Emerging Innovations

This section catalogues 23 emerging innovations—promising ideas and concepts, that as of November 2000, were in earlier stages of exploration. These expected innovations are being provided here in order that future project sponsors and stakeholders have a more complete picture as to the experiments underway. As these innovations move forward, the Agency will be tracking and assessing the results in future reports.

The table immediately below identifies the types of emerging innovations represented by each project. This table is designed to give the reader a "roadmap" for this section. It is not intended to be used as a checklist for future projects.

Emerging Innovations in Core Functions— Projects Newly Underway or Under Development

	Regulations	Permitting	Information Management	Enforcement Compliance	Environmental Stewardship	Stakeholder Involvement	Culture Change
Anne Arundel County	X						
Autoliv	X						
Buncombe County	X						
City of Chicago Development Zones	X						
Clermont County					X		
Columbus					X		
Crompton TBT					X		
Puget Sound				X			
Kodak					X		
Fort Worth					X		
IBM Fishkill	X						
Labs21					X		
Lead Safe Boston	X						
Chicago POTW	X						
NBC POTW	X						
NASA			X				
New Jersey Gold Track				X			
Ortho-McNeil Pharmaceutical					X		
Pennsylvania DEP		X					
Port of Houston Authority				X			
PPG					X		
United Egg Producers		X					
USFilter	X						
Virginia Landfills	X						
Yolo County	X						

Table 24: Emerging Innovations in Regulations

Innovations	Media
Anne Arundel and Buncombe County —Testing Bioreactor Methods: Recirculating Leachate over Alternative Liners	Solid Waste
Autoliv—Enabling Metals Recovery from Pyrotechnic Material	Hazardous Waste
Chicago Regional Air Quality and Economic Development Project	Air
IBM Fishkill—Using F006 Wastes as an Ingredient in Cement Production	Hazardous Waste
Lead Safe Boston—Lead-based Paint Debris Disposal Flexibility	Hazardous Waste
Chicago POTW—Alternative Effluent Discharge Monitoring	Water
NBC POTW—Enhancing the Metal Finishing 2000 Program	Water
US Filter—Encouraging Metals Recycling and Recovery	Hazardous Waste
Virginia Landfills—Testing the Bioreactor Methods: Comparing a Leachate Recirculation System to the Introduction of Additional Liquid Amendments in Sanitary Landfills	Solid Waste
Yolo County—Testing a Bioreactor Method: Aerobic versus Anaerobic Technology	Solid Waste

Anne Arundel and Buncombe County—Testing Bioreactor Methods: Recirculating Leachate over Alternative Liners. Both Anne Arundel County in Maryland and Buncombe County in North Carolina are seeking flexibility to recirculate leachate and/or gas condensate over an alternate composite liner and collection system not constructed as prescribed in the Resource Conservation and Recovery Act (RCRA). Anne Arundel County is interested in effectively increasing its landfill waste capacity while decreasing the concentration of leachate and reducing the amount of leachate requiring pretreatment and being discharged to the local wastewater treatment plant. After design and construction of a small bioreactor test area, liquid will be injected over a four- to seven-year period through injection devices. To improve the evaluation of different infiltration systems, the test area will contain both vertical injection wells and horizontal injection trenches. Settlement resulting from accelerated waste decomposition will be monitored using settlement plates.

For its project, Buncombe County is looking to improve leachate quality and accelerate waste decomposition and landfill gas generation. Recirculating leachate over a specific section of its landfill will accelerate decomposition of its waste and shift that waste to a more benign state. More rapid decomposition will also compress the time landfill gas is generated, reducing emissions and making gas recovery more efficient. To measure how this alternative approach can provide superior environmental performance, the county would provide a baseline estimate of current conventional sanitary landfill maintenance. It is anticipated that the county will quantify the benefits of the project against this established baseline.

Autoliv—Enabling Metals Recovery from Pyrotechnic Material. Autoliv ASP (Autoliv) manufacturers automobile safety products, including the pyrotechnic (explosive) materials used to deploy air bag inflators. During the manufacturing of these materials, reactive hazardous wastes are generated. These wastes are presently treated off site at a RCRA permitted treatment storage and disposal facility (TSDF) that accepts hazardous waste from outside sources and treats it via open burning. Autoliv currently operates a highly advanced metals recovery facility (MRF) designed to process and recover aluminum and steel from unfired air bag inflator units as well as previously

fired inflator units. The MRF has an extensive air pollution control train that is capable of capturing emissions produced by the waste pyrotechnic material. Autoliv proposes that the technology and pollution control devices used in the MRF be adapted to process their waste pyrotechnic materials on-site rather than sending the materials off-site to a TSDF for open burning. Autoliv is seeking permitting flexibility under RCRA to be able to modify their MRF operations and effectively treat and dispose of this pyrotechnic material.

Chicago Regional Air Quality and Economic Development Project. The City of Chicago's Department of Environment is seeking to exercise a seldom used section [Section 173(a)(1)(B)] of the Clean Air Act (CAA) that will create innovative criteria to promote clean air and economic development in urban areas. Section 173(a)(1)(B) allows the EPA Administrator, in consultation with the Secretary of Housing and Urban Development, to identify zones in which economic development should be targeted. Chicago has dubbed such areas "development zones." A development zone would generally be defined as an area that needs economic development and that advances environmental improvements, particularly concerning clean air. Chicago, U.S. EPA, and Illinois EPA will develop criteria that an area must meet to be designated as a development zone. Under this livability-focused project, a new or modified major stationary source (facility) that locates in a development zone (within the Chicago CAA nonattainment area) would draw emission reductions from a growth allowance generated from the state's emission inventory—a structure to be approved by the U.S. EPA and Illinois EPA. This growth allowance would be used in lieu of obtaining emission offsets required under CAA—New Source Review. The growth allowance would be created using emissions reductions generated by Chicago and other municipalities and would be made available to companies who locate in the development zones.

IBM Fishkill—Using F006 Wastes as an Ingredient in Cement Production. The IBM Fishkill project proposal will help examine the need for RCRA regulation of a subset of recycling scenarios involving the production of products used on the land. Through Project XL, IBM Fishkill is seeking an exclusion for the use of the electroplating wastewater treatment sludge (i.e., F006) as an ingredient in the production of cement. Under current regulations there is an exclusion for hazardous secondary materials that are properly recycled through use as an ingredient to produce a product. However, this exclusion is not available if the product being produced is to be used on the land (or burned for energy recovery). Therefore, even though the sludge can be recycled as an ingredient in cement (F006 typically has high concentrations of calcium, needed in producing cement), it remains subject to full RCRA regulation, including storage permits and hazardous waste manifests.

Lead Safe Boston—Lead-based Paint Debris Disposal Flexibility. Lead Safe Boston is seeking to allow less expensive handling and disposal of lead-based paint (LBP) architectural debris from residential units. The Lead Safe Boston program currently requires toxicity characteristic leaching procedure (TCLP) lead testing on architectural debris before disposal for all projects in accordance with Massachusetts and EPA regulations. The results of this analysis determines if waste is to be classified and disposed of as hazardous or non-hazardous. When lead waste exceeds EPA limits of toxicity for disposal as construction debris, it is disposed of as hazardous waste. Disposal for classified hazardous waste is costly. TCLP testing can be costly and time consuming as well. Lead Safe Boston is seeking the flexibility to use provisions of the RCRA Household Hazardous Waste Exclusion (HWE) rule for LBP debris. This exclusion would allow household LBP debris to be disposed of in a municipal solid waste landfill that meet certain minimum criteria for liners, leachate collection, and groundwater monitoring. Anticipated cost savings from the flexibility (270 percent reduction in average disposal costs per project) would enable Lead Safe Boston to remove lead from an additional 12 residential units.

Chicago POTW—Alternative Effluent Discharge Monitoring. The Metropolitan Water Reclamation District of Greater Chicago (Chicago POTW), one of the largest publicly owned treatment works (POTW) in the country, requested regulatory flexibility from the Clean Water Act (CWA)

oversight requirements (i.e., inspection and sampling) of the General Pretreatment Regulations pertaining to discharges from small (de minimus) categorical industrial users (CIUs) into the Chicago POTW's water reclamation plants. The Chicago POTW project will test several ideas. First, Chicago POTW has proposed a new definition of "de minimus" significant industrial user (SIU), using criteria specific to their location. Second, Chicago POTW, with EPA and Illinois EPA, will develop Toxic Reduction Action Plans to identify priority pollutants that are present in quantities that may pose an environmental risk but are not currently subject to regulation. Third, Chicago POTW would like to build on its experiences with the Common Sense Initiative's[21] Strategic Goals Program (SGP) to create strategic performance partnerships (partnerships) with metal-finishing facilities that fully achieve the individual facility goals outlined in the SGP. Under these partnerships, Chicago POTW will work cooperatively with demonstrated sector leaders to develop, test, and implement an alternative measurement system for demonstrating environmental performance. Under current pretreatment regulations, SIUs must conduct self-monitoring according to EPA sampling protocols, typically involving "end-of-pipe" sampling of effluent. Possible alternative monitoring in the Chicago project would use statistical process control data collected by the SIU that would provide more precise performance and product quality data than traditional monitoring data.

NBC POTW—Enhancing the Metal Finishing 2000 Program. The Narragansett Bay Commission POTW (NBC POTW), located in the metropolitan areas of Providence and Blackstone Valley, Rhode Island, is working to improve the environmental performance of a select number of metal finishing facilities. NBC POTW wants to establish incentives that promote and reward superior performers and focus compliance and technical assistance on problem performers. In 1994, NBC POTW developed a pollution prevention integration program, NBC Metal Finishing 2000, to test new approaches to improve environmental compliance by the local industrial community. Specifically, NBC POTW proposal asks for the flexibility to reduce self-monitoring requirements and inspections for top performing industrial users (IUs) so staff can focus on problem IUs. Problem IUs would be identified and given increased oversight in addition to pollution prevention technical assistance. This project would define quantitative performance criteria for NBC POTW's metal finishing facilities and measure the effect of this new approach using performance indicators. To implement the project, NBC POTW is seeking regulatory flexibility that will allow them to (1) replace categorical and mass-based standards with more stringent local limits specifically designed to protect the facilities' operations and (2) eliminate certain categorical monitoring requirements for pollutants not present based on a facility's non-use of certain raw materials.

USFilter—Encouraging Metals Recycling and Recovery. US Filter Recovery Services (US Filter), a fully permitted hazardous waste treatment and storage facility in Roseville, Minnesota, is proposing to install its resin regeneration system in customer businesses—such as metal finishers or printed circuit board manufacturers—that totally deionizes rinse waters containing F006 wastes, making it available for reuse. Rather than sending rinse waters to local POTWs, USFilter's customers would increase recycling, promote recovery, conserve water, and reduce the use of hazardous chemicals. The resin regeneration system consists of ion exchange canisters that USFilter would install on customer's process lines that contain wastewaters. Once diverted into the canisters, the metals in the wastewater will adhere to the resin material in the canister, rendering the water free of metal contaminants. The water can then be reused in the customer's process lines. Once the resins are spent, these canisters can be replaced by US Filter, who then regenerates the resins. This potentially allows the metals to be reclaimed rather than land disposed. Excluding ion exchange canisters from some or all RCRA hazardous waste requirements could promote improved electroplating sludge management. In place of existing RCRA regulatory requirements, the USFilter proposal asks participants to manage the F006 (electroplating sludge)

[21]EPA launched the Common Sense Initiative in 1994 with the broad purpose of seeking "cleaner, cheaper, and smarter" sector-based approaches to protecting human health and the environment, and has been a primary component of EPA's regulatory reinvention efforts.

wastestreams in accordance with alternative management requirements.

Virginia Landfills—Testing Bioreactor Methods: Comparing a Leachate Recirculation System to the Introduction of Additional Liquid Amendments in Sanitary Landfills. This proposal encompasses two separate Waste Management landfill sites in Virginia that are being considered together as part of one larger project. Waste Management will implement two slightly different waste treatment systems at the sites. One site (Maplewood Landfill in Amelia County) will recirculate leachate to provide moisture. The other (King George County) will introduce additional liquid amendments (graywater, stormwater) to its landfill. In addition to implementing two different waste treatment systems, the project will compare the performance and results achieved at the two sites (biodegradation potential, methane generation, settlement, landfill capacity extension) and examine the costs and benefits associated with each treatment method. To be able to apply liquids other than leachate or gas condensate to the King George system, Waste Management is requesting flexibility from current RCRA requirements.

Yolo County—Testing a Bioreactor Method: Aerobic versus Anaerobic Technology. The Yolo County Bioreactor Landfill (Yolo County), located in California, will operate its next landfill module as a controlled bioreactor landfill. To do this, Yolo County is seeking flexibility from RCRA restrictions that preclude the addition of bulk or non-containerized liquid amendments (graywater, septic water) to landfills. The bioreactor method accelerates waste decomposition and leachate treatment via the addition of liquid amendments through a network serving the waste mass. This process is designed to accomplish a more rapid completion of composting, waste stabilization, and methane generation than in a conventional landfill. The Yolo County proposal plans to physically subdivide the landfill module and operate it as both an anaerobic and aerobic bioreactor. The aerobic bioreactor differs from an anaerobic one in being a process of "landfill-based composting." For the aerobic half of the module, atmospheric air will be delivered to the waste in addition to liquid. This air will in effect dry out the waste mass. The amount of liquid added to the aerobic part of the module will then be increased to accommodate any drying effects. The aerobic bioreactor will not create methane but will degrade significant waste fractions such as lignin and leachate chemical oxygen demand (COD) components.

Table 25: Emerging Innovations in Permitting

Innovations	Media
Pennsylvania DEP—Investigating an Alternative Approach to Promoting Coal Remining	Water
United Egg Producers—Environmental Management Systems/Third-Party Certification	Water

Pennsylvania DEP—Investigating an Alternative Approach to Promoting Coal Remining. The Pennsylvania Department of Environmental Protection (Pennsylvania DEP) is exploring an alternative approach to improve overall in-stream water quality by reducing mine drainage and reclaiming scarred lands resulting from abandoned coal mines in Pennsylvania. Pennsylvania DEP will develop a new approach to promoting coal remining based on compliance with best management practices (BMPs) instead of National Pollutant Discharge Elimination System (NPDES) numeric effluent limitations. The CWA NPDES permits for remining currently establish site-specific numeric effluent limitations representing best available technology. To implement its alternative permit approach, Pennsylvania DEP is exercising enforcement discretion to provide that reminors may comply with non-numeric limitations in the form of specific BMPs as well as in-stream monitoring requirements to measure the performance of remediation activities on in-stream water quality.

United Egg Producers—Environmental Management Systems/Third-Party Certification. The United Egg Producers (UEP), a farmer cooperative representing egg producers nationwide, is seeking the capability to operate under a statewide permit rather than a facility specific NPDES permit as required under the CWA. A significant portion of the farms that the UEP represents are classified as Concentrated Animal Feeding Operations (CAFO), which must obtain individual NPDES permits for their activities. If these farms were allowed to operate under a statewide general permit, it would significantly reduce compliance costs for these UEP farms. In exchange for the reducing the permitting burden, these UEP farms would achieve "zero discharge" status through the development of a comprehensive environmental management system (EMS). Furthermore, UEP proposes to establish an EPA-approved third-party certification program that would be required to verify individual EMS's and the zero discharge status among CAFO operations. This new streamlined permitting would alleviate the pressure on states to perform inspections on the egg industry, expedite the permitting process for egg producing facilities, help ensure continuing compliance, and achieve superior environmental performance.

Table 26: Enforcement and Compliance Assurance Innovations

Innovations	Media
Puget Sound—Integrated Marine Environmental Compliance Program	Water
New Jersey Gold Track—Performance-based Approaches to Environmental Management	Multi-media
Port of Houston Authority—Port/Tenant Environmental Management Programs	Water

Puget Sound—Integrated Marine Environmental Compliance Program. Using the Project XL/ENVVEST process, the Puget Sound Naval Shipyard (Puget Sound) in Bremerton, Washington, is proposing to develop and demonstrate an alternative, long-term, cost-effective strategy for protecting and improving the health of Sinclair Inlet. The Puget Sound project is intended to achieve its objectives through the use of sound ecological science and risk based management, employing approaches consistent with the draft EPA Ecological Risk Assessment Guidelines. It will demonstrate concepts currently under development for naval shipyards by marine scientists at the Naval Command, Control, and Ocean Surveillance Center. While retaining Puget Sound's existing pollution control baselines as the floor, existing permits would be revised to replace traditional narrowly focused monitoring, compliance, and reporting requirements with innovative monitoring programs and pollution prevention measures that are anticipated to achieve better environmental results.

New Jersey Gold Track—Performance-based Approaches to Environmental Management. The New Jersey Department of Environmental Protection (New Jersey DEP) envisions the Gold Track as a multimedia program that will move away from a front-end review and approval process toward back-end monitoring while tracking and maintaining a cost-effective high level of public health and environmental protection. Gold Track is as an enhancement of the state's Silver Track Program, New Jersey DEP's first step toward implementing a regulatory structure that is accountable, measures environmental performance and provides operational flexibility. The premise of Gold Track is that different levels of environmental performance warrant varying degrees of regulatory oversight and flexibility. The Program is being designed to require increased levels of commitment in return for increased regulatory flexibility for qualifying entities based upon their demonstrated capability and environmental performance. The New Jersey Gold Track proposal plans to use media-specific addenda to define specific state and Federal flexibilities to be granted to program participants. Each addendum would be negotiated separately—the first addendum for the project would be air specific—and would define flexibility granted, superior environmental performance gained, and the evaluation process used to judge the effectiveness and benefits of the flexibility.

Port of Houston Authority—Port/Tenant Environmental Management Programs. The Port of Houston is a 25-mile-long complex of diversified public and private facilities. The Port of Houston Authority (PHA) is authorized by Texas law as an autonomous governmental entity that acts as a landlord for port tenants. Additionally, the PHA may be subjected to enforcement actions for tenant violations of environmental regulations. The PHA project proposal seeks to test the benefits of providing regulatory flexibility in exchange for a tenant environmental management program designed to improve compliance. To improve tenant compliance, the PHA would develop a compliance manual that contains guidelines describing the roles and responsibilities of key members of the port staff. Specifically, the guidelines will include environmental compliance procedures and an environmental regulatory matrix that summarizes federal, state, and local regulations that affect operations at the PHA. PHA's proposal also establishes a compliance baseline and has set a goal for 20 percent improvement in compliance. In exchange, the PHA is seeking regulatory flexibility to minimize the liability/compliance obligations of a landlord port for acts and omissions of their tenants.

Table 27: Emerging Innovations in Environmental Stewardship

Innovations	Media
Clermont County—Community-based Watershed Protection	Water
Columbus—Enhancing a Local Lead Hazard Program	Hazardous Waste
Crompton TBT—Flexibility in the Tributyltin Monitoring Program	Water
Kodak and PPG—Pollution Prevention Assessment Framework (Developing Environmentally Preferable Products In the Chemical Industry Through Technology Transfer)	Hazardous Waste
Fort Worth—Proactive Demolition of Structures Containing Asbestos	Air
Labs21—Increased Efficiency in Lab Operations	Water
Ortho-McNeil Pharmaceutical—Catalytic Oxidation of "Mixed Waste"	Hazardous Waste

Clermont County XLC—Community-based Watershed Protection. Clermont County, Ohio, (Clermont County) is developing a community-designed watershed management plan consistent with its goals of improving water quality in the Little Miami River Watershed while maintaining opportunities for economic growth. To improve water quality and encourage all polluters to share in the necessary expense, Clermont County seeks to develop and apply locally developed water quality standards that are based on local environmental conditions while employing a collaborative goal setting approach for managing its resources. This project will develop an environmental protection plan to integrate Clermont County's watershed management plan into a broader state plan administered by the Ohio Environmental Protection Agency (OEPA). Clermont County will develop a sampling and monitoring program and a computer-based watershed model as part of its watershed management plan. Sampling and monitoring will allow the compilation of data on existing environmental conditions in the watershed and help assess the effects of point and non-point source pollution. Computer modeling will enable predictions of the impact land management policies will have on the watershed. As an incentive to encourage non-point source reductions, Clermont County's watershed management plan could use an effluent trading system in which pollution credits may be exchanged among point and non-point source polluters. Clermont County is seeking flexiblity under the NPDES permit system to provide time to study and analyze watershed conditions in order to prepare the watershed management plan. Flexibility may also be needed in considering the development of a point/non-point effluent trading system.

Columbus—Enhancing a Local Lead Hazard Program. The City of Columbus' Division of Water (Columbus) is pursuing a means to increase the funds needed to implement a comprehensive Lead-Safe Columbus Program (LSCP) to identify and reduce lead hazards. The LSCP would be an lead abatement alternative to the Lead and Copper Rule (LCR) requirements for testing and replacement of lead service lines (LSLs). Specifically, Columbus seeks a three-year window of regulatory flexibility from LSL testing requirements in the Lead and Copper Rule, which was promulgated under the Safe Drinking Water Act. As long as the conditions of this flexibility are met, Columbus will give $300,000 a year for 15 years to the Columbus health department to fund the LSCP. These funds will allow the LSCP to provide greater public health protection from lead exposure in Columbus' community than would be obtained by strict adherence to the LCR requirements. The scope and breadth of the LSCP would enable it to proactively identify and prevent potential lead hazards. LSCP interventions will be developed for children most at risk for lead poisoning and targeted at those exposure pathways that would have the greatest impact on a child's body-lead burden.

Crompton TBT—Flexibility in the Tributyltin Monitoring Program. The Crompton TBT proposal focuses on eliminating water monitoring requirements for the Crompton Corporation. Crompton is a major manufacturer of tributyltin (TBT), a compound used in producing paint coatings for marine vessels. TBT-based paints assist in keeping ship hulls free of marine organisms by acting as a biocide and as an agent that introduces a "self-polishing" quality to marine paints. TBT-based paints contain toxic substances and have the potential to affect non-target marine organisms in the vicinity of shipyards and marinas. In 1989, pursuant to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), EPA issued a data call-in (DCI) to Crompton, which required the company to measure, for 10 years, the effectiveness of regulations in reducing tributyltin concentrations in water columns, sediments, and marine organism tissue at certain specified areas of the Great Lakes and the intercoastal waterways of the United States. The 1989 DCI mandated the collection and generation of a significant amount of data and documentation. For example, the company's annual report, which only summarizes the end results of the monitoring program, is typically more than 3,000 pages long. To date, Crompton has gathered over seven years of data. These data from Crompton and other TBT-manufactures have shown a downward trend in TBT concentrations. Given that trend, Crompton is seeking to eliminate the monitoring requirements mandated by the 1989 DCI and to use the resulting cost savings to decrease emissions of hazardous air pollutants (HAPs) and volatile organic compounds (VOCs) at Crompton's Taft, Louisiana, plant by 15 percent.

Kodak and PPG —The Pollution Prevention Assessment Framework (Developing Environmentally Preferable Products in the Chemical Industry Through Technology Transfer). Eastman Kodak (Kodak) and PPG Industries (PPG) are applying the EPA Pollution Prevention Framework (Framework) to design and develop new chemicals. Use of the Framework can yield safer new chemicals, stimulate reformulation of existing products, and reduce generation of hazardous wastes. The Framework is a set of computer models, developed by EPA's Office of Prevention, Pesticides, and Toxic Substances, that predicts risk related properties of chemicals where data are limited. The models derive risk information based on chemical structure to promote pollution prevention and improve product design and stewardship. The Framework can be used to estimate physical-chemical properties, environmental fate, and hazard to humans and aquatic life. Use of the Framework will enable the companies to submit chemicals that are on average less toxic than those from a development cycle with no assessment feature. Both Kodak and PPG XL projects involve the use of this chemical risk screening early in the product development cycle. Kodak and PPG are seeking regulatory flexibility under the premanufacture notice (PMN) provisions of the Toxic Substances Control Act (TSCA). Under Project XL, Kodak and PPG will be allowed to manufacture PMN chemicals in 45 days, rather than after 90 days as is currently required under the TSCA. This flexibility will apply only to lower risk chemicals that will generally have been assessed by EPA within 25 to 28 days. Both PPG and Kodak will disseminate information about the Framework to other chemical companies and industries. PPG will publish a validation study to verify the accuracy of selected Framework models. Kodak will complete an environmental cost accounting study that will describe the economic and business benefits that result from use of the Framework. Kodak will also complete a study identifying management practices that facilitate pollution prevention outcomes.

Fort Worth, Texas—Proactive Demolition of Structures Containing Asbestos. The City of Fort Worth's proposal features an alternative method for the demolition of structures that have asbestos-containing building materials (ACBM) but that are not in danger of imminent collapse. Essentially, Fort Worth is seeking the regulatory flexibility to demolish substandard structures not in danger of imminent collapse similar to the shortened procedure that exists for structures that are in imminent danger of collapse. In place of the current CAA National Emission Standards for Hazardous Air Pollutant (NESHAP) requirements for the regulated asbestos-containing materials (RACM) in structures, Fort Worth would test its own process for managing HAPs. This "Fort Worth" method integrates "wet" demolition methods, air monitor-

ing, and proper handling/disposal techniques to test if their method with RACM left in place is at least as protective as demolition with the RACM removed. The Fort Worth method will create significant cost savings for performing environmentally sound proactive nuisance demolitions allowing local governments to tackle the problem of urban blight more successfully by performing more demolitions.

Labs21—Increased Efficiency in Lab Operations: The Labs21 proposal endeavors to encourage laboratory owners, operators, and designers to improve their energy efficiency and water conservation with a new laboratory management approach. This agreement would function as an umbrella final project agreement (FPA), and does not describe any specific federal regulatory flexibility. These flexibilities would be agreed upon at a later date and would attain measurable superior environmental performance beyond what is achieved by labs under current federal and state regulatory systems. Using the Labs21 approach, EPA and DOE estimate that laboratories can decrease energy consumption by 60 to 75 percent. EPA has applied the Labs21 approach to an existing EPA laboratory and expects to reduce its annual electric demand by 68 percent and its utility costs by almost 75 percent. Assuming that only 25 percent of U.S. laboratories achieve a 60 percent reduction in energy consumption, the United States would reduce its annual energy consumption by an amount equivalent to the yearly energy consumption of 840,000 U.S. households and save $1.25 billion dollars. In the future, as laboratory energy efficiency improves, Labs21 will focus on even more aggressive pollution prevention goals and strategies unique to each type of laboratory.

Ortho-McNeil Pharmaceutical—Catalytic Oxidation of "Mixed Waste." Ortho-McNeil Pharmaceutical (OMP), in conjunction with the R.W. Johnson Pharmaceutical Research Institute (PRI), uses radio-labeled compounds for pharmaceutical research and development. This manufacturing process yields a waste solution containing both radioactive material and an organic compound, which constitutes a low-level "mixed waste" under RCRA. Ortho-McNeil is proposing to use an on-site bench-top catalytic oxidation process to treat the mixed waste, which would use a more efficient, environmentally safe process as compared with current off-site waste management and disposal practices. The oxidation treatment process destroys the hazardous organic component of the mixed waste, transforming it into a relatively innocuous low-level radioactive waste that is easily stabilized. This oxidation process meets the RCRA definition of "treatment," requiring a TSDF permit under RCRA. To use catalytic oxidation as an on-site treatment alternative, EPA will grant OMP and PRI a conditional exclusion from the RCRA hazardous waste definition for the organic component of its process waste solution.

Table 28: Information Management and Access Innovations

Innovations	Media
NASA—Realtime Web-based Information Management	Multi-media

NASA—Real-time Web-based Information Management. The National Aeronautics and Space Administration (NASA) White Sands Test Facility proposes to implement an extensive Web-based information management and regulatory reporting system that will provide EPA and multiple state agencies from New Mexico real-time access to reports and information. This system will save resources, including document preparation time, white paper usage, and triplicate reproduction requirements. A Web-based system will have several benefits over the existing reporting system which is largely paper-based. Web-based information management will provide more real-time, user friendly data. This will enhance communications with other agencies by providing immediate access to detailed environmental compliance information including graphical illustrations of current conditions, access to the groundwater monitoring database system, and an electronic archival of historical documentation. In turn, NASA seeks regulatory flexibility from certain reporting requirements specified in site-specific regulatory documentation and permits. The information contained in the NASA Web-based system would be sufficient to satisfy current regulatory requirements; only the format, delivery method, and data archival procedures would be modified.