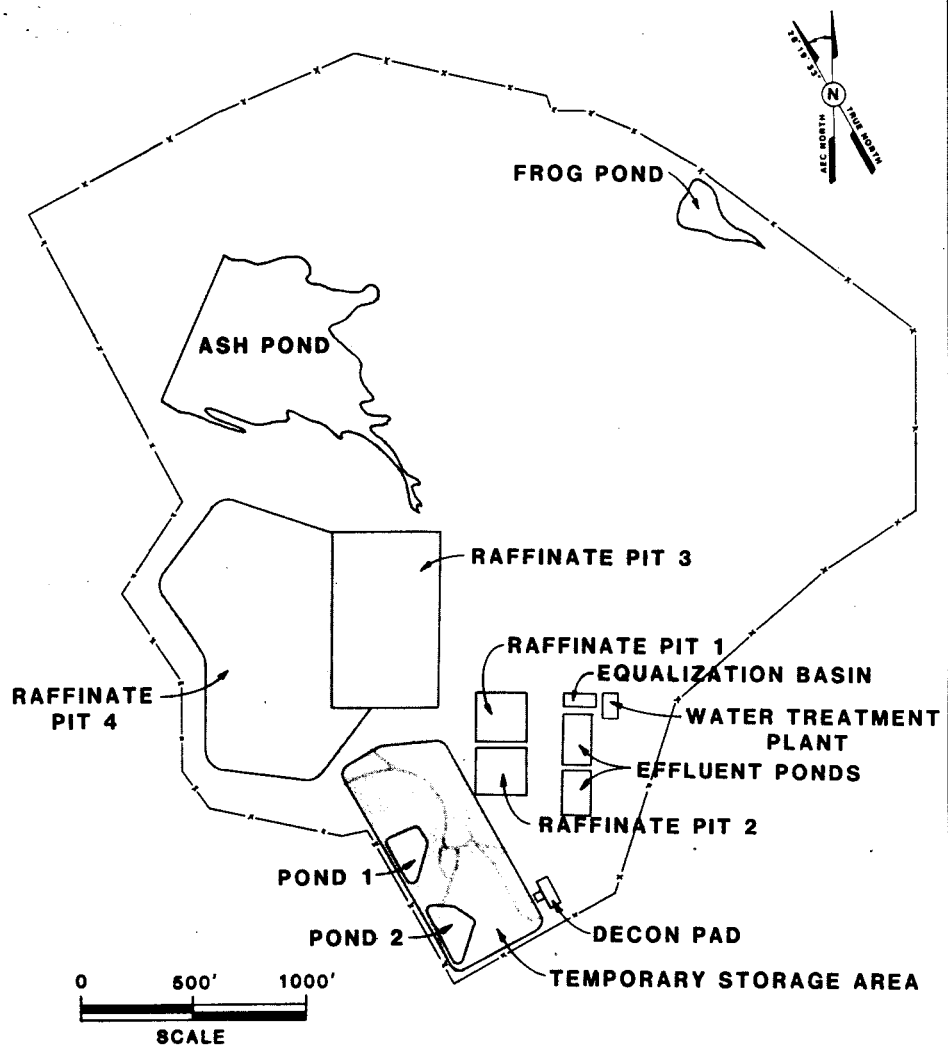
The next major step in the cleanup involves the design, construction and operation of a wastewater treatment system in the Chemical Plant area. The system will include an equalization basin, a water treatment plant and two effluent ponds needed to remove various contaminated surface water sources. The procedure for treating the water at the site will be similar to the one under construction at the Weldon Spring Quarry. The system will be designed to produce treated water close to drinking water standards.

Sources of water requiring treatment include the raffinate pits containing about 57 million gallons of contaminated water, and small impoundments known as Frog Pond and Ash Pond. Other sources of water requiring treatment include rainwater runoff from waste storage areas and wastewater generated from decontamination of trucks and other equipment.

PURPOSE

Primary purpose of this step in the Weldon Spring cleanup process:

- to remove ponded water from the raffinate pits and ponds.
- to remove water collected at a temporary waste storage area.
- to remove water collected at the vehicle and equipment decontamination pad.
- to treat these waters to safe release levels by utilizing vapor recompression, distillation and ion exchange technologies.
- to release these waters from the site only when successfully treated to meet permit limits.
- to continue to manage contaminated water at the site until the entire site cleanup is complete.



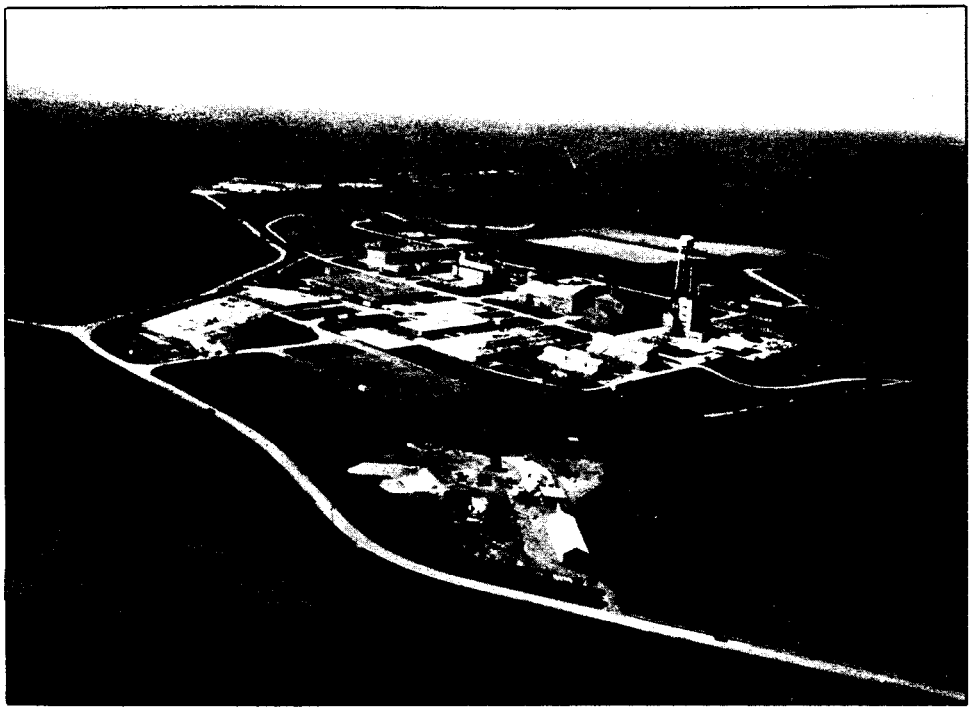
LOCATION OF TREATMENT FACILITIES AND PONDED WATER TO BE TREATED

PROGRESS, STEP-BY-STEP

The Weldon Spring Site effort is a step-by-step process with each step getting us closer to cleanup. State and Federal government regulations and public involvement help set the pace. Following is the status of this step-by-step process.

Actions completed to date:

- Identification of contaminated areas and detailed analyses of types of contaminants. (This is called site characterization.)
- Installation of an extensive monitoring system including 91 groundwater monitoring wells, five surface water monitoring stations and 19 air monitoring stations.
- Removal of hazardous and potentially dangerous facilities and materials such as decaying power poles and lines, overhead pipe, asbestos, PCBs, oils, and chemicals.
- Demolition of several large buildings.
- Reduction of off-site migration of contaminants by constructing dikes and ditches to reroute surface waters around contaminated areas.



Actions underway or being planned for the near future:

- Construction of a water treatment plant at the Quarry.
- Removal of the waste that is in the Quarry to temporary storage at a specifically constructed facility at the Chemical Plant site.
- **Treatment of surface water impounded at the Chemical Plant area and release of the treated water according to protective permit limits. (THIS IS THE PURPOSE OF THIS BULLETIN.)**
- Dismantling of Chemical Plant buildings and facilities.
- A decision for final cleanup and permanent treatment and disposal of contaminated material and debris.

PUBLIC MEETING

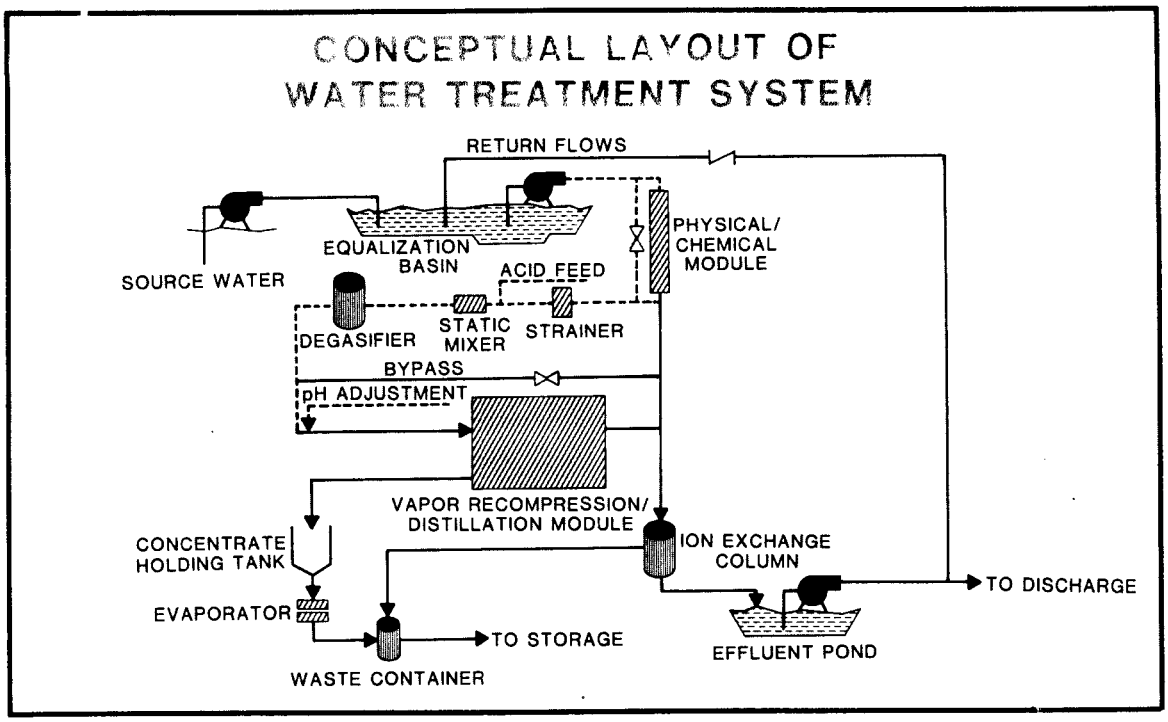
The State of Missouri Department of Natural Resources, the United States Department of Energy and the Environmental Protection Agency will co-sponsor a Public Meeting to describe these plans and to obtain public comment on the proposed water treatment action at the Chemical Plant area. Public comments received on this proposal and responses to comments will become part of an Administrative Record which is also available for public review. This public meeting will also be part of the State's NPDES permit process that will authorize construction and operation of the water treatment plant and release of treated waters to the Missouri River.

The Public Meeting will be held at 7:30 P.M. August 16, 1990, at The Columns Conference Center, 711 Fairlane, St. Charles, Missouri.

ONTAMINATED WATER PRESENTS POTENTIAL RISKS

There are potential risks associated with the contaminated water currently in the raffinate pits and ponds. Wildlife is now exposed to these surface waters and contaminants have migrated from the pits into the local environment. Although no drinking water wells have been affected, potential human exposure could occur in the future if cleanup actions are not initiated.

The raffinate pits contain various wastes from past processing and decontamination activities at the Chemical Plant. Contaminants in the pit waters include uranium, radium, arsenic, selenium, fluoride, nitrate and cyanide. The Frog Pond contains uranium and chloride and the Ash Pond contains uranium and nitrates.



MONITOR/CONTROL/TREAT

Currently, all water at the site is monitored. With this action, we will not only monitor, but also control and treat the contaminated waters. As contaminants differ in the various impoundments, the water treatment system will be designed to treat to releasable levels all contaminants in the several water sources on the site.

Quality of water leaving the treatment plant would be monitored for compliance with discharge limits established in a National Pollutant Discharge Elimination System (NPDES). Two lined effluent ponds will hold the treated water until analysis assures that water is safe for discharge to the Missouri River.

If it does not pass the analytical testing requirements it will be returned to the equalization basin and treated again. Treated water that meets approved limits will be released from each effluent pond at an average rate of approximately 80 gallons per minute and not expected to exceed 160 gallons per minute.

Why don't you pipe the treated water to the river as you are doing with water from the Quarry water treatment plant?

First of all, in making decisions such as this we always select an alternative that is safe to human health. Because the water will be treated to near drinking water standards, discharge to the Southeast Drainage will meet that requirement of being safe. We did consider piping the treated water to the river and we discussed that alternative with the State and EPA. It was concluded that the environmental impact of constructing a pipeline through a forested area outweighed any benefits.
On the other hand, in deciding whether or not to pipe the water from the Quarry water treatment plant to the river the opposite conclusion was reached. We determined that a pipe to the river could be constructed with little, if any, environmental impact since the area is mostly agricultural and has already been cleared.
In justifying the cost of such a pipeline we could not with any certainty say that piping Quarry water to the river would reduce health risk. However, the perception of risk if we were to discharge to the Femme Osage creek, which is adjacent to the St. Charles County Well Field, clearly would be high. Thus, we decided that piping Quarry water to the river was the correct thing to do.

How much water will be released daily?

The highest rate of discharge of treated water will be approximately 160 gallons per minute.

How does this water treatment plant differ from the one at the Quarry?

The site water treatment plant will be similar to the one at the Quarry. There will be an additional process step to remove nitrates and cyanide which are not a problem at the Quarry.

Why can't you use one water treatment plant for both areas?

With the Quarry and the site being about five miles apart, the cost, time, and risks associated in transporting large volumes of contaminated water from one area to another far outweigh the benefit of a single plant.

When will the site water treatment plant begin operation?

We expect to begin operation of the water treatment plant in 1992.

Will this extra water entering the Missouri River increase danger to downstream users?

No. The nearest water supply intake is located about 10 miles downstream on the opposite bank of the Missouri River. Even considering this intake as well as the two following downstream intakes, the lifetime health risk to users is extremely low.

How much risk will be incurred by downstream users because of the combined effect of this discharge with the discharge from the Quarry water treatment plant?

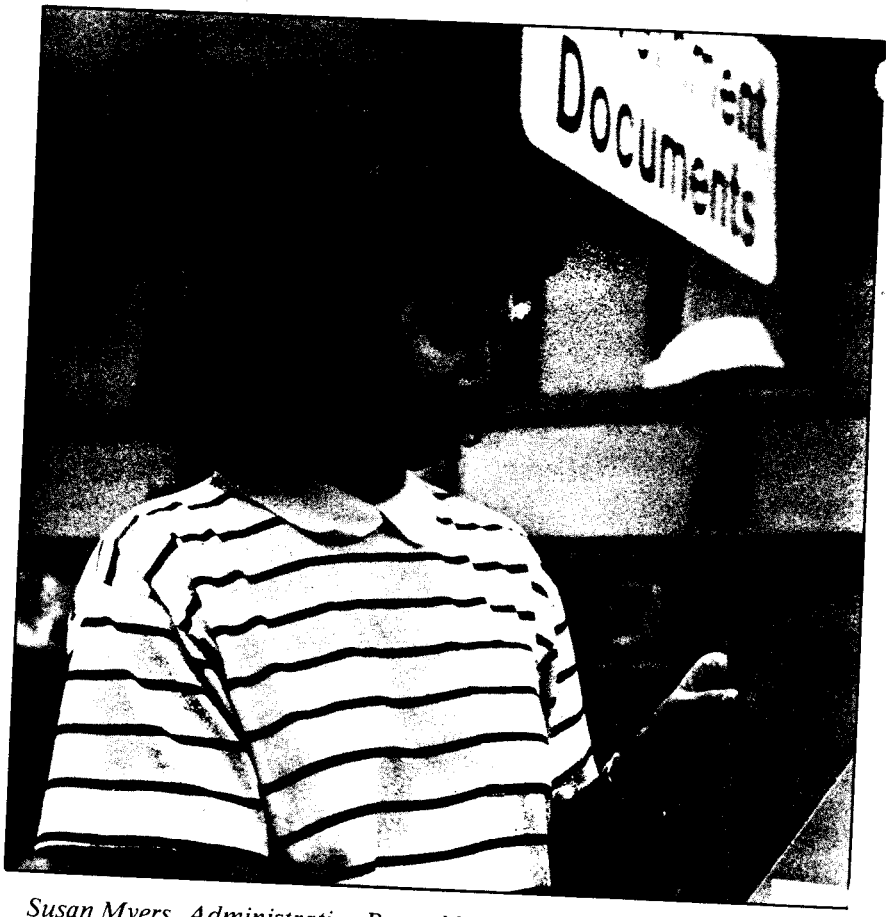
Virtually none. The risk is so low as to be immeasurable (i.e. 1.3 in a billion for the combined impact vs. 1.2 in a billion for the site plant alone).

GOVERNMENT DOCUMENT NOW AVAILABLE

The Department of Energy has prepared an Engineering Evaluation/Cost Analysis (EE/CA) report to document the proposed management of impounded surface waters at the Chemical Plant area. This document fulfills the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and the National Environmental Policy Act (NEPA). CERCLA and NEPA are the environmental laws that govern work at Weldon Spring and assure that cleanup actions are carefully thought out. The EE/CA is a detailed explanation of the proposed water treatment system.

Copies of the EE/CA are now available at the following libraries and government document repositories:

- Spencer Creek Branch, St. Charles Public Library
- Kathryn Linneman Branch, St. Charles Public Library
- Kisker Road Branch, St. Charles Public Library
- Francis Howell High School Library
- Weldon Spring Site Remedial Action Project Public Reading Room



Susan Myers, Administrative Record keeper at WSSRAP, inspects the new Government Documents Repository area at the Kisker Road Library in St. Peters. Kisker Road Library was designated as a Government Documents Repository by Congress this Spring.

COPIES OF THE DOCUMENT DESCRIBED IN THIS BULLETIN ARE AVAILABLE AT PUBLIC LIBRARIES IN ST. CHARLES COUNTY, AND AT THE COMMUNITY RELATIONS OFFICE, WELDON SPRING SITE REMEDIAL ACTION PROJECT — 7295 HIGHWAY 94 SOUTH, ST. CHARLES, MO 63303. Telephone Jim McKee or Metha Sizemore, Community Relations Department at (314) 441-8086. Other points of contact are Mr. Alan Wehmeyer, U.S. Environmental Protection Agency, Region VII, 726 Minnesota Avenue, Kansas City, Kansas 66101 (913) 236-2856, and Dr. David E. Bedan, Missouri Department of Natural Resources, P.O. Box 176, Jefferson City, Missouri 65102 (314) 751-4422.

DEPARTMENT OF ENERGY
WSSRAP, WELDON SPRING SITE REMEDIAL ACTION PROJECT
7295 HIGHWAY 94 SOUTH ST. CHARLES, MISSOURI 63303 (314) 441-8086