

**Water Task Force (Combined Groundwater and Surface Water)
May 3, 2002, Noon, CAB Office**

Members present: Nola Courtney
Linda Long
Jim Smart
Bill Tanner

DOE staff present: Gary Bodenstein
David Dollins

Support staff present: Richard Bonczek, SAIC (by phone)
Lynn Link, BJC
Stacey Young, BJC

GROUNDWATER RISK ASSESSMENT MAPS

Bonczek explained how the numerous maps showing risks and hazards for the Paducah Gaseous Diffusion Plant (PGDP) area were developed and compiled using remedial investigation data gathered since 1993. All of the information is from older documents, including the Waste Area Group 6 investigation at C-400. He said the risk numbers on the maps are for a frame of reference. Anything showing a risk less than 10^{-6} is not a major concern.

The task force concentrated on the Plate 8 (Area A) map which shows the potential excess cancer risks posed to a hypothetical resident using unfiltered groundwater drawn from the Regional Gravel Aquifer at the PGDP fence line.

Bonczek said the total risk of liver or kidney cancer from trichlorethene (TCE) contaminants is a 3 in 10 chance if the resident drinks the water.

Tanner remarked that according to Plate 4 (PGDP and surrounding area TCE plumes) that TCE was found in monitoring wells. He asked why the monitoring wells outside the plume were marked red, indicating the worst level of risk. Bonczek stated arsenic found in the samples could be causing the high risk level status of the monitoring wells.

Tanner said these areas need to have explanations on the map in order to avoid misunderstandings about the contaminants in the future. He also inquired how the Department of Energy (DOE) used the maps. Bonczek said the maps were created for DOE to make informed decisions. Bodenstein said Bill Murphie had requested the maps in order to understand real risk versus perceived risk.

Tanner stated that this map (Plate 4), which shows plumes and concentrations of contaminants, seems to have the most information in one place. He asked Bodenstein why the plume seemed to be migrating north.

Bodenstein answered there is a data gap between the plant and C-746 S&T Landfills, so DOE is not able to determine if the landfills are leaking or the plume is just migrating north. There is a plan to investigate the landfills next year. Currently, no evidence of solvents have been found in the C-746 S Landfill. However, 2.46 pounds of solvents have been found in the U Landfill.

Bodenstein informed the task force that a team from Savannah River came to PGDP to assess the possibility of phytoremediation (planting Poplar trees) in the area. Even though they are still awaiting the analytical and chemical data to make a recommendation, the team initially believes phytoremediation is a viable solution for the area.

Bonczek explained that 10^{-6} risk numbers mean that there is a 1 in a million chance for cancer if an individual is exposed to the water by drinking, showering, and using the water in the home (dishwasher, laundry, etc.). The risk is calculated using an exposure rate of over a 40-year period in the home. The United States Environmental Protection Agency (EPA) minimum rate is 30 years. Their research indicates that 95 percent of people live in a single home 30 years or less.

Tanner inquired why the water table under the landfills is the highest in the area. Bonczek replied this effect is caused by mounding from the lagoons.

Tanner stated he has a copy of a 1952 study by the Department of Agriculture regarding groundwater flow that he will provide to Bodenstein.

CORPS OF ENGINEERS (COE) MODELING EFFORTS

Smart commented he attended the April 23 COE groundwater modeling workshop. He stated he liked the ways they had taken the data and produced maps. Bodenstein stated DOE appropriates \$5 million to the COE each year, and that this year's project is to produce a three-dimensional model for groundwater that can do predictive modeling.

Smart suggested the model be presented to the CAB when it is up and running. Bodenstein said the model should be complete by September 2002.

PERMEABLE TREATMENT ZONE (PTZ) WALL RE-BID

Bodenstein reported DOE has made a decision not to use this technology due to increased costs and technical issues. Golder Sierra has a patent on the mechanical installation of the wall and the costs have escalated considerably.

SIX-PHASE HEATING (SPH) PROJECT

Bodenstein reported the contract for SPH has been awarded to CDM. It will involve the area next to the C-400 building, near the southeast corner where the unloading station is located. He said an interface probe would be used as part of the technical demonstration.

SURFACE WATER ISSUES

Dollins reported the North-South Diversion Ditch (NSDD) project was on hold because senior management has not come to an agreement with the regulators. He said DOE is attempting to do a removal action as a workaround, but DOE legal has some concerns.

Tanner commented the Long Range Strategy/Stewardship Task Force should address the current "stand down" on projects.

Bodenstein stated some projects have been delayed, but other work is going forward.

Tanner inquired as to whether or not the scrap metal sedimentation basins and the ditch encompassing them was still planned. Both Bodenstein and Dollins said yes.

Tanner also confirmed with Bodenstein and Dollins that the Site-Wide Sediment Control Engineering/Evaluation and Cost Analysis public comment period had been delayed.

Tanner stated he was informed that the Monitoring Plan for Surface Water and the Strategy for Storm Water documents were also on hold. He stated the Top-To-Bottom review was supposed to speed up the cleanup, but that the Paducah site seemed to be slowing down.

Tanner asked if EPA or the State of Kentucky had signed off on the accelerated clean up plan. Bodenstein said that they have not, but that the deadline for letters of intent was July 26, 2002. Tanner asked if the plan had been presented to the regulators, and Bodenstein replied yes. Tanner inquired if any negotiating was occurring at this time. Bodenstein replied that he did not know.

In order to make informed recommendations to Murphie, the task force needs to know what projects are moving forward this year. Bodenstein listed the following projects that are proceeding:

- C-746-U and S&T Landfills Remedial Investigation
- Six-Phase Heating Technology Demonstration – C-400 Building area
- C-Sparge Technology
- Kellogg Pad
- C-745-K – Phytoremediation
- SWMU-1-Phytoremediation/Bioremediation
- Institutional Controls

The task force requested a presentation on phytoremediation. Smart expressed concern regarding the abandonment of the PTZ pilot project, and that DOE now appears to be pushing phytoremediation.

Tanner asked Bodenstein what contaminants DOE was attempting to remove through phytoremediation. Bodenstein replied DOE is working on volatiles and TCE. Smart stated he believes phytoremediation is a soft technology.

Tanner stated concerns about the accelerated plan. Bodenstein stated that DOE is attempting massive risk reduction by 2006.

The task force agreed to hear a technical presentation on phytoremediation and determine a path forward on presenting information to the board.

The meeting adjourned at 2:05 p.m.