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## ENERGY AND ENVIRONMENT CABINET

Division of Waste Management  
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March 8, 2012

Mr. W. Paul Puckett, Engineer  
LG&E and KU Environmental Affairs Department  
P.O. Box 32010  
Louisville, Kentucky 40232

**Certified Mail No. 7011 2970 0003 7286 0539**

RE: Technical Notice of Deficiency (NOD) No.2  
Application for a Special Waste Landfill Permit  
Trimble County Generating Station  
Agency Interest No. 4054  
Activity ID No. APE20110002  
Trimble County

Dear Mr. Puckett,

The Kentucky Division of Waste Management (DWM), Solid Waste Branch has reviewed your response to the Division's Notice of Deficiency No. 1 (received on February 28, 2012) for your application for a Special Waste Landfill Permit at the Trimble County Generating Station. DWM has found your application to be deficient in the following respects:

1. Wentworth Cave has not been adequately mapped and characterized. The DWM site visit on November 15, 2011, information in the DWM records, and additional information subsequently provided to DWM indicate that LG&E's consultants did not explore the full length of the cave passage that is accessible to humans.

During their visit, DWM personnel explored the cave to the point where the passage narrowed to a tight squeeze. These DWM representatives heard and recorded flowing water in the cave beyond the point where they stopped and using a bright flashlight, could not see the flowing water or the end of the passage.

It appears the authors of the 1979 Dames and Moore Hydrogeologic Investigation explored Wentworth Cave to the same point where DWM personnel stopped. This appears to be true regarding the present Redwing report also.

However, in information recently provided to DWM (Kentucky Underground Vol. 4, Nos. 3-4, Page 45-46; see enclosure), Mr. Hardin discussed several visits he and others had made to the cave. He wrote that the cave “*entrance is about 13 feet tall, 4 feet wide, and gradually narrows but the height remains constant for several hundred feet. A small stream runs through the cave and the many times we have been in the cave, the water has been slowly flowing.*” This is likely to be the same stream that DWM personnel heard (and recorded) during their Nov. 15, 2011 visit, but could not see.

Hardin also states that the “*turning point*” of their caving tours was “*a big rock that was wedged midway between the floor and ceiling*”. This rock was not observed by DWM representatives, even when using flashlights.

Clearly, Hardin’s description indicates that he and his fellow cavers went some distance beyond the point where DWM personnel stopped, beyond the flowing water to an obstruction in the passage in the form of a “big rock”.

2. The presence of flowing water in the cave is a matter of importance. The Kentucky Cave Protection Act (KRS 433.871) states that the term “cave” includes “the natural subterranean water and drainage systems” that are connected to the enterable passage. These drainage systems must be hydrogeologically evaluated and also evaluated for the presence of aquatic cave-dwelling organisms ([stylobites](#), [stygophiles](#), and [stygoxenes](#)).

In order for review of your application to continue, you must modify it to eliminate the deficiencies noted above and verify compliance with all sections of the Kentucky Cave Protection Act.

In order to demonstrate compliance with Kentucky Cave Protection Act, and to enable the DWM to grant a variance to 401 KAR 45:130 Section 1(3), LG&E is required to hire a qualified speleologist to survey, map and geologically characterize Wentworth Cave. The mapping and geological characterization of caves are highly specialized tasks which require considerable training and experience. The researcher employed for this task should be a Professional Geologist registered in the Commonwealth of Kentucky pursuant to KRS 322A, in addition to a member of the National Speleological Society and/or the Kentucky Speleological Survey. The researcher should also have extensive experience in mapping caves, and have demonstrated their expertise through published, peer-reviewed articles in scientific journals.

Revisions must be accompanied by an updated certification statement and correspondence describing all changes. Include revised copies for insertion into the originally submitted document. All correspondence related to this permitting action should reference Agency Interest No. 4054 and Activity ID No. APE20110002.

We request a response to this NOD be submitted to this office by November 15, 2012 at the following address:

Division of Waste Management  
Solid Waste Branch, Second Floor  
200 Fair Oaks Lane  
Frankfort, Kentucky 40601

Should you have any questions or would like to schedule a meeting regarding this matter, please contact me at (502) 564-6716, extension 4664.

Sincerely,



Ronald D. Gruzesky, P.E.  
Manager, Solid Waste Branch

Enclosure  
RDG/rth