



Paducah Gaseous Diffusion Plant  
Citizens Advisory Board

## Recommendation: 07-06

*For Approval at the Citizens Advisory Board Meeting, September 20, 2007*

### **Title: Signs to Meet Human Health Environmental Indicator**

#### **Background:**

The 1993 Government Performance and Results Act (GPRA) holds federal agencies accountable for using resources wisely and achieving program results. GPRA requires agencies to develop plans for what they intend to accomplish, measure how well they are doing, make appropriate decisions based on the information they have gathered, and communicate information about their performance to Congress and to the public. The U.S. Environmental Protection Agency (EPA), under direction from Congress, established two environmental indicators (EI) for all U.S. Department of Energy (DOE) facilities. EIs are measures being used by the Resource Conservation Recovery Act Corrective Action program to go beyond programmatic activity measures to track changes in the quality of the environment. The two EIs developed indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater.

The purpose of the first indicator, called Current Human Exposures Under Control, is to document whether or not humans are currently being exposed to unacceptable levels of contamination. This measure is used by EPA to document whether contamination levels at a site fall within the levels specified by EPA as safe, or if they do not, whether adequate controls are in place to prevent human exposure to contamination. The second indicator, called Migration of Contaminated Groundwater Under Control, is intended to document whether or not contaminated groundwater is currently migrating beyond its outer limits above levels of concern.

At each site, EPA assesses the risk to humans and the environment and determines the best approach to address the risk. EPA determines if current human exposures to contaminants are under control and takes actions to control any possible human exposures until cleanup has been completed. Once complete, cleanup provides long-term human health and environmental protection at the site. EPA has delegated the responsibility to Kentucky for making the determination on the condition on the EI at the Paducah Gaseous Diffusion Plant (PGDP). A positive "Current Human Exposures Under Control" EI determination ("YES" status code) indicates that there are no unacceptable human exposures to contamination (human exposure to contamination is acceptable) (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land and groundwater use conditions at or from the identified facility.

At this time Kentucky does not consider human exposure under control at the PGDP. Unacceptable levels of uncertainty exist regarding contamination levels in Little Bayou and Bayou Creeks. Contamination exists in the off-site portions of the North-South Diversion Ditch (NSDD) and various contaminants have been identified in these areas above background and in excess of agreed upon risk-based screening values.

**Chair**  
Allen Burnett

**Chair-Elect**  
Vacant

**Board Members**

John Anderson  
Judy Clayton  
Shirley Lanier  
Bobby Lee  
Elton Priddy  
John Russell, Ph.D.  
Jim Smart, Ph.D.  
Don Swearingen

**Liaisons**

Reinhard Knerr  
*DOE DDFO*

Mitch Hicks  
*DOE Federal Coordinator*

Ed Winner  
*Division of Waste  
Management*

David Williams  
*Environmental Protection  
Agency*

Mike Hardin  
*Fish and Wildlife Resources*

Dr. John Volpe  
*Radiation Health Branch*

**Support Services**

EHI Consultants, Inc.  
111 Memorial Drive  
Paducah, KY 42001  
Phone 270.554.3004  
Fax 270.554.3248  
[www.pgdpcab.org](http://www.pgdpcab.org)  
[paducahcab@bellsouth.net](mailto:paducahcab@bellsouth.net)

In 1992, DOE took an Interim Corrective Measure to install fencing and signs to restrict access to Little Bayou Creek and portions of the NSDD located outside the PGDP security fence. Warning signs for polychlorinated biphenyl contamination in fish are posted at access areas along this creek, and these areas are partially fenced off.

According to the May 2002 Health Assessment prepared by the Agency for Toxic Substances and Disease Registry, under existing conditions and normal operations, the Paducah Gaseous Diffusion Plant site poses no apparent public health hazard for the surrounding community from current exposure to groundwater, surface water, soil and sediment, biota, or air. "No apparent public health hazard" means that people may be exposed to contaminated media near the site, but that exposure to the contamination is not expected to cause adverse health effects. Kentucky sent a letter to DOE in September 2006, which, based on uncertainty of data, conservatively concluded that exposure along creeks and NSDD is not under control.

In order for the DOE to gain a "Yes" to the human exposure EI, DOE must agree to the following conditions established by Kentucky:

- Signs must be placed along Little Bayou Creek, along a small defined stretch of Bayou Creek and along Section 5 of the North South Diversion Ditch.
- Stay on track with Soil Piles evaluations in accordance with the February 2007 letter and schedules.
- Develop a process for managing uncertainties with respect to potential human exposures associated with entire PDGP property.
- Develop a plan to expedite discovery of any yet unaccounted for areas of contamination.

The Paducah Citizens Advisory Board (CAB) commends DOE working with EPA and Kentucky to install additional signs to achieve a "Yes" to the EI. The CAB agrees that additional signs with wording similar to that proposed by the state should be placed at Little Bayou Creek, Bayou Creek and the NSDD discussed at the August CAB meeting.

**The PGDP Citizens Advisory Board recommends the following regarding placement of the signs proposed by Kentucky.**

- 1. DOE should designate a Website address on the signs in addition to a 24-hour telephone number for more information.**
- 2. DOE should proceed with the placement of signs at all easily accessible points to the creek areas along Little Bayou Creek, portions of Bayou Creek and the NSDD. The signs should be placed in highly visible areas so that repeat visitors will be aware of the risks.**
- 3. DOE should conduct periodic maintenance of these signs to assure visibility and readability.**