

## Results of Lead Action Level Exceedance Notification Audit

Monitoring requirements for lead and copper in tap water are set forth in Indiana Administrative Code 327 IAC 8-2-37. On August 19, 2009, water samples were taken at 30 locations for lead and copper analysis for the June 1 to September 30, 2009 monitoring period. This was part of the University's normal required monitoring as approved by the Indiana Department of Environmental Management (IDEM). On September 9, 2009, IDEM issued a communication to the University that the University's ninetieth percentile level for the monitoring period was twenty-seven parts per billion (0.027 mg/l) which exceeds the required fifteen parts per billion (0.015mg/l). Internal Audit was asked to 1) determine whether the University complied with IDEM requirements as set forth in the September 9 communication, 2) determine whether the University complied with the primary drinking water regulations for lead as specified in 327 IAC 8-2-36 through 8-2-47, and 3) determine whether communication strategies were effective. Results are shown below.

### **1. Determine whether the University complied with the September 9, 2009 IDEM Requirements.**

The University has complied with all requirements and dates set forth in the September 9, 2009 IDEM communication. The following table recaps the requirement, due date, and date the University completed action.

<b>IDEM Requirement Summarized</b>	<b>Due Date</b>	<b>Date Completed</b>
Water quality parameter sampling (entry point)	10/09/09	09/15/09 and 9/29/09
Water quality parameter sampling (10 locations in distribution system)	10/09/09	09/15/09 and 09/29/09
Source water sampling (entry point)	10/09/09	10/07/09
Submit information in writing detailing steps to be taken to resolve the lead action	12/31/09	Future
Return to monitoring for 60 lead and copper samples	06/30/10	Future
Provide a copy of public education materials to all users of water system	10/09/09	10/08/09
Submit a copy of the distributed public education along with how it was distributed	10/09/09	09/30/09
Distribute public education information at least once during each calendar year	Future	Future
Submit a written detailed explanation documenting compliance	09/21/09	09/17/09

### **2. Determine whether the University complied with the primary drinking water regulations for lead as specified in 327 IAC 8-2-36 through 8-2-47.**

The University has complied with 327 IAC 8-2-37 (a) requirements for sample site locations by identifying a sampling pool that meets defined criteria and ultimately results in a pool that is representative of the plumbing materials that are commonly found throughout the water system. The University's listing of 60 sampling sites, which was established around 1993, is on-file with IDEM. The University has also complied with 327 IAC 8-2-37 (b)(2), first draw samples, which requires that instructions for sampling procedures must be provided but no special qualifications are required for those drawing the samples. Section 327 IAC 8-2-37(b)(4) requires that each first draw tap sampled must be from the same sampling site from which it was collected in the previous sample. If entry cannot be gained to the same site, a

follow-up tap sample from another sampling site in the pool may be used as long as the new site meets the same targeting criteria and is within reasonable proximity of the original site. Since documentation supporting the selection process that established the University's 60 sampling sites does not exist, there is no basis to determine if replacement sample sites meet the same targeting criteria. The University should document the criteria used in the selection process that established the University sampling sites and retain all such documentation. While the University captures the building location of the sample tests, it has not always captured and documented the exact location of the samples taken. Instructions for taking lead and copper samples should be enhanced to include the capturing of the exact building and exact location of the sample taken. Before taking a sample from a replacement site, the Water Works Supervisor, or his designee, should approve the replacement location. Per 327 IAC 8-2-46(a)(1)(D), the University must provide an explanation to IDEM of why sampling sites have changed. There is no evidence that any communication was forwarded to IDEM in regard to changes in the sampling sites in 2009. Section 327 IAC 8-2-47 requires retention of specific records for no fewer than 12 years. All sampling data and analyses were appropriately retained but other information such as records supporting the establishment of the 60 sampling sites and other pertinent communications between IDEM and the University were not retained. The University must retain all original records as prescribed.

Per regulations, only ninety percent of the samples must be below the lead action level for a water system to be in compliance. Therefore, it is possible for test results for some sites in the sample to exceed the lead action level without causing further action to be triggered. The University should formalize the procedures to be followed when test results identify sites that exceed the lead action level but do not cause further regulatory action to be triggered.

### ***3. Determine whether communication strategies were effective.***

An event chronology was developed in order to assess whether communication strategies were effective. It is clear that University action began immediately upon IDEM notification which was dated September 9, 2009, and received September 11, 2009. Individuals with various areas of expertise including communications and safety were contacted during the week of September 14, 2009. Communication to high-level administrative offices did not occur during this week. Educational materials were posted to the University official internet web site on September 30, 2009. Educational materials were emailed on October 5, 2009, to the building deputies, physical facilities staff, and to residence hall managers with a request to distribute and post the information. This communication was not distributed to Vice Presidents, Deans, Department Heads, and Directors until October 8, 2009. Internal Audit visited twelve buildings and found the educational materials posted in seven of the twelve buildings. A monitoring process should be implemented to verify that critical communications of this type have been distributed and posted.

While IDEM's notification and public education requirements were met, an enhanced communication plan should be developed by the University. This plan should include those to be notified when regulatory communications are received and the timeliness of all notifications. Also, the University may desire to implement communication actions that are above and beyond the lead level exceedance regulatory requirements.