ENVIRONMENTALLY SPEAKING: ADEQ Program Ensures Accurate Lab Results

Comic book and other fiction writers have used the old standby “mishap in the lab” plot generator to produce heroes and horrors in works like Spider-Man and The Fly.

In real life, laboratory mistakes and accidents can lead to serious problems. That’s why the Arkansas Department of Environmental Quality is working to make sure the labs analyzing environmental data required for environmental permits are operating by acceptable scientific standards.

In 1985 the Legislature authorized ADEQ to establish and administer the State Environmental Laboratory Certification Program and made certification mandatory for any lab that submits data to ADEQ to meet the requirements for a regulated facility, such as a wastewater treatment plant or any business or agency that involves hazardous waste or releases water into the state’s waterways.

Of the 90 laboratories currently listed as certified on ADEQ’s website, 28 are in Arkansas; 13 are in Texas, and the rest are scattered across the country in 19 different states.
Jane Hurley, chemist supervisor for ADEQ’s Technical Services (Lab) Division, oversees the certification program, keeping track of all the labs’ required documentation. Out-of-state labs submit documentation from their state certifying agencies.

Hurley visits the certified labs in Arkansas to inspect their quality control and quality assurance procedures, records keeping, reporting procedures, methodology, facilities, equipment, personnel, and analytical techniques for measuring parameters.

Hurley said the most important requirement is performance testing. Twice a year, labs are tested on their ability to arrive at accurate results on tests they perform, such as self-monitoring reports required for National Pollutant Discharge Elimination System permits. To retain certification, labs must submit their performance testing studies twice a year for evaluation to a provider lab approved by the U.S. Environmental Protection Agency. Evaluation results are sent to Hurley. Certified labs currently on the list have been approved to run anywhere from two to 87 different tests.

“The lab certification program keeps labs accountable for following the approved methods and putting quality control requirements in place,” Hurley said. “The semi-annual testing of unknown samples is a great check on these procedures. The laboratories do a good job at meeting these requirements and quickly take corrective action when things go wrong.”

Certification is available to all labs in the state, not just those that provide environmental data to ADEQ for permitted facilities. The University of Arkansas has three certified labs, including a lab in Mariana that tests soil samples brought to the university’s Cooperative Extension Service offices. Southern Arkansas University, Ouachita Baptist University, Beaver Water District and Fort Smith Utility Department each have a lab certified by the program.
Certification provides credibility to educational and public utility labs and can contribute to successful grant applications, Hurley said.

ADEQ Lab chemists follow the same guidelines that are required for certification as they collect and analyze samples of soil, water, fish and hazardous substances. Data from the Lab’s Ambient Water Quality Monitoring Program and Air Quality Index are available online at www.adqe.state.ar.us.