Project XL and Laboratory Wastes:

A Performance Oriented Approach to Managing Hazardous Wastes in Laboratories

February 4, 1999

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I. Life Under RCRA

A. Recent Region I Enforcement Activity
   1. Yale - $300,000 including SEPs
   2. University of Connecticut - $300,000 including SEPs
   3. U New Hampshire, U Rhode Island, BU, Coast Guard Academy have had similar problems

B. Recent UVM Inspections
   1. 1995 inspection - ESF visited, minor violations noted, immediately corrected
   2. August, 1997 visit - Minor violations at the ESF

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B. The Problem with RCRA in laboratories

1. Generally:

   Labs use small amounts of a large number of chemicals sporadically; industry uses fewer chemicals in larger quantities regularly.

2. Specific issues:

   a. Waste determination

      (when is something a hazardous waste?)

   b. Labeling issues

   c. Container management Issues

   d. Storage times in labs

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II. The Mechanics of XL Participation

A. Planning and rule development began about two years ago

   1. National stakeholders: American Chemical Society, NIH, LCEE meetings

   2. Local stakeholders: Burlington NPA's, UVM Environmental Council, Vermont DEC

B. Federal Register Notice to be published in February, 1999

C. Publication to be followed by 60 day comment period

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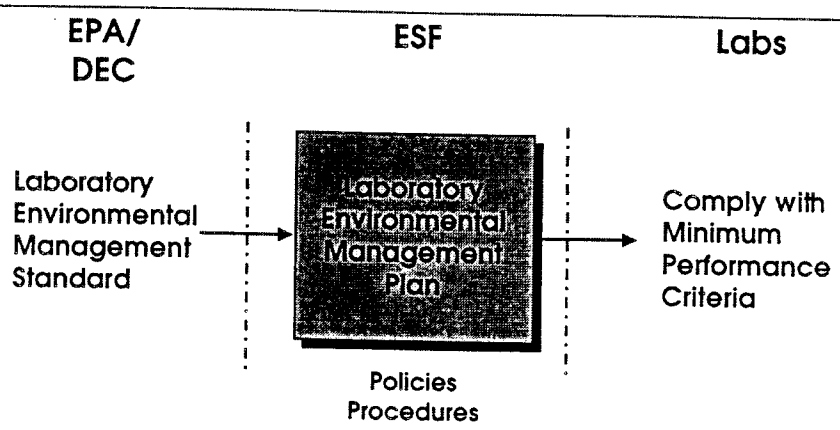
D. Significant comments responded to by EPA
E. Pilot schools sign FPA after comment period
F. Pilots have 6 months after signing the FPA to develop EMP
G. DEC and EPA Region 1 have 30 days to approve EMP before new regulation takes effect
H. Annual inspections by and progress reports to Region I (and DEC?) will occur over the life of the project (4 years)

III. Components of the XL Project

A. Campus Environmental Management Plan
B. The Laboratory Minimum Performance Criteria
C. Laboratory Environmental Standard
D. The Environmental Performance Indicators

How the XL Model Works



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1. Environmental Management Plan

A. The EMP will be a management document that will outline campus and ESF procedures and responsibilities for handling waste

B. Plans are required to have pollution prevention goals

C. EMP requires upper management review annually

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2. Minimum Performance Criteria

A. Eight inspectable items

B. These criteria overlap OSHA's requirements for the Chemical Hygiene Plan and parallel RCRA requirements

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C. The Criteria

1. Labeling with the chemical name and general hazard family.
2. Dated when ready to be removed
3. Accumulation limits of 55 gallons of laboratory waste or one quart of extremely toxic laboratory waste; must be removed within 30 days
4. Containers shall be:
    1. inspected regularly;
    2. compatible with their contents; and
    3. in good condition;
    4. closed as specified in EMP.

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5. Laboratory waste management shall not result in the release of hazardous constituents into the land, air and water which are prohibited.
6. Emergency notification information and evacuation procedures shall be posted or readily available. Spill response equipment or procedures for emergency response shall be appropriate to the hazards in the laboratory.
7. Hazardous chemical spills shall be investigated, documented, and actions shall be taken to correct and prevent future incidents.
8. Laboratory wastes shall be transported to a designated hazardous waste accumulation area in accordance with DOT regulations

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3. Laboratory Environmental Standard

A. Covers 3 pilot schools for 4 years
   - Other schools or institutions can join after the first year

B. Enforcement
   1. EMP review
   2. Inspections

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4. Environmental Performance Indicators

A. Pollution Prevention

1. Amount of waste shipped
2. Number of pollution prevention initiatives undertaken

B. Compliance Improvement in Labs

1. Storage Survey results
2. Number of unknowns

C. Environmental Awareness

1. Training Programs Held
2. Attitude Surveys of lab workers

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