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EPA

Project XL: Ortho-McNeil On-Site Treatment of Mixed Wastes

POLICY ECONOMICS INNOVATION

WHAT IS PROJECT XL?

Project XL, which stands for "eXcellence and Leadership," is a national initiative that tests innovative ways of achieving better and more cost-effective public health and environmental protection. The information and lessons learned from Project XL are being used to assist the U.S. Environmental Protection Agency (EPA) in redesigning its current regulatory and policy-setting approaches. Project XL encourages testing of cleaner, cheaper, and smarter ways to attain environmental results superior to those achieved under current regulations and policies, in conjunction with greater accountability to stakeholders. It is vital that each project tests new ideas with the potential for wide application and broad environmental benefits. As of September 2000, over thirty pilot experiments are being implemented and several additional projects are in various stages of development.

SUMMARY OF THE ORTHO-MCNEIL XL PROJECT

The Ortho-McNeil Pharmaceutical Corporation (OMP) and the Pennsylvania Department of Environmental Protection (PADEP) have signed an agreement with the U.S. Environmental Protection Agency (EPA) to test an innovative way to treat OMP's small volume (less than 50 liters per year) of mixed wastes at its Spring House, Pennsylvania, research facility. OMP's research process produces small quantities of waste solutions that contain both radioactive material and an organic compound. This combined waste, termed low-level mixed waste (LLMW). is regulated by both the Nuclear Regulatory Commission and the EPA, respectively. Presently. the only permitted treatment option for LLMW like OMP's involves off-site transportation and disposal at a treatment. storage and disposal facility (TSDF) licensed by the NRC and permitted under the Resource Conservation and Recovery Act (RCRA). However, there are very few licensed and approved treatment facilities that can accept mixed waste in the United States. To treat LLMW, commercially permitted TSDFs use incineration, which destroys the RCRA hazardous waste component, or solidification and land disposal. Neither method allows the radioactive material in the LLMW to be recovered for reuse.

Through this XL project, Ortho-McNeil proposes to use a high-temperature catalytic oxidation (HTCO) process that destroys the hazardous waste component and captures the radioactive material from the waste mixture on-site. This process produces radioactive carbon dioxide and radioactive water both of which are considered a low-level radioactive waste, and can be stabilized easily and disposed of at various facilities licensed by NRC throughout the country. This XL Project, EPA's 37th, was signed on September 22, 2000.

SUPERIOR ENVIRONMENTAL PERFORMANCE

Using this new technology is an environmentally superior way to dispose of small quantities of LLMW compared to current disposal methods for two reasons: 1) waste handled in the laboratory where it is created reduces the already low risk of off-site spills and releases due to storage, transportation, and handling; and 2) the captured radioactive materials can be recycled.

Additionally, this technology reduces the costs related to disposing of LLMW, allowing OMP to reallocate savings to the development of new medicines, new advancements in science, and other environmentally beneficial projects. OMP is sharing this new technology with other research institutions, government agencies such as the National Institutes of Health. colleges and universities, and hospitals that also generate LLMW.

FLEXIBILITY

To implement this new technology, EPA and PADEP plan to modify the current regulatory framework to exclude the LLMW from the RCRA definition of hazardous waste. This essentially would remove certain RCRA regulatory controls and oversight of the mixed wastes, while maintaining the NRC regulatory controls and oversight for the remaining low-level radioactive material. EPA, however, would retain authority over OMP's LLMW as a solid waste. if necessary

STAKEHOLDER INVOLVEMENT

OMP has launched an extensive effort to measure and ascertain stakeholder involvement and support for this project. OMP focused on a number of stakeholder groups, including the local community, Ortho-McNeil Spring House employees, state and federal regulatory agencies, and local, state and national environmental groups. To date, support for the project has been generally positive from all stakeholders.

APPROACHES TO BE TESTED

Through this XL project, EPA expects to gain valuable information concerning the need to maintain RCRA regulatory oversight over the on-site treatment of small volumes of LLMW, or whether, in situations like the OMP facility, NRC oversight is sufficient. EPA also expects to gain more data on the performance of the HTCO process.

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FOR ELECTRONIC INFORMATION

More information about this XL project, or the Project XL Program, is available on the Internet at http://www.epa.gov/projectxl under "Information on Specific XL Projects," or via Project XL's Information Line at (202) 260-5754.