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LCEE's Project XL Initiative Is Moving Forward

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The Laboratory Consortium for Environmental Excellence (LCEE), a group formed of various academic laboratory institutions, submitted a proposal in February 1998 to the Environmental Protection Agency (EPA) to carry out a pilot project as part of EPA's "Project XL" Program which tests innovative approaches to environmental protection.

The "Laboratory XL Project" would pilot a "laboratory environmental management standard" for laboratories in lieu of strict compliance in the laboratory with prescriptive Resource Conservation and Recovery Act (RCRA) regulations. The performance-based standard is conceptually similar to OSHA's Laboratory Standard. For example, as part of the Laboratory XL Project, participating institutions would develop an Environmental Management Plan (EMP) covering the management of laboratory wastes in laboratories. Institutions participating in the XL Project include Boston College, University of Massachusetts - Boston, University of Massachusetts - Amherst and the University of Vermont. More than 100 national, regional and local stakeholders have reviewed and provided written or verbal comment on the proposal.

The Problem

The problem addressed by the Laboratory XL Project proposal is the mismatch between the expectations of the hazardous waste regulations regarding how hazardous materials are to be handled in the workplace and the physical reality of laboratories. The regulations are crafted to apply to generally predictable industrial processes which involve large amounts of a limited number of chemicals. In contrast, labs by definition use small amounts of a large variety of chemicals that workers generally handle personally from the time each substance is delivered to the lab until the time it leaves. This difference in process style results in many ambiguities and gray areas when attempts are made to apply the current Resource Conservation and Recovery Act (RCRA) regulations to labs. Some fines recently handed to academic institutions in California and New England for laboratory "mishandling" of hazardous waste highlight the need for this project. As a matter of fact, efforts parallel to this XL Project are being undertaken in various states across the country.

The Proposal

Boston College, the University of Massachusetts - Boston and the University of Vermont will pilot the development and implementation of an EMP. The EMP is a reasonably comprehensive plan that must include certain procedures, practices and programs to ensure that laboratory wastes are appropriately managed and potential environmental impacts minimized. The plan's requirements are modeled on the realities of laboratory work, elements of ISO 14001 - the international voluntary Environmental Management System Standard, and sound waste

management practices as described in "Prudent Practices" and evident at many academic institutions. The University of Massachusetts - Amherst will participate in the XL Project and evaluate various treatment protocols potentially allowed as "treatment in container" exemptions. The purpose of their involvement is to pilot appropriate and compliant treatment methods for laboratory operations and provide EPA with data and "lessons learned" to support the Agency's development of guidance on the "treatment in container" exemption. Because they would be piloting and evaluating "treatment in container" scenarios, the University of Massachusetts - Amherst does not anticipate seeking regulatory relief under the XL Program as required by the other XL Participants.

XL Criteria

A variety of EPA criteria must be met for a Project XL proposal to proceed. Most importantly, the Laboratory XL Project must demonstrate improved environmental performance by the people using the reformed regulations. This is a special challenge for the Laboratory XL Project proposal because the environmental impact of most lab operations is quite small. Nonetheless, XL Participants expect to show superior environmental performance in the area of pollution prevention/waste minimization, compliance and environmental awareness training. The Laboratory XL Project proposal envisions a variety of performance indicators that might be used to determine whether environmental performance has improved, ranging from statistical analysis of the hazardous waste generated in laboratories to the perceived impact of the project on lab workers' awareness of the potential environmental impacts resulting from their work.

Next Steps

EPA has indicated to the XL Participants that it generally supports the proposal; however, issues concerning enforceability of the EMP and measures of superior environmental performance must be further defined by the XL Participants. The XL Participants are addressing these issues as they complete drafting the "Final Project Agreement" (FPA), a non-binding statement of the signatories to support the XL process, the site-specific rulemaking and variances granted. The FPA should be submitted to the EPA by the end of June. The group hopes that a final rulemaking will be issued within six months of the signing of the FPA.

Comments or suggestions regarding the laboratory standard, EPIs or baseline numbers can be sent to the proposal's developers at the Web site (http//esf.uvm.edu/labxl). The complete LCEE proposal is available for viewing at that on-line address. Further input from the laboratory community is important. Anyone interested is encouraged to review the proposal and send comments to the individuals named on the Web site.