Projects in Implementation One Year or Less

Autoliv ASP, Inc.

PROMONTORY, UTAH

FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 20, 2000

The Project Sponsor: Autoliv ASP, Inc., is a manufacturer of automobile safety products. Autoliv's Promontory Facility is located in a remote area of Box Elder County, Utah. The Promontory facility manufactures pyrotechnic products for use in the airbag industry. The facility consists of 75 storage and manufacturing buildings concentrated on a 53-acre site. The only bordering neighbors are another corporation and a winter cattle range. The extended surrounding area consists of the small farming/ranching communities of Howell, located approximately 10 miles to the north, and Promontory, located 8 miles to the west.

The Experiment: During the manufacturing of materials, reactive hazardous wastes are generated. This waste is presently treated off-site at a treatment, storage, and disposal facility (TSDF) that is permitted to accept hazardous waste from outside sources and treat it via open burning. Although open burning is the safest and most effective treatment method available at the present time, open burning allows for no pollution controls. The company currently operates a highly advanced, metals recovery facility (MRF) designed to process and recover aluminum and steel from previously fired air bag inflator units. 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 to a TSDF for open burning. The emissions from the pyrotechnic materials, if processed at the MRF, would pass through the air pollution control train rather than being emitted, thus achieving a significant reduction of air pollutants released to the environment. Additionally, Autoliv expects to recover additional materials, such as copper, from the MRF-processed pyrotechnic materials.

The Flexibility: Autoliv is requesting regulatory flexibility from the RCRA Part B requirements that regulate hazardous waste treatment, storage, and disposal. It also seeks regulatory relief from the Utah Department of Environmental Quality for similar state standards. With the requested regulatory flexibility, Autoliv can safely and effectively dispose of their pyrotechnic material in the MRF while reducing emissions/pollutants to the environment.

The Superior Environmental Performance: With this project, Autoliv expects that the following superior environmental benefits will be achieved:

- Elimination of the open burning of 158,000 pounds of pyrotechnic material per year, which in turn eliminates 22,876 pounds per year of particulate emissions;
- Recycling of copper and other materials found in the slag of MRF-processed pyrotechnic materials, which can then be recycled back to Autoliv's raw material suppliers; and
- Elimination of the risk associated with transporting hazardous pyrotechnic materials to an outside processor.

Buncombe County Landfill Project

BUNCOMBE COUNTY, NORTH CAROLINA
FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 18, 2000

The Project Sponsor: The Buncombe County Solid Waste Management Facility (BCSWMF) opened in September 1997. The 550-acre facility is located in the western part of North Carolina in the Blue Ridge Mountains. It is owned and operated by the Buncombe County General Services Department. The facility serves only Buncombe County, which has six municipalities: Asheville, Biltmore Forest, Black Mountain, Montreat, Woodfin, and Weaverville. BCSWMF is one of the ten largest publicly owned municipal solid waste landfills in the state. It accepts approximately 100,000 tons of waste per year from the area's 200,000 residents, which continues to grow at a rate of 2 percent per year. In addition, the landfill receives about 150,000 tons of municipal solid waste per year, including construction and demolition wastes.

The Experiment: Over the past two years, Buncombe County has been researching a new method for operating sanitary landfills—the bioreactor method. The bioreactor method involves the recirculation of leachate during the operational phase of the landfill to enhance and accelerate waste decomposition and landfill gas generation. Initial results show that when different portions of the landfill are compared, the alternative liner offers 50 percent more protection to the underlying aquifer than the standard composite liner. There are five components to the Buncombe County Landfill Project: (1) combined leachate circulation and gas collection system, (2) horizontal trenches, (3) a pressure injection system, (4) active gas collection, and (5) an alternative liner system. In addition, results from this project could result in revisions to existing EPA regulations that allow and promote the use of alternative liner systems in municipal solid waste landfills utilizing leachate recirculation.

The Flexibility: EPA's RCRA Subtitle D regulations currently allow municipal solid waste landfill leachate to be placed back into the landfill if the landfill is designed with the standard composite liner and the leachate collection system used is made to regulatory specifications. If granted the requested flexibility, Buncombe County will be allowed to recirculate leachate into its landfill units constructed with an alternative liner system.

The Superior Environmental Performance: When implemented, the leachate recirculation/gas recovery landfill approach strives to provide superior environmental performance in a number of ways:

- Acceleration of waste decomposition, which should enhance groundwater protection;
- Early compliance with Clean Air Act requirements for municipal solid waste landfills through installation of a gas collection and control systems;
- Reduction in emissions as a result of producing a more efficient landfill gas;
- Reduction of potential risk to workers and the community from transport of collected leachate to the publicly owned treatment works via tanker trucks;
- Improved leachate quality and, ultimately, discharge water quality to the receiving stream;
- Reinvestment of cost savings in pilot projects to enhance integrated solid waste management practices in Buncombe County;
- Additional waste capacity and longer life of existing landfill cells, reducing the need for new landfill sites;
- Evaluation of the horizontal trench design for leachate recirculation/gas recovery landfills by providing valuable large-scale operational data; and
- Identification and quantification of performance advantages or limitations of the process.

City of Albuquerque Public Works Department—Pretreatment Program

Albuquerque, New Mexico
Final Project Agreement Signed February 3 , 2000

The Project Sponsor: The City of Albuquerque Wastewater Utility Division of the Public Works Department is responsible for maintaining Albuquerque's wastewater collection system and wastewater reclamation plant. All the Albuquerque area homes, businesses and institutions—about 500,000 people, 100 major industries, and 12,000 commercial customers—are connected to the Division's sewer system. The Division operates the Southside Water Reclamation Plant, the largest wastewater treatment facility in New Mexico, which receives and reclaims about 60 million gallons of wastewater daily.

The Experiment: This project aims to reduce the amount of pollutants released into the environment from industries and businesses in Albuquerque by integrating pollution prevention (P2) activities with the existing Industrial Pretreatment Program (IPP). The City of Albuquerque's proposal allows the present IPP program to shift resources from certain less productive requirements to innovative activities such as using alternative monitoring methods, modifying some permits for burden reduction, replacing certain permits with general use permits, and revising its enforcement response plan. These changes will allow Albuquerque to shift resources to cover P2 outreach and other costs associated with reducing certain pollutants by 10 to 25 percent.

The Flexibility: Potential regulatory flexibility expected would allow Albuquerque to (1) use an alternative definition of significant industrial user (SIU), (2) use an alternative definition of significant noncompliance (SNC), (3) reduce permitting requirements for participating industrial users (IUs), (4) use alternative monitoring methods, and (5) reduce reporting requirements for participating IUs.

The Superior Environmental Performance: Albuquerque will attempt to initially reduce loadings of aluminum, cadmium, chromium, copper, cyanide, fluoride, lead, mercury, molybdenum, nickel, selenium, silver, and zinc by 10 to 25 percent. In addition to reducing pollution loadings for these 13 pollutants of concern and improving the area's overall water quality, this project will reduce mass and concentration loadings of influent, effluent, and biosolids. To help reach these goals, Albuquerque plans to increase the number of businesses using P2 techniques by 25 new businesses per year.

City of Columbus

COLUMBUS, OHIO

XLC[4] FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 26, 2000

The Project Sponsor: The City of Columbus Project focuses on an area within Columbus where 84 percent of all elevated blood lead levels in the city have been found. Situated in central Ohio, the area of concern falls within a ten-zip code area located in predominantly low-income minority neighborhoods, where the housing is generally much older than the remainder of the city. The City Department of Health and the City Division of Water would implement the project.

The Experiment: The city proposes to increase funds needed to implement a comprehensive Lead-Safe Columbus Program (LSCP) designed to identify and reduce lead hazards and address other routes of lead exposure, such as lead paint and dust in the highest-risk areas of the city. The program's interventions are targeted to children who are at most risk for lead poisoning and exposure to lead. The LSCP will provide free blood testing, public education, medical intervention for lead-poisoned children, and up to $100,000 in grants per year for lead abatement to residents in high-risk areas.

The Flexibility: This project strives to maximize the city's efforts to decrease lead exposure by providing the City of Columbus with flexibility from regulations that deal with lead in drinking water. The City of Columbus' Division of Water seeks regulatory flexibility from compliance with the Lead and Copper Rule (LCR) promulgated under the Safe Drinking Water Act. In the past, Columbus made necessary changes to its water treatment process and inadvertently caused an increase in the lead levels in the water. Columbus is concerned that it may need to make a water treatment change in the future that may likewise impact lead levels. EPA aims to allow the city a temporary suspension of the lead service lines (LSL) testing and replacement provisions of the LCR for up to three years beginning if and when the city exceeds the lead limit. If the city is successful in maintaining low lead levels for six years after making a treatment modification, the opportunity to use the three-year window of flexibility would expire. However, should it be necessary in the future, EPA has the discretion to establish another three-year window of flexibility. In exchange for this flexibility, the City Division of Water plans to contribute $300,000 a year for 15 years to the LSCP. This flexibility would allow the city to use more of its resources effectively and to directly target problem areas through its lead program.

The Superior Environmental Performance: The LSCP endeavors to yield superior environmental performance through greater public health protection from lead exposure in Columbus' community. Protection will be established at an equivalent or lower cost than would be obtained by strict adherence to the LCR requirements. In addition, the project plans to maintain City of Columbus Water Division funding ($300,000 annually) to the LSCP for 15 years. The LSCP would provide public education/outreach materials and issue lead hazard and abatement grants with this funding. In addition to providing increased resources to the city's LSCP, an alternative treatment technique for drinking water would be implemented. The alternative treatment technique involves closer coordination between the City of Columbus, the Ohio EPA and U.S. EPA on water treatment changes while allowing the city to adjust its drinking water treatment to establish the most effective level of lead treatment in conjunction with other water treatment processes. The entire treatment process would provide the same level of benefit of protecting the citizens of Columbus as would LSL testing and replacement.

[4]Project XLC, eXcellence and Leadership for Communities, encourages local public sector and community organizations to come forward with new approaches to demonstrate community-design and directed strategies for achieving greater environmental quality consistent with community economic goals.

City of Denton

CITY OF DENTON, TEXAS
FINAL PROJECT AGREEMENT SIGNED FEBRUARY 22, 2000

The Project Sponsors: In 1997, the City of Denton Environmental Services Division and the University of North Texas (UNT) Institute of Applied Sciences conducted an 18-month study to assess the feasibility of integrating the industrial pretreatment program activities with those required under the Phase II Stormwater regulations. Denton's XL project will allow it to continue implementation of recommendations resulting from that study, which was completed in March of 1998. Denton will reduce its monitoring and annual inspections for certain individually approved facilities and focus on pollutants in the urban stormwater drainage.

The Experiment: Denton's proposal is unique in that it will integrate its flash-flood early warning system with transmission of real-time water quality data from remote monitoring stations both up and down stream of the water treatment facility. The system will be connected to dispatchers, emergency response crews, and the facility. Through this experiment, Denton will determine if the biological sensors developed by UNT can trigger automatic samplers to take water samples. Denton will also develop alternative best management practices (BMPs) to prevent erosion and runoff from the biosolids composting operation.

The Flexibility: Denton will reduce its monitoring and inspection frequencies for certain individually approved facilities so that it can use those resources to focus on other, more significant contributors of pollutants in the urban stormwater drainage.

The Superior Environmental Performance: The resources saved by the flexibility and the experiment will be used in watershed protection activities, including inspections of vehicle maintenance facilities, recycling centers, junkyards, salvage yards, municipal and school district fleet service operations, and construction sites; establishment of a remote creek monitoring network; and incorporation of pollution prevention BMPs into the local code of ordinances.

City of Fort Worth

FORT WORTH, TEXAS

FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 29, 2000

The Project Sponsor: Fort Worth, Texas, is located in north-central Texas. Fort Worth is a home-rule municipality and the seat of Tarrant County. The geographical area is 300 square miles, with an estimated population of 471,125. The City of Fort Worth has been awarded an EPA Brownfields redevelopment pilot program grant in addition to numerous national and regional awards for its storm water and wastewater programs. The city also has the premiere household hazardous waste collection center in the State of Texas and is recognized for its strides in environmental education.

The Experiment: As part of its effort to address urban blight and attendant crime and public safety hazards, the City of Fort Worth has identified a significant number of substandard, abandoned structures to be demolished. Dozens of these structures contain asbestos-bearing materials and are subject to the demolition requirements specified in an asbestos emission standard—Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP)—issued by EPA under the Clean Air Act (CAA). The city does not have the funds to demolish in a timely manner all of these structures according to the Asbestos NESHAP. Under this project, the City of Fort Worth proposes to demonstrate that use of an alternative demolition method will protect human health to the same degree as the method in the Asbestos NESHAP, while reducing demolition costs.

The Flexibility: The City of Fort Worth seeks relief from the requirements of the Asbestos NESHAP and the Texas Asbestos Health Protection Rules to the extent that these regulations require the removal of regulated asbestos-containing building materials (ACBM) from substandard structures prior to their demolition.

The Superior Environmental Performance: Implementation of the proposed Fort Worth Method will provide environmental performance superior to that which is realized under traditional approaches, and will serve to improve the community at large. The Fort Worth Method aims to maintain the level of environmental protection currently dictated by the Asbestos NESHAP, as well as worker protection dictated by the Occupational Safety and Health Administration, while reducing the costs of demolition of substandard structures and reducing the amount of red tape required for compliance. The main benefit to the process would be an accelerated revitalization of areas of the city that have become run down. Reduced demolition costs would allow the city to accelerate urban renewal, thereby eliminating havens for drug use and other criminal activities and reducing safety hazards associated with the abandoned structures. This project plans to aid in the economic growth of the involved neighborhoods and would complement the city's Brownfields Redevelopment Pilot Program, by opening up more land to facilitate the economic development of the distressed neighborhoods of Fort Worth.

Clermont County Watershed Management Plan

CLERMONT COUNTY, OHIO

XLC[5] FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 6, 2000

The Project Sponsor: Clermont County, located just east of Cincinnati, is one of the fastest developing counties in Ohio. The county is experiencing significant changes in population density and rural demographics. The Clermont County Project focuses on the East Fork of the Little Miami River (EFLMR) watershed. The specific waters within the county considered under this agreement include the EFLMR mainstream and tributaries and Harsha Lake, which is located centrally within the EFLMR basin. The EFLMR is a major tributary to the Little Miami River, which is a designated State and National Scenic River and is the State of Ohio's largest Exceptional Warmwater Habitat stream.

The Experiment: Clermont County proposes a comprehensive watershed management plan for the EFLMR. The major goal of this watershed plan is to address environmental management of its resources with an aggressive and innovative approach so that it can maintain a balance between economic growth and the preservation of its rural character and environment and, where possible, strive to improve the environment and protection of the area's natural resources. The county will work in partnership with the Ohio Environmental Protection Agency (OEPA) and U.S. EPA to design and implement a plan to maintain and improve water quality, land use, and economic development in the county. The development of this watershed plan will empower the local community to work the county to review current water quality standards and establish meaningful measures of environmental conditions that are based on the specific characteristics of the EFLMR and its tributaries. Once the water quality goals are established for the watershed, the primary responsibility for achieving those goals will be at the local level. The typical command and control regulatory framework will be replaced with a collaborative goal setting approach. As part of the watershed management plan, Clermont County will develop a sampling and monitoring program, and a County Environmental Protection Plan that will enable the county to compile data on existing watershed environmental conditions. New findings from the sampling program pertaining to the chemical and biological characteristics of the EFLMR will be used in computer-based simulations to make predictions regarding point and non-point source pollution. The plan will also use the information to identify which policy and capital changes regarding the land management policies must be made in order to attain the county's water quality goals in the watershed. In addition, the county anticipates using an effluent trading system in which pollution credits may be exchanged among point and non-point sources.

The Flexibility: No regulatory flexibility is needed for the initial planning phase of this project. More specific details regarding regulatory flexibility will be identified in the development of subsequent phases.

The Superior Environmental Performance: This multiphased approach is expected to achieve superior environmental performance through greater local responsibility and management of point and non-point sources. Further, this proposed project is comprehensive in scope and will include development issues closely tied to water quality such as land use, development procedures, open space and farmland preservation, and economic development. Most importantly, the county is being proactive—investing in watershed management controls not currently regulated by National Pollutant Discharge Elimination System permits and much sooner than would otherwise be required under a waste load allocation and total maximum daily load developed by OEPA. Because the watershed is rapidly developing and degraded water quality is expected if existing regulations and practices are continued, the baseline for this proactive approach to superior environmental performance is defined as no adverse trends in water quality indicators. Consequently, this innovative project should result in environmental benefits sooner than would be realized under current and anticipated regulations.

[5]Project XLC, eXcellence and Leadership for Communities, encourages local public sector and community organizations to come forward with new approaches to demonstrate community-design and directed strategies for achieving greater environmental quality consistent with community economic goals.

Department of Defense: Naval Station Mayport[6]

JACKSONVILLE, FLORIDA

FINAL PROJECT AGREEMENT SIGNED MAY 30, 2000

The Project Sponsor: The Naval Station Mayport (NS Mayport) is located in Jacksonville, Florida, and encompasses more than 3,400 acres on the northern end of a peninsula bounded by the Atlantic Ocean to the east, the St. Johns River to the north, and the Intracoastal Waterway to the west. The station is a home-port for more than 14,000 sailors and civilians, making it the third largest fleet concentration in the United States, and serves as a base for Navy ships, airplanes, and helicopters, as well as a training and repair station for the Atlantic fleet of the U.S. Navy. NS Mayport has nearly 1 mile of beachfront and 4.5 miles of river shoreline, and almost half of the 3,400 acres are classified as wetlands, brackish marshlands, or beaches. The Navy shares the area with numerous animal species, including manatees, ospreys, sea turtles, and northern right whales. NS Mayport has been designated as the East Coast Navy Environmental Leadership Program base to help lead the Navy by developing innovative technologies and management practices to protect the environment and natural resources. In 1995, EPA and the Department of Defense (DoD) signed a memorandum of agreement for regulatory reinvention pilot projects. This agreement (commonly known as ENVVEST) was established to provide a framework for the development of regulatory reinvention pilot projects at approximately three to five selected DoD facilities. DoD and EPA outlined the ENVVEST agreement to reflect Project XL requirements.

[6] As part of the Administration's reinvention initiative, EPA and the Department of Defense (DoD) signed a Memorandum of Agreement in 1995 that established how the two agencies would interact during implementation of DoD's Environmental Investment (ENVVEST) program. The ENVVEST program emphasizes regulatory compliance through pollution prevention and provides an alternative to prescriptive regulatory requirements through a performance based environmental management system designed to attain superior environmental results.

The Experiment: To maintain operations at NS Mayport, 600,000 cubic yards of sediment must be dredged every 18 to 24 months. The station is investigating and demonstrating two innovative methods for beneficially reusing dredged material: (1) producing construction building blocks from dredged material and (2) producing artificial reef material from dredged material. Use of the dredged material would eventually eliminate the need for ocean disposal of the material and/or permanent upland storage. NS Mayport will also test to see if excess fly ash from the City of Jacksonville's Electric Authority serves as a good solidification material for the construction blocks.

The Flexibility: Under the current system, NS Mayport can dispose of dredged sediment in the ocean or store it upland at the facility. The existing upland storage capacity is exhausted, and ocean disposal of the dredged material has been approved under the Naval Station's current U.S. Army Corps of Engineers (USACE) permits. NS Mayport is currently required to obtain three permits, with three different time lines, to dredge and dispose of its dredged material. The USACE permits require that chemical, biological, and physical analyses on the dredged material be performed and approved by EPA every three years. In return for testing possible beneficial uses for dredged material, EPA under the XL/ENVVEST process will create a partnership with the USACE, the State of Florida, the City of Jacksonville, and other interested stakeholders that will facilitate streamlining the permitting process.

The Superior Environmental Performance: Potential environmental benefits of this project include:

- A decrease in and eventual elimination of ocean disposal of dredged material, which minimizes the potential for impacts to water quality and benthic communities;
- Creation of new reef habitats or reparation of existing reefs by use of solidified dredged material as artificial reef;
- A lowering of the potential impact to the endangered northern right whale by reducing the

number of transects across the whales's migration pathways and calving grounds;

- Reduction in the waste streams associated with disposal of fly ash; and
- Reduction of the need for raw materials (cement, aggregate) necessary for making concrete (for construction blocks to be used on land).

Department of Defense: Puget Sound Naval Shipyard[7]

BREMERTON, WASHINGTON
FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 25, 2000

The Project Sponsor: Puget Sound Naval Shipyard (PSNS) is a large industrial facility in Bremerton, Washington, that has been in operation since 1891. PSNS is the workplace of approximately 7,700 civilian and 2,900 military employees, including those assigned to ships and overhauls. The shipyard performs repair, overhaul, conversion, refurbishment, refueling, decommissioning, dismantling, and recycling of Navy submarine and surface ships. Resources for performing this work include manufacturing, research, development, and testing facilities. Today, the shipyard of six drydocks, seven piers, and 130 buildings is located on 750 acres of land, which is surrounded by evergreen trees and salmon runs. It also serves as the homeport for six ships in the Sinclair Inlet.

PSNS has been the recipient of numerous awards, including the Navy's most prestigious awards for installation excellence and environmental quality—the Commander-In-Chief's Installation Excellence Award (1991, 1995), the Secretary of the Navy's Environmental Quality Award for Industrial Installations (1994, 1999), Washington Governor's Award for Outstanding Achievement in Pollution Prevention, Most Improved Governmental Facility (1997), Secretary of the Navy Pollution Prevention Award, Industrial Installation (1997,1998), Chief of Naval Operations Pollution Prevention Award, Industrial Installation (1997, 1998, 1999), Naval Sea Systems Command Pollution Prevention Award, Industrial Installation (1997, 1998, 1999), Navy Community Service of the Year Award (Regional Winner) Environmental Stewardship (1998), the Secretary of the Navy's Recycling Award for Industrial Installations (1995), and the Chief of Naval Operations Environmental Quality Industrial Installation Award (1999).

In 1995, EPA and the Department of Defense (DoD) signed a memorandum of agreement for regulatory reinvention pilot projects. This agreement (commonly known as ENVVEST) was established to provide a framework for the development of regulatory reinvention pilot projects at approximately three to five selected DoD facilities. DoD and EPA outlined the ENVVEST agreement to reflect Project XL requirements. Puget Sound shipyard was selected as one of the DoD facilities to participate in ENVVEST.

The Experiment: The Puget Sound Naval Shipyard proposes to develop and demonstrate an alternative strategy for protecting and improving the health of Sinclair Inlet of the Puget Sound. This proposal would achieve its objectives through the use of sound ecological science and risk-based management and employ techniques consistent with the EPA Ecological Risk Assessment Guidelines. Key elements include development of a unified ambient monitoring program, comprehensive electronic database, risk-based pollutant prioritization, and data to support the development of total maximum daily loads (TMDLs). Development of these components is intended to suggest alternatives to current National Pollutant Discharge Elimination System (NPDES) requirements otherwise applicable to PSNS. The project would be a pilot program to demonstrate concepts currently under development to address water pollution associated with naval shipyards.

The project would involve two main phases. The first phase would involve a thorough study of Sinclair Inlet watershed. It would include an extensive study/research project involving a mapping-design process and database development. The second phase would implement the mapping/design process phase. The second phase of FPA development would be developed for and described

[7] As part of the Administration's reinvention initiative, EPA and the Department of Defense (DoD) signed a Memorandum of Agreement in 1995 that established how the two agencies would interact during implementation of DoD's Environmental Investment (ENVVEST) program. The ENVVEST program emphasizes regulatory compliance through pollution prevention and provides an alternative to prescriptive regulatory requirements through a performance based environmental management system designed to attain superior environmental results.

in a subsequently negotiated and signed phase-specific addendum to the FPA.

The Flexibility: In Phase I, no regulatory flexibility is being sought. Rather, PSNS is proposing to conduct preliminary data collection and modeling for Sinclair Inlet and the watershed. Upon completion of the data collection and review of its findings, PSNS may seek regulatory flexibility in Phase II.

The Superior Environmental Performance: To assist in reaching the goal of superior environmental performance, Puget Sound shipyard will use the unified database in:

- Identification of overlapping data collection efforts;
- Determination of areas needing increased data collection; and
- Assessment of the stressors affecting the health of the Inlet.

Superior environmental performance would be measured by changes in water quality, sediment quality, biological health, and biodiversity within the Inlet ecosystem. Environmental benefits are not expected to flow from Phase I implementation, but rather implementation of the whole project.

Eastman Kodak Company

ROCHESTER, NEW YORK; WINDSOR COLORADO; PEABODY, MASSACHUSETTS; AND WHITE CITY OREGON
FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 14, 2000

The Project Sponsor: The Eastman Kodak Company (Kodak) is the world's leader in imaging, and a manufacturer of imaging systems (cameras, scanners) and media (film, photographic paper, photographic chemicals). Kodak employs 46,300 people in the United States and has manufacturing facilities in Rochester, NY; Windsor, CO; Peabody, MA; and White City, OR. The Health and Environment Laboratories (HAEL) division of Kodak is a central/corporate facility that evaluates materials and equipment that are involved in manufacturing processes or are being considered for use in new products. As a leader in new technology development in the imaging industry, Kodak submits many new chemical substances to EPA for review each year. Once approved, these substances may be used in one or several of the company's facilities, and it is these substances that allow the company to develop and improve the products it sells.

The Experiment: The EPA Office of Prevention, Pesticides and Toxic Substances (OPPTS) has developed a set of computerized risk screening tools called the Pollution Prevention Framework. These tools allow companies to (1) calculate or estimate important risk-related properties based on an analysis of chemical structure and (2) design safer chemicals, reduce waste generation, and identify other pollution prevention opportunities. Kodak aims to test the application and dissemination of information about the Pollution Prevention Framework under this project. Kodak intends to use EPA's Pollution Prevention Framework in the development of its new chemical products to ensure that they are as environmentally benign as possible. Kodak also proposes to share its expertise in the use of the Pollution Prevention Framework with other companies to encourage its greater use. Kodak plans to showcase the Pollution Prevention Framework by working with scientific and technical staff at other chemical companies, reaching out to business audiences, and contacting senior managers in other organizations. Kodak will also complete an environmental cost accounting study and a management study to facilitate its discussions with business audiences and senior managers. Overall, this experiment strives to show that increased use of the Pollution Prevention Framework during the early stages of new chemical research and development will facilitate increased reliance on environmental decision making, ultimately leading to the production of more environmentally friendly chemicals.

The Flexibility: Under the Toxic Substances Control Act (TSCA), a prospective manufacturer must wait 90 days after submitting a pre-manufacture notice (PMN) before beginning manufacture of a new product. Often, EPA concludes its review of the PMN after 28 days for chemicals identified as "low risk drops". As a result of new and less toxic chemicals produced using the Pollution Prevention Framework, Kodak expects that EPA would generally complete its review of Kodak's chemicals in 28 days or less. Kodak therefore proposes that, EPA allow Kodak to submit concurrently a PMN and a Test Marketing Exemption (TME) application for the same chemical substance, so Kodak may commence manufacture for test marketing purposes 45 days after the TME is submitted and full-scale nonexempt commercial manufacture 90 days after the PMN is submitted. The shortened 45-day waiting period will be available only for chemicals for which EPA has no further concerns, in cases where EPA's review is completed in 28 days.

The Superior Environmental Performance: The Kodak project anticipates the following four components of superior environmental performance:

- Application of the Pollution Prevention Framework to screen new chemicals to be submitted for PMN review;
- Communicating with, reaching out to, and working with scientific and technical staff from a variety of chemical companies and stakeholders, to support and promote their implementation of the Pollution Prevention Framework;
- Reaching out to the business audience to promote the use of the Pollution Prevention Framework as a best business practice; and

- Reaching out to the senior managers of industry counterparts to assist them in understanding what management structures can facilitate the implementation of Pollution Prevention concepts in their companies.

More importantly, by using the Pollution Prevention Framework, it is expected that Kodak will use safer chemicals in its products, as well as innovative, cleaner, and prevention-based technologies in its manufacturing processes and plants.

Georgia-Pacific Corporation

BIG ISLAND, VIRGINIA
FINAL PROJECT AGREEMENT SIGNED MAY 31, 2000

The Project Sponsor: Georgia-Pacific Corporation is one of the world's largest forest products companies and is a major manufacturer and distributor of building products, pulp, paper, and related chemicals used in papermaking and the production of building products. The Georgia-Pacific Corporation owns and operates a non-sulfur, non-bleaching pulp and paper mill at Big Island, Virginia. The facility produces corrugating medium, which is used by box plants to make the fluted inner layer of corrugated boxes, and linerboard, which is used for the inside and outside layers of boxes. The mill is located in Bedford County, adjacent to the James River. The George Washington National Forest is located to the north and east of the James River; and to the west is the Jefferson National Forest. The James River Face National Wilderness Area is about 3 miles to the northwest of the mill. The facility sits on 900 acres of land and employs about 380 people.

The Experiment: Georgia-Pacific is investigating using "black liquor gasification," which is a new and innovative way to recover chemicals used to make wood pulp at the Big Island facility. To make pulp, wood is chipped and added to a digester containing a chemical solution called "white liquor" (primarily consisting of sodium carbonate at the Big Island facility). The white liquor is heated in the digester and cooks the chips and forms pulp by breaking down the lignin, or glue, that holds the wood together. The wood pulp is recovered from the digester, leaving unusable wood products in the pulping chemical solution, which is now considered "black liquor." The current practice at the mill to recover the useful chemicals in the black liquor is to reduce the volume and concentrate the liquid through evaporation. The liquid is then burned in two smelters, called "recovery furnaces." The smelters recover the sodium carbonate in a molten form, which is dissolved again to produce new white liquor. The new gasification process that this XL project tests, uses heat and steam to convert organic compounds (including lignin and wood fines) in the black liquor into a gas consisting primarily of hydrogen, and recovers the pulping chemicals for reuse. The hydrogen gas would then be used as a fuel source to run the gasification process and to produce steam. The pulping chemicals are recovered as pellets of sodium carbonate that will be used to make new solutions of white liquor.

The Flexibility: Under the Clean Air Act, the mill at Big Island must comply with the Pulp and Paper Mill Cluster Rule, which is a hazardous air pollution standard that requires installation of maximum achievable control technology (MACT), to limit the amounts of air pollutants that can be emitted from regulated areas in the plant. A second MACT standard (MACT II), that would apply to the existing smelters, was proposed in 1998 to control and reduce emissions from combustion sources associated with recovery of chemicals used to make wood pulp. Due to the age and the physical condition of the plant, Georgia-Pacific would have to substantially upgrade or rebuild the smelters and add additional emissions controls to meet the MACT II standards, or they would need to replace the smelters with new recovery boilers using conventional technology. Georgia-Pacific expects that its gasifier technology could be operational in time to meet the MACT II standards when they become effective. However, Georgia-Pacific is using XL to get flexibility in the following ways:

- To be able to operate the existing smelters past the MACT II compliance date, if necessary while the gasifier technology is brought online;
- To ensure that if the gasifier technology fails, Georgia-Pacific would be allowed to operate its existing smelters, as necessary, past the MACT II compliance date while it constructs a conventional recovery furnace to replace the existing smelters; and
- To allow the existing smelters to operate for a set period of time after the MACT II compliance date while Georgia-Pacific runs trials of the gasifier on black liquor imported from a Kraft pulp mill (these tests are crucial to demonstrating that this new gasification technology can be used in other plants in the pulp and paper industry, which are dominated by Kraft type mills).

The Superior Environmental Performance: Georgia-Pacific's use of the black liquor gasification system would be the first commercial application of this technology in the country. Use of the system promises the following environmental benefits:

- Significant reductions in air emissions of particulate matter, sulfur dioxide, nitrogen oxides, volatile organic compounds, and greenhouse gases;
- Reduced consumption of fossil fuel;
- Increased efficiency in energy conversion and chemical recovery; and
- Elimination of the possible explosion hazards associated with the operation of other recovery technologies.

Imation Corporation

CAMARILLO, CALIFORNIA

FINAL PROJECT AGREEMENT SIGNED DECEMBER 20, 1999

The Project Sponsor: Imation produces magnetic data-storage tapes, primarily for the computer industry, at its plant in Camarillo, California. Magnetic tape manufacturing employs high-technology processes and caters to a rapidly evolving worldwide industry.

The Experiment: Imation is testing a broader application of the Clean Air Act (CAA) regulations that require manufacturers to obtain approval for each prospective change to plant processes and/or new equipment additions through a preconstruction review procedure and revision of the plant's operating permit. Imation's project will attempt to demonstrate that its alternative approach of accounting for process modifications and new equipment additions that Imation anticipates making in the future will produce better environmental results compared to the current regulatory structure and related policies. The project will also test whether enforcement is easier under Imation's system and whether permitting costs are reduced.

The Flexibility: Traditional case-by-case preconstruction review processes are meant to ensure that plant changes (1) do not jeopardize attainment and maintenance of National Ambient Air Quality Standards (NAAQS) under the CAA or (2) reasonably further progress toward attainment. In this Imation experiment, the volatile organic compound (VOC) cap will be established to ensure that the emissions from the plant do not contribute to regional air pollution so that the NAAQS are not exceeded and individual preconstruction reviews will not be triggered. Also, the changes anticipated by Imation will be described and preapproved in their operating permit, expanding use of the concept of alternate operating scenarios. Alternate operating scenarios are allowed under current permitting rules; however, they traditionally have been limited to known and precisely defined changes to existing operations.

The Superior Environmental Performance: With this experiment, Imation strives to attain the following environmental benefits:

- Imation will comply with emissions caps on VOC emissions, which produce smog, and other air pollutants. The VOC cap is below the historic baseline level of actual emissions. Emission reduction credits generated through imposition of the VOC cap will in part be retired by Imation and in part donated to Ventura County, where the Camarillo plant is situated. Ventura County will sell the credits and use the proceeds to fund clean air projects that would not have been funded otherwise.
- Imation equipment emitting VOCs will comply with the most stringent federal emission reduction requirements of all those that apply at the plant, even though many plant operations are subject to less rigorous requirements.
- VOC emissions will be tracked through a state-of-the-art continuous emissions monitoring device, which is not otherwise required. This will provide the best available compliance information.

International Business Machines (IBM) Corporation East Fishkill Facility

HOPEWELL JUNCTION, NEW YORK
FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 29, 2000

The Project Sponsor: The IBM East Fishkill facility is located in the Town of Hopewell Junction, New York, and is located approximately 10 miles east of the Hudson River. The facility currently houses various research and development operations as well as the facilities and operations involved in the manufacturing of semiconductor and electronic computing equipment.

The Experiment: As a result of manufacturing operations, including electroplating operations, wastewater containing dissolved heavy metal and fluoride compounds is produced by various process operations in a number of buildings throughout the facility. Currently, IBM East Fishkill generates approximately 825 tons of sludge in two separate wastewater treatment systems annually and transports the material approximately 350 miles to Canada for disposal in a permitted landfill. This waste is designated as F006 (i.e., electroplating sludge) and regulated under RCRA regulations. After careful evaluation of the chemical constituents of the sludges, IBM believes that the sludge generated in one of the wastewater treatment systems (approximately 300 tons annually) can be recycled and used as an ingredient in the manufacture of a commercially available product, cement. The sludge generated at the facility is basically a hydroxide sludge with chemical constituents closely aligned with natural materials typically used by cement kilns.

The Flexibility: Because cement is typically a product used on the land, RCRA regulations as well as state regulations, would subject the electroplating sludge to regulation as a hazardous waste. IBM believes the sludge does not require RCRA hazardous waste regulatory oversight as the sludge can be legitimately recycled as an ingredient in cement production.

The Superior Environmental Performance: By using the sludge in the manufacture of cement, this project strives to realize a number of environmental benefits. These include:

- Increasing landfill capacity to handle other wastes that cannot be recycled; and
- Reducing the amount of raw materials that must be mined and transported to a kiln to manufacture cement, thereby reducing the impacts of surface mining/quarrying techniques.

International Business Machines (IBM) Corporation Semiconductor Manufacturing Facility

ESSEX JUNCTION, VERMONT
FINAL PROJECT AGREEMENT SIGNED JULY 31, 2000

Project Sponsor: IBM Essex Junction, Vermont, is a semiconductor facility located in Chittenden County near Burlington, Vermont. The facility property encompasses approximately 735 acres, which are divided by the Winooski River. The manufacturing facility lies on 243 acres west of the Winooksi River in Essex Junction, and the remaining property contains non-manufacturing buildings. The Essex Junction facility manufactures and tests semiconductor memory and logic devices through a complex, multistep manufacturing process. In addition to the 7,500 IBM employees working at the site, there are approximately 1,500 contractors working on-site on any given day.

The Experiment: IBM has recently developed an innovative copper metallization process to create electrical interconnections between device levels for new semiconductor technologies. This process replaces the Aluminum Chemical Vapor Deposition process, which was used in previous generation semiconductor device technologies. IBM will test this new metallization process to ensure that it is environmentally superior to the old process. Previous tests have shown that it is 30 to 40 percent more energy efficient than the old process, and the chips produced are approximately 25 percent more energy efficient. Additionally, the new process virtually eliminates the use of perfluorinated compounds (PFCs), a cleaning agent for the aluminum deposition process, which are global warming gases. IBM estimates that the new process will prevent the emission of 10,000 metric tons of carbon.

The Flexibility: IBM's new process results in the generation of copper plating rinsewaters, which are combined with other process wastewater generated at the facility and treated in a wastewater treatment unit. This treatment produces a sludge that is classified by waste type and currently regulated under RCRA. IBM believes that the classification system used by RCRA artificially inflates the company's hazardous waste generation numbers, fails to provide additional environmental protection, and increases paperwork and reporting burdens. With this test of an innovative process improvement, EPA can explore a different approach to determining whether a waste that does not pose a risk to human health or the environment should be subject to a hazardous waste listing.

The Superior Environmental Performance: IBM expects that the following environmental benefits will emerge from this project and the promotion of the new copper metallization process:

- An increase in energy efficiency for electrical interconnections production by 30 to 40 percent;
- Production of a chip that is approximately 25 percent more energy efficient than previous products;
- Encouragement of more efficient production methods with corresponding reductions in waste generation for other semiconductor facilities interested in the new process;
- Reductions in greenhouse gas emissions as a result of conversion to the copper process; and
- Additional voluntary greenhouse gas emission reductions in chamber cleaning process at other operations at the facility.

International Paper Effluent Improvement Project

JAY, MAINE

FINAL PROJECT AGREEMENT SIGNED JUNE 29, 2000

The Project Sponsor: International Paper's (IP) Androscoggin Mill is a large integrated kraft pulp and paper mill and a major manufacturer of coated paper and specialty paper. The facility includes a woodyard, two woodrooms, utilities, two continuous pulp digesters, two bleach plants, and five paper machines. The plant is located in Jay, Maine, adjacent to the Androscoggin River and has been in operation since 1965. It produces approximately 1,860 tons of paper per day and has 1,200 employees. The facility was in EPA New England's (Region 1) 1996 Environmental Leadership Program and a participant in the StarTrack Program and has won numerous Governor's Award for Environmental Excellence.

The Experiment: IP seeks a regulatory exemption from the best management practices (BMPs) required under the water portion of EPA's Pulp and Paper Cluster Rules (40 CFR 430.03) in order to reinvest resources to implement effluent improvement projects designed specifically to reduce final effluent discharge of chemical oxygen demand (COD) and color from the facility. The exact mix of projects will be identified through a collaborative process with IP, EPA, Maine Department of Environmental Protection (ME DEP), the Town of Jay, and active stakeholders. EPA and IP anticipate that implementation of these effluent improvement projects will yield greater COD and color reduction than compliance with the Cluster Rule's BMPs. The facility will design and implement the effluent improvement projects with the assistance of the Collaborative Process Team, and the facility's effluent discharge permit will later be modified to reflect the resulting performance gains.

The overall goal for this project is to use the regulatory relief described in the Final Project Agreement as an opportunity to reallocate resources to select and implement effluent improvement projects that maximize improvements in environmental performance at the Androscoggin Mill.

The Flexibility: Through this experiment, generic BMP requirements will be replaced with targeted, facility-specific effluent improvement projects and with quantitative, enforceable permit limits.

Superior Environmental Performance: The project will replace generic BMP requirements with targeted, facility-specific effluent improvement projects and with new permit limits. This is expected to reduce the mill's discharge levels of several key pollutants to approximately one-half of current levels. Specifically, the mill currently discharges its effluent with COD at approximately 47 kg/kkg (kilogram per air-dried metric ton of pulp production) and color at approximately 60 kg/kkg. Analysis performed on facility operations and these parameters predicts that through this project, these levels will be reduced to approximately 26 kg/kkg and 25 kg/kkg, respectively. A reduction of this magnitude is unlikely to occur without XL, and ultimately these effluent improvements will contribute to improved ambient water quality downstream in the Androscoggin River.

International Paper Predictive Emissions Monitoring Project

JAY, MAINE

FINAL PROJECT AGREEMENT SIGNED APRIL 20, 2000

The Project Sponsor: International Paper's (IP) Androscoggin Mill is a large integrated kraft pulp and paper mill and a major manufacturer of coated paper and specialty paper. The facility includes a woodyard, two woodrooms, utilities, two continuous pulp digesters, two bleach plants, and five paper machines. The plant is located in Jay, Maine, adjacent to the Androscoggin River and has been in operation since 1965. It produces approximately 1,860 tons of paper per day and has 1,200 employees. The facility was in EPA New England's (Region 1) 1996 Environmental Leadership Program and a participant in the StarTrack Program and has won the Governor's Award for Environmental Excellence numerous times.

The Experiment: IP's Androscoggin Mill will develop, test, and validate a state-of-the-art innovative computer model that can accurately predict pollutant [particulate matter, sulfur dioxide (SO_2), and nitrogen oxides (NO_x)] emissions on a continuous basis. The computer model is called a predictive emissions monitoring system (PEMS). The PEMS will be installed on the waste fuel incinerator (WFI)—a type of boiler that burns paper mill waste products, including wood chips, pelletized paper, sludge, bark, and fuel oil to produce steam—and is monitored for emissions annually at the stack. The PEMS would develop a relationship between the WFI operating conditions (i.e., burn rates and fuel type), steam production, and emission rates to continuously predict pollutant emissions. The PEMS technology may also be able to optimize the relationship between emissions and steam production rates identifying the operational setting so the WFI can be operated at minimum emissions at maximum steam production. IP will also test PEMS to see that it is providing instant compliance information, allowing mill operators to prevent potential noncompliance situations and stay within permitted limits. PEMS have been developed and used for simple stacks such as gas-fired boilers, but until recently have had only limited application for complex stacks such as the WFI.

The Flexibility: In order to develop the PEMS computer model, during testing IP will be allowed to briefly exceed its air pollution license limits on the WFI, under controlled and limited circumstances. However, as specified in the FPA, IP will offset any emissions exceedances by emission reductions at the mill's other stacks. The ability to exceed license limits during model development, testing, and modification of PEMS is the only way that IP can ensure that the PEMS model will accurately predict actual exceedances if they occur once the PEMS is operating. The FPA provides the terms and limitations of any potential exceedances during the testing of PEMS. IP will also be allowed to replace their continuous emission monitors with PEMS if it is shown that PEMS does accurately provide continuous emissions data.

The Superior Environmental Performance: The primary environmental benefit of this project is the increased information on environmental emissions, especially on particulate matter, and the enhanced ability to adjust emissions before an exceedances actually occurs. IP also voluntarily agrees to commit to maintain operations at a level equal or less than 90 percent of its maximum permitted emission limits. In addition, IP will optimize production so that emissions decrease while production remains the same or increases.

Labs21

NATIONWIDE

FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 7, 2000

The Project Sponsor: At this point in the project, no specific sponsor has been identified. Rather, during the first stage of the project, EPA has committed to work internally and with laboratories to synchronize the Labs21 and XL application and review processes. EPA anticipates working with individual companies in the second, later stage of the project to identify and implement opportunities for environmental innovations.

The Experiment: Working together, EPA and the U.S. Department of Energy (DOE) are developing a new, voluntary initiative—Laboratories for the 21st Century, or Labs21—to improve the environmental performance of the nation's laboratories. The goal of Labs21 is to improve laboratory energy and water efficiency, encourage the use of renewable energy sources, and promote environmental stewardship in U.S. laboratories. This initiative evolved out of EPA's recent efforts to improve the environmental performance of its own laboratories. Through the XL project for Labs21 partners, EPA is developing a streamlined Agency process to maximize laboratories' environmental performance. In the first stage of this project, EPA will work internally and with laboratories to synchronize the Labs21 and XL application and review processes. During the second stage of the XL project, EPA will develop and issue case-specific agreements that test innovative ways to maximize environmental performance at laboratories. These agreements may be either facility-, group-, or media-specific in nature and may grant specific regulatory flexibility.

The Flexibility: Specific regulatory flexibility will be analyzed and granted, if appropriate, in the second stage of the project in order to facilitate environmental performance at laboratories as part of case-specific agreements.

The Superior Environmental Performance: By applying the Labs21 approach at its own facilities, EPA has realized significant environmental water- and energy-efficiency gains. Offering the possibility of exploring environmental innovations through the XL project may make it possible for future Labs21 partners to realize and even improve upon these environmental results.

Lead Safe Boston

BOSTON, MASSACHUSETTS
FINAL PROJECT AGREEMENT SIGNED OCTOBER 2, 2000

The Project Sponsor: Lead Safe Boston (LSB) is a federally funded de-leading assistance program that operates under the City of Boston's Department of Neighborhood Development. The program collaborates with state agencies and private organizations, including the Massachusetts Housing Finance Agency's "Get the Lead Out" Program, the Lead Action Collaborative, Ecumenical Social Action Committee, and Massachusetts Affordable Housing Alliance, to prevent lead poisoning of young children by working to control lead hazards in the highest-risk areas of the city. Boston has an estimated 153,064 units of housing containing lead-based paint (LBP), of which approximately 69,500 are occupied by families with children.

The Experiment: In this XL project, LSB seeks to utilize provisions in the RCRA Household Waste Exclusion (HWE) Rule at 40 CFR §261.4(b)(1) to allow LBP debris from residential housing units to be disposed of as household waste instead of as hazardous waste. Disposing of LBP debris as a household waste will reduce the cost of lead abatements in residential housing. As part of this project, LSB has pledged to use the cost savings made available through implementation of this XL project to perform approximately 12 additional residential lead abatements that will reduce lead exposure risks for roughly 30 children in Boston's Dorchester and Roxbury neighborhoods.

The Flexibility: LSB will utilize provisions in a Policy Memorandum developed by EPA's Office of Solid Waste and Emergency Response (OSWER) to extend the use of the RCRA HWE rule to contractors and individuals performing lead abatements in residential housing units. The provisions will enable LSB to treat the architectural lead debris from these projects as household waste in lieu of hazardous waste and, thereby, forego costly toxicity characteristic leaching procedure testing, and dispose of lead debris in municipal solid waste landfills.

The Superior Environmental Performance: This XL project will enable LSB to abate more residential units and thereby decrease the LBP exposure risk for additional children in Boston.

Louisville and Jefferson County Metropolitan Sewer District

LOUISVILLE AND JEFFERSON COUNTY, KENTUCKY
PHASE I FINAL PROJECT AGREEMENT SIGNED JANUARY 31, 2000

The Project Sponsor: The Louisville and Jefferson County Metropolitan Sewer District (MSD) is responsible for wastewater collection and treatment, a comprehensive public stormwater drainage system for Louisville and Jefferson County, flood management and control, stream monitoring, hazardous materials control, and several other programs. MSD is a nonprofit regional utility service. In September 1998, MSD was awarded a grant for the development of pretreatment performance measures, which will help MSD develop, implement, and assess specific "performance measures" designed to measure the environmental impact of the Pretreatment Program in the Jefferson sewershed.

The Experiment: MSD plans to experiment with its approach to its pretreatment program at the Jefferson Wastewater Treatment Plant by establishing links between wastewater programs (such as collection systems, storm water, sludge) and moving toward a more holistic watershed protection strategy. Through information gathering and sharing between wastewater programs, MSD will test shifting resources from the pretreatment program and applying resources toward other environmental programs to achieve greater environmental gain in the watershed with fewer resources expended.

The Flexibility: Potential regulatory flexibility expected will allow MSD to (1) use an alternative definition for significant industrial user, (2) use an alternative definition for significant noncompliance, and (3) allow participating industrial users to not sample for pollutants that are not expected to be present.

The Superior Environmental Performance: MSD proposes to better manage its pretreatment program through a holistic watershed approach, leading to improved pollutant loading trends in the watershed. MSD aims to develop a specific strategy to monitor and identify pollutant sources, conduct pollution prevention outreach, provide education and technical assistance, and reinvest cost savings in watershed-based improvements.

Metropolitan Water Reclamation District of Greater Chicago

CHICAGO, ILLINOIS
FINAL PROJECT AGREEMENT SIGNED AUGUST 30, 2000

The Project Sponsor: The Metropolitan Water Reclamation District (District) of Greater Chicago is a publicly owned treatment works that treats wastewaters from domestic, commercial, and industrial sources in Chicago and 126 surrounding communities. Located in Cook County, the District has maintained an industrial waste pretreatment program for more than 30 years. Through its industrial pretreatment program, the District regulates process wastewater discharges from approximately 535 significant industrial users (SIU), including approximately 360 categorical industrial users (CIU).

The Experiment: During implementation of the project, the District plans to redirect resources currently allocated for certain regulatory obligations that add limited environmental value to other programs that it believes potentially provide greater environmental benefit within the District's pretreatment program. The District primarily seeks to free up additional resources by reducing the self-monitoring frequency and reporting for, and inspection and monitoring of, small CIUs with good compliance records. In addition, during project implementation, the District has as a goal to limit the detailed oversight information regarding SIUs) in their annual report to EPA to only the population of SIUs that were found in significant noncompliance at any time during the report year.

The saved resources from the program flexibility described above would be reallocated within the District to advance environmental protection. The District aims to create strategic performance partnerships with industrial sector facilities meeting the goals of the national strategic goals program (SGP). The SGP establishes both facility-specific and sector-wide performance goals that extend beyond traditional compliance with environmental regulations. The strategic performance partnerships would develop and evaluate alternative monitoring systems that would hopefully prove superior to the current traditional monitoring systems. The District intends to begin addressing local pollutants that have not been regulated, through the development of toxic reduction action plans. The District also intends to revise the Pretreatment program annual report format to include detailed information regarding environmental performance not currently required.

The Flexibility: In order to reallocate resources, the District is seeking flexibility under the Clean Water Act's General Pretreatment Regulations. First, the District requests flexibility to reduce the self-monitoring frequency and reporting for, and inspection and monitoring of, small categorical industrial users CIUs. Second, should strategic performance partnerships experience success in identifying superior alternative monitoring systems, this project strives to provide flexibility regarding the self-monitoring of CIUs that would be participating in the strategic performance partnerships. Third, the District is seeking relief in regards to the content and format of the pretreatment program annual report.

The Superior Environmental Performance: This project has the potential to achieve environmental performance that is superior to the current system. Regulatory flexibility would allow the District to reallocate currently committed resources to other activities with greater potential for environmental benefit. The creation of strategic performance partnerships would enable the District to further work with demonstrated sector leaders to develop, test, and implement alternative measurement systems demonstrating environmental performance. These alternative measurement systems have the potential to be more accurate and precise, allowing for improved process performance and decreased loadings of regulated pollutants. The toxics reduction action plan would identify and address currently unregulated pollutants of local concern. The newly formatted annual report would include additional useful information. The reduced oversight of smaller CIUs may provide incentives for facilities to reduce pollutant loadings and water usage, and improve facility performance; similarly, the opportunity to participate in the strategic performance partnerships may serve as an incentive for sector industries to participate in the SGP.

Narragansett Bay Commission

PROVIDENCE, RHODE ISLAND
FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 25, 2000

The Project Sponsor: Narragansett Bay Commission (NBC) operates the wastewater collection and treatment system for the greater Providence area, including wastewater discharges from approximately 360,00 people and 8,000 businesses. NBC has two treatment plants, the Field's Point wastewater treatment plant and the Bucklin Point wastewater treatment plant. Since initiating its industrial pretreatment program, NBC has reduced its metal and cyanide loadings to its Field's Point treatment plant headworks by more than 94 percent. Through its high level of performance NBC has received EPA's Pretreatment Excellence Award in 1990 and 1998. In 1994, NBC developed two regulatory/pollution prevention integration programs, NBC Metal Finishing 2000 and CLEAN P2 Regulatory Relief. The programs test new regulatory approaches to improve environmental compliance by the local industrial community.

The Experiment: The NBC permits and regulates approximately 100 metal finishing companies. Through Project XL, NBC would like to improve environmental performance of a select number of metal finishing companies by redirecting pretreatment regulatory efforts away from ten metal finishing companies that have demonstrated superior environmental performance records (Tier 1 facilities) and focus regulatory efforts on ten companies with lower performance records (Tier 2 facilities). The primary goal of this project is to demonstrate that through more efficient use of existing resources and manpower, NBC can achieve measurable improvements in environmental performance.

The Flexibility: NBC requests modification of the pretreatment regulations for up to ten metal finishing companies that have established a history of exemplary environmental performance and compliance as an incentive to maintain their performance. NBC requests flexibility to reduce inspection frequencies and eliminate some monitoring requirements for these Tier 1 facilities to allow NBC to refocus its resources towards increased compliance inspections, pollution prevention audits, and technical assistance on Tier 2 facilities.

The Superior Environmental Performance: With this project, NBC seeks to achieve superior environmental performance by the industrial community and will be demonstrated in the form of:

- More companies utilizing pollution prevention in place of end-of-pipe treatment;
- Production techniques that use less water;
- Lower Toxic Release Inventory (TRI) emissions;
- Less hazardous waste generation by participating companies;
- Fewer overall industrial user violations;
- More companies participating in NBC's pollution prevention technical assistance efforts and programs; and
- Higher-quality wastewater discharges.

National Aeronautics and Space Administration White Sands Test Facility

LAS CRUCES, NEW MEXICO
FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 22, 2000

The Project Sponsor: The National Aeronautics and Space Administration (NASA) White Sands Test Facility (WSTF) is located approximately 18 miles northeast of Las Cruces, New Mexico, and operates as a field test installation for the NASA Lyndon B. Johnson Space Center in Houston, Texas. The facility also provides test service and support for the Department of Defense, Department of Energy, private industry, and foreign government agencies. The primary WSTF mission is to develop, qualify, and test the limits of spacecraft propulsion systems and subsystems. The installation also operates several laboratory facilities that conduct compatibility and material test protocols.

The Experiment: NASA WSTF proposes to consolidate, streamline, and simplify the collection, management, reporting, and archival of environmental compliance data required by EPA and several different Bureaus in New Mexico's Environment Department (NMED). This project provides a unique opportunity for EPA and NMED to construct, implement, test, and operate a Bureau-wide reporting system that will provide regulatory reports and supplemental information on a Web-based information management and regulatory reporting system.

The Flexibility: In this project, NASA WSTF requests regulatory flexibility from applicable existing EPA and NMED reporting regulations that specify submission of a paper report or written signature. Specifically, NASA is seeking regulatory flexibility in order to electronically report the following:

- Allow the electronic submission of the annual Post-Closure Care written reporting requirements issued by the NMED Solid Waste Bureau as specified in Permit No. 8800019434-2;
- Allow the electronic submission of permit modification requests as specified by 40 CFR §270.42. This regulatory relief will include the ability to electronically transfer the signatory to permit applications and report requirements of §270.11;
- Allow the electronic submission of quarterly and semiannual reports as specified by NMED Groundwater Bureau Discharge Plans DP-392, DP-697, DP-584, and DP-1170;
- Allow the electronic submission of regulatory reports as specified by all sections of Air Quality Control Permit No. 329-M-1;
- Allow the electronic transfer of groundwater monitoring data and status reports from the 700 Area Landfill as required by the Closure and Post-Closure Care Plan issued by the NMED Solid Waste Bureau;
- Allow the electronic transfer of progress reports, data, and supplemental information regarding the plume-front remediation system to the Groundwater Bureau and Hazardous and Radioactive Materials Bureau;
- Minimize the hard copy archival requirements of the §3008(h) Consent Order, the Post-Closure Care Permit, and the RCRA Hazardous Waste Operating Permit by allowing recordable CD-ROM storage of archive data; and
- Allow the electronic submission of the §3008(h) regulatory requirements for written monthly status reports currently submitted to the Secretary in triplicate.

The Superior Environmental Performance: In order to achieve superior environmental performance, this project seeks to do the following:

- Provide real-time desktop access to environmental compliance report deliverables and associated data;

- Consolidate multi-bureau reporting requirements into one system;
- Provide public access to encourage participation in Federal facility compliance activities;
- Increase intra-bureau personnel communication and encourage comprehensive review of data by allowing desktop access to data;
- Provide graphical presentations to increase visualization of WSTF conditions and data interpretations and enhance environmental management;
- Archive data that can be easily accessed for determinations of past results and comparisons to current conditions;
- Eliminate hard copy reports in triplicate (some documents require five copies); and
- Ensure the project is simple and easily transferable to other Federal facilities and private sector entities throughout the United States wishing to pursue a similar type of system.

Ortho-McNeil Pharmaceutical and the R.W. Johnson Pharmaceutical Research Institute

SPRING HOUSE, PENNSYLVANIA
FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 22, 2000

The Project Sponsor: Ortho-McNeil Pharmaceutical (OMP) and the R.W. Johnson Pharmaceutical Research Institute (PRI), divisions of Johnson & Johnson, are jointly sponsoring this XL project. OMP's research and development efforts are conducted by PRI, a sister company. PRI develops and uses radiolabeled compounds for the research and development of pharmaceuticals/drugs. OMP is headquartered in Raritan, New Jersey, and employs more than 2,000 people. The company has manufacturing operations in Raritan, New Jersey; Spring House, Pennsylvania; and Manati and Dorado, Puerto Rico. This project is being conducted at the Spring House, Pennsylvania, site.

The Experiment: The medical research experiments conducted at the facility result in waste mixtures consisting of radioactive material and an organic compound. The organic compound that is produced is considered a hazardous waste substance, and therefore, the waste mixture is labeled as "mixed waste," regulated by EPA and the Nuclear Regulatory Commission. There are very few licensed and approved treatment facilities that can accept mixed waste in the United States. OMP has developed a unique treatment process to deal with mixed waste that uses catalytic oxidation to destroy the hazardous component and capture the radioactivity from the waste mixture. Oxidation of radioactive labeled compounds produces radioactive water and carbon dioxide that are low-level radioactive wastes and that can be easily stabilized and disposed of at various facilities throughout the country.

The Flexibility: In using the new catalytic oxidation process, OMP will be required to obtain a treatment, storage, and disposal facility (TSDF) permit under RCRA. In order to encourage the use of the oxidation process, OMP and PRI are asking for EPA to either (1) exempt OMP and PRI from permitting requirements for the new oxidation treatment or (2) provide a permit-by-rule exemption for the treatment and de-list post treatment waste to allow for management of the waste as low-level radioactive waste rather than as mixed waste.

The Superior Environmental Performance: The primary environmental benefit that this project offers is the opportunity to develop environmentally protective on-site treatment of mixed wastes while effectively capturing all of the radioactivity. Providing OMP and PRI exemptions for on-site treatment utilizing the catalytic oxidation process should enhance opportunities for developing a waste stream that is amenable to recycling and reuse.

Pennsylvania Department of Environmental Protection Coal Remining and Reclamation Project

STATE OF PENNSYLVANIA

FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 22, 2000

The Project Sponsor: The Pennsylvania Department of Environmental Protection's (PADEP) mission is to protect Pennsylvania's air, land, and water from pollution and to provide for the health and safety of its citizens through a cleaner environment. PADEP works as a partner with individuals, organizations, governments, and businesses to prevent pollution and restore natural resources. Six district mining offices within PADEP oversee Pennsylvania's mining program. Their duties include licensing, bonding, permitting, and inspecting all surface and underground anthracite and bituminous coal mines, coal preparation plants, coal refuse disposal, and industrial mineral quarries. The offices also concentrate on industry compliance assistance as well as all aspects of pollution prevention advocacy.

The Experiment: PADEP proposed this project to explore a new approach to promoting coal remining. The approach would be based on compliance with best management practices (BMPs) instead of National Pollutant Discharge Elimination System (NPDES) numeric loadings-based effluent limitations and would monitor performance based on in-stream water quality instead of at individual preexisting discharge points. This project would test this approach in up to eight watersheds with significant acid mine drainage (AMD) pollution. The objective of the project is to collect data to compare in-stream concentration versus the loading from individual discharge points and provide for the evaluation of the performance of this strategy in PADEP's efforts to address AMD.

The Flexibility: An existing amendment to the Clean Water Act (CWA) grants remining operations an exception to the effluent limitation permitting requirements for iron, manganese, and pH for preexisting discharges from abandoned mine lands mined before 1977. Instead, the permit may set site-specific numeric effluent limitations representing best available technology on a case-by-case basis for these parameters. These limits are to be set so that the permit may not allow the levels of acidity, iron, and manganese discharged to exceed pre-existing levels from past mining operations in the area before the remining activity begins. The remining operation must demonstrate the potential for improved water quality from the remining operation.

Under this project, PADEP would continue to apply current effluent limitations/permitting requirements to preexisting discharges that are co-mingled with discharges from active remining operations. However, PADEP, in an exercise of its enforcement discretion, will require in-stream compliance monitoring rather than point of discharge compliance monitoring for pre-existing, non-encountered discharges and all pre-existing discharges after active remining operations.

The Superior Environmental Performance: This pilot project is expected to provide superior environmental performance because it will encourage coal operators to undertake remining projects that otherwise would have been too risky or expensive because of the potential to have to treat preexisting acidic discharges. In return for this lessening of the risk of treatment, the reminers would implement more reclamation activities in the watershed than existing Pennsylvania regulations require. With this proposal, the reminers would still be responsible for an equally protective standard of maintaining overall water quality but would accomplish this via BMPs. Under this project, treatment of discharges would only be undertaken as a last resort if the BMPs fail (or were not implemented) and water quality is degraded. This additional reclamation is not required under current state or federal law. Remining (with reclamation to present-day standards) is an effective way to reclaim abandoned mine lands and improve water

quality, at little or no cost to taxpayers. These pilots are designed to increase the number of remining operations providing reclamation and to enhance the degree of reclamation and AMD-abatement measures taken on remining operations.

Each of the pilot watersheds has been severely degraded by acid mine drainage from abandoned mine discharges and is either currently listed on Pennsylvania's CWA list of impaired waters that do not meet water quality standards or has been identified as a water body that does not meet water quality criteria due to abandoned mine drainage. For each watershed, PADEP expects that remining efforts will be an integral part of a water quality remediation plan and that water quality improvements will be achieved by implementing BMPs.

PPG Industries, Inc.

PITTSBURGH, PENNSYLVANIA
FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 14, 2000

The Project Sponsor: PPG Industries, Inc. (PPG), is a global supplier of products in four major areas: (1) coatings, (2) continuous-strand fiberglass, (3) flat and fabricated glass, and (4) chemicals. PPG is composed of 16 strategic business units in the four major product areas and has about 50 production facilities in the United States and 110 worldwide. The company employs approximately 32,500 people worldwide. PPG has three research and development facilities located in the greater Pittsburgh, Pennsylvania, area that develop new chemical substances and submit new substances to EPA for review each year.

The Experiment: The Pollution Prevention (P2) Framework is a new tool developed by the Office of Prevention, Pesticides and Toxic Substances and provided to the chemical manufacturing industry to promote incorporation of risk screening and pollution prevention in the design and development of chemicals. The objective of the P2 Framework is to promote the selection and application of safer chemicals and processes during the early stages of decision making regarding chemical development. PPG is using the P2 Framework to test the idea that by pre-screening product development options, the company's business practices will change, resulting in increased opportunities for pollution prevention. PPG is also conducting a validation study to compare measured data with the predictions of selected polymeric chemicals generated by the P2 Framework ECOSAR model, which predicts aquatic toxicity of chemicals based on analysis of the chemical structure. This study seeks to verify that the P2 Framework model provides a reliable method for assessing aquatic toxicity. PPG will also actively communicate with other companies on the uses and benefits of the P2 Framework.

The Flexibility: The Toxic Substances Control Act (TSCA) governs the manufacture, importation, processing, distribution, use, and disposal of "industrial" chemical substances, including new chemicals. Annually, EPA evaluates approximately 2,000 new chemical notices submitted by industry. Under TSCA, a prospective manufacturer must wait 90 days after submitting a pre-manufacture notice (PMN) before beginning manufacture of a new product. During that 90-day PMN review period, EPA determines whether the substance may present an unreasonable risk to human health or the environment. Often, EPA concludes its review of the PMN after 28 days for chemicals identified as "low-risk drops." As a result of new and less toxic chemicals produced using the P2 Framework, PPG expects that EPA would generally complete its reviews of PPG's chemicals in 28 days or less. PPG therefore proposes that in cases where EPA's reviews are completed in 28 days, it be allowed to begin manufacture after 45 days, rather than 90 days. The shortened 45-day waiting period will be available only for chemicals for which EPA has no further concerns.

The Superior Environmental Performance: By using the P2 Framework, it is expected that PPG, will develop innovative, cleaner, and more environmentally benign products and processes. In addition, it is expected that PPG's manufacturing processes and waste handling processes will operate at higher levels of environmental performance due to an increased emphasis on pollution prevention.

Progressive Auto Insurance

NATIONWIDE

FINAL PROJECT AGREEMENT SIGNED JULY 27, 2000

The Project Sponsor: Progressive Auto Insurance (Progressive) is the fourth largest auto insurer in the United States, insuring more than 5 million people and operating more than 350 offices nationwide. In August 1998, Progressive began a limited marketing test in Houston, Texas, of a new product that bases auto insurance premiums in part on when, where, and how much a vehicle is driven. The product is called Autograph[SM]. In August of 1999, the company expanded the test throughout the State of Texas.

The Experiment: Auto insurance rates are traditionally based on variables, including vehicle age; vehicle manufacturer and value; driver's age, sex, marital status, place of residence, and driving record; types of coverages; and deductibles selected. However, more specific information about customer driving patterns, such as mileage driven and time of day and location of driving, are generally not taken into account because of the difficulty involved in monitoring and tracking the information. Progressive has piloted a unique voluntary insurance program in the State of Texas that uses the new auto insurance product, Autograph[SM], to determine a consumer's auto insurance rate based on actual vehicle usage, including when and how much the vehicle is driven with the use of a global positioning system installed in the vehicle. When a consumer decides that Autograph[SM] is right for him or her, the consumer and Progressive enter into an agreement that gives the company access to the data and affords the consumer protection as to uses of the data—only the company or the consumer have access to it. With this system, Progressive seeks to create a variable insurance cost that will be influenced by the customer's driving activity and provides a financial incentive to drive less and choose alternate forms of transportation. This project gives EPA a unique opportunity to work with a nonregulated entity to study and determine the environmental impact of this new insurance product. Progressive will make available to EPA aggregated data on participants' driving mileage in response to the use of the product. Progressive is also interested in working with auto manufacturers to increase pilot activities and national product availability.

The Flexibility: As this project is an analytical experiment, no regulatory flexibility is being requested and Progressive does not obtain modifications of any future laws or regulations. However, as the project progresses, if it is found that the insurance system proves to be environmentally beneficial, it is possible that some alternatives would be explored for offering incentives to key groups who enable the expansion of this type of insurance.

The Superior Environmental Performance: EPA's interest in the Progressive pilot program derives from the possibility that insurance pricing plans like Autograph[SM] might alter driving habits, as well as distinguish existing differences in habits, as drivers learn how their driving habits affect their costs. With this program, EPA can collect data on whether people who sign up for a voluntary program like Autograph will reduce their total driving or their driving during congested periods, as understanding total vehicle miles traveled is essential to promoting and crafting EPA's policies dealing with congestion, smog, vehicle emissions, and "smart growth" concerns.

Steele County Project

STEELE COUNTY, MINNESOTA
XLC[8] FINAL PROJECT AGREEMENT SIGNED MAY 31, 2000

The Project Sponsor: The Steele County Project encompasses nine small- to medium-sized industrial facilities in Owatonna and one facility (Atofina, formerly known as Elf Atochem) in Blooming Prairie, Minnesota. Steele County is located in southeastern Minnesota, approximately 60 miles south of Minneapolis. The facilities participating in this project are primarily metal finishers.

The Experiment: The Steele County Project is testing the effectiveness of a community-based approach to industrial regulated wastewater effluent and water use reduction controls in order to enhance local environmental quality. In addition, this project will also experiment with providing mass-based limits prior to full adoption of water conservation practices to see if this encourages facilities to incorporate water conservation measures into their operations. Steele County will also test to see if the development of an alternative approach to significant noncompliance (SNC) publication enhances a community-based approach to joint problem solving. A second phase of the project (not yet proposed) would examine a multimedia approach to environmental permitting and would be based on overall community performance, rather than individual sponsor performance.

The Flexibility: To help participating Owatonna facilities meet project goals, EPA has granted flexibility under the Clean Water Act. With this flexibility, participating Owatonna facilities may be allowed to (1) reduce monitoring frequency if discharge reduction goals are met and (2) reduce or eliminate monitoring where a pollutant is not discharged in the past three years. The Owatonna Waste Water Treatment Facility (OWWTF) will also be give the discretion to regulate participating facilities with mass-based limits instead of concentration-based limits. Participating Owatonna facilities will use their best efforts to reach a 20 percent reduction goal in nickel, chromium, copper, and zinc (by mass for each individual pollutant) that is discharged to the OWWTF. If the first 20 percent reduction goal is met, a further 20 percent reduction goal could be set for the remaining project term. If the initial 20 percent reduction goal is met for all pollutants, the city would be authorized, at its discretion, to reduce the self-monitoring frequency of participating Owatonna facilities to once per year.

In addition, the OWWTF may also develop an alternative approach for notifying the public of SNC by participating Owatonna facilities by publishing the SNC notice on the Minnesota Pollution Control Agency's Web site rather than in the local newspaper. A stakeholder committee will also investigate and report on each noncompliance event so that the public will have access to the information to ensure those who do not have Internet access may obtain information on the facilities. With this new approach, the OWWTF hopes to provide prompt and appropriate assistance for identifying and correcting violations, and reserve newspaper publication for cases that require greater public attention.

The participating facility in Blooming Prairie did not seek regulatory flexibility.

The Superior Environmental Performance: Specifically, under the FPA, participating Owatonna facilities agree to:

- Reduce the discharge of four priority metals (nickel, chromium, copper, and zinc);
- Reduce water usage;
- Arrange and participate in training for the development of an ISO 14000-based environmental management system (EMS) for each facility; and
- Minimize the adverse impact of stormwater on the local wastewater treatment facility by reducing the runoff from each participating facility and developing educational materials for the local community.

[8]Project XLC, eXcellence and Leadership for Communities, encourages local public sector and community organizations to come forward with new approaches to demonstrate community-design and directed strategies for achieving greater environmental quality consistent with community economic goals.

The participating Blooming Prairie facility agrees to:

- Reduce three pollutant effluents that flow to the Blooming Prairie Waste Water Treatment Facility (BPWWTF): biological oxygen demand (BOD), total suspended solids (TSS), and total Kjeldahl nitrogen (TKN); and

- Work to limit water usage.

The Steele County Project is expected to achieve superior environmental performance beyond that which is achieved under the current CWA regulatory system by encouraging the sponsors to work together in a coordinated manner. The Steele County project will work towards 20 percent reductions in metal discharges to the OWWTF and in BOD, TSS, and TKN to the BPWWTF. These reductions will be made within the first five years of the project. In addition, more environmental benefits should be realized because of participating Owatonna facilities' commitments to develop environmental management systems and their additional commitments to assist the city in alleviating the problem of storm sewer overflow.

United Egg Producers

NATIONWIDE

FINAL PROJECT AGREEMENT SIGNED ON OCTOBER 25, 2000

The Project Sponsor: United Egg Producers (UEP) is a farmer cooperative representing egg producers nationwide, most of whom own their flocks and do not contract out the production as in the chicken broiler industry. Most farms are integrated from the point of production through the final marketing of the eggs. UEP currently supplies approximately 240 eggs per year to each of the nation's 260 million people. Most farms (approximately 80 percent) are solely dry litter operations, in which chicken litter is collected and stored in watertight cement pits below the bird cages, dried for several months, and are annually removed for sale or gift to third parties (75 percent), spread on nearby farmland owned or controlled by the egg producer (15 percent), or composted into mulch or pelletized for sale into the nursery or retail garden markets (20 percent). Smaller operations are more likely (75 percent) to sell their eggs to larger operations for washing and processing, where collection and disposal of egg wash water is often a permitted activity. Most large egg production operations store egg wash water and spread it on land they own or control. Although egg wash water lagoons are most common among those who wash eggs on-site, some operators collect egg wash water in large tanks and haul it weekly to water treatment centers.

The Experiment: Various state water officials and environmental groups, U.S. EPA, and others are participating in this project with UEP to develop a comprehensive program to help participating facilities achieve superior environmental performance by implementing an environmental management system (EMS) through a general permit issued by individual states or EPA. EPA supports coverage under general permits because it will bring egg-producing facilities under permits faster and help ensure continuing compliance and superior environmental performance through the implementation of EMSs. This innovative program, which will also include a third-party auditing component, will also utilize those common procedures and on-farm management practices most likely to result in superior environmental performance. EPA, working with UEP, states, and others, will develop a model general permit that states can choose to adopt where they are the permitting authority. EPA will use the general permit and the EMS program requirements in states where it continues to administer the program.

The Flexibility: The project is a progressive concept that offers environmental and resource benefits to states, EPA, the public, and egg producers. Under current law, the dry manure storage and handling procedures of most very large poultry operations are generally not covered under existing Clean Water Act regulations or National Pollutant Discharge Elimination System (NPDES) permits for Concentrated Animal Feeding Operations (CAFOs). However, several state actions and newly proposed EPA guidance to states for CAFO regulation have alerted the poultry industry to upcoming rulemaking that would require most egg producing operations to obtain individual NPDES permits. The XL project proposed by UEP uses a less costly and less complex mechanism—a general permit and an EMS-based program—tailored to the needs of the egg-laying industry as an incentive for the industry's large producers to maintain superior facilities and practices.

The Superior Environmental Performance: The following environmental benefits are expected to accrue from this project:

- UEP members will work to establish and implement an EMS program that will standardize certain best management practices and operational procedures. The EMS program will also identify overall goals for the industry, general management procedures and practices (e.g., training, internal audits, record keeping, and maintenance), along with pollution prevention technologies. Each EMS at participating facilities will be subject to third-party audits as a condition of receiving a general permit and information from these audits will be available to the public.

- UEP plans to expand its industry education program. This will include printed and Internet information, demonstration projects, regional workshops, and other activities to promote effective nutrient management planning, employee training, and general permit compliance (including EMS implementation).

- UEP will help organize a third-party manure user program designed to help recipients of manure understand how to properly develop nutrient management plans and properly utilize CAFO-generated manure.

United States Postal Service (USPS) Denver

DENVER, COLORADO

FINAL PROJECT AGREEMENT SIGNED MAY 22, 2000

The Project Sponsor: The United States Postal Service (USPS) is perhaps the most visible of all federal services, carrying more mail to more people over a larger geographic area than any other country. The USPS has an annual operating revenue of $63 billion and invests billions of dollars annually in new or improved buildings and mail processing equipment ($3 billion in 1999). USPS submitted this project to Project XL and the Colorado Environmental Leadership Program. The USPS is currently evaluating its fuel vehicle fleet nationally to optimize resources and protect the environment by using low-emission vehicles.

The Experiment: This project is examining an innovative approach to managing a new fleet of flexible fuel vehicles (FFVs) for the USPS. The Colorado Clean Fuel Fleet (CCFF) program requires that new vehicle fleet purchases consist of at least 50 percent of vehicles that are low-emitting vehicles (LEVs). The USPS was unable to find a supplier when it requested bids for the required number of LEVs. However, the USPS received one bid that would supply transitional low-emitting vehicles (TLEVs), which do not meet the LEV requirements. USPS proposes to scrap 512 aging postal vehicles and replace them with FFVs that are capable of using unleaded gasoline with up to 85 percent ethanol (E-85). These vehicles will result in lower emissions and will promote the use of E-85 in the Denver area.

The Flexibility: The Denver area is currently a nonattainment area for carbon monoxide but is in the process of complying with national air quality standards. Although this project does not specifically ask for flexibility from federal regulations, the State of Colorado will grant the USPS flexibility through the Colorado Environmental Leadership Program. The State of Colorado will also submit a revision to its State Implementation Plan (SIP) for EPA approval. As the TLEVs do not meet CCFF requirements, the USPS requested flexibility to enable it to concentrate approximately 794 FFVs in the Denver area, eliminate 512 aging fleet vehicles from the Denver/Boulder nonattainment area, and relocate 282 1987-1991 USPS delivery vehicles. Colorado will give the USPS 512 emission credits to replace 512 aging vehicles—one credit for each vehicle replaced. The USPS can also receive up to 282 additional credits based on the amount of ethanol used in the vehicles. In addition, the State of Colorado will also give the USPS preferred vendor status and public recognition, as well as assistance in publicizing the XL project.

The Superior Environmental Performance: The following are the projected environmental benefits that are expected from this project:

- Introduction of approximately 794 FFVs within the Denver metropolitan area;
- A significant decrease in USPS's contribution to vehicle emissions within the Denver metropolitan area. The model year 2000 vehicle engines are cleaner burning and more fuel-efficient than the older model year vehicle engines they are replacing. For example, each of the vehicles to be replaced emits 250 pounds per year more carbon monoxide than each of the replacement FFVs. The net emissions reduction over a 20-year life cycle is estimated to be 432 tons of carbon monoxide, 24 tons of hydrocarbons, and 10 tons of nitrogen oxides;
- Expedited removal of 512 1975-1983 model year delivery vehicles from the Denver/Boulder nonattainment area. Vehicles will be removed from service and sold as scrap;
- Reduction in evaporative emissions of hazardous chemical constituents (e.g., benzene) associated with unleaded fuel dispensing;
- Increased market demand for E-85 fuel, both through the USPS's addition of the approximately 794 vehicles and the publicity that the project will provide regarding alternative fuel vehicles. These two factors will provide economic incentive to encourage retail fuel providers to convert existing gasoline storage tanks

to E-85 storage tanks. The USPS's involvement in Project XL and the Environmental Leadership Program are expected to increase the visibility and promote the uses of E-85 and alternative fuel vehicles. Additionally, as the commercial availability of E-85 increases, the purchase of dedicated alternative fuel vehicles, including FFVs and those that meet LEV or cleaner emissions standards, by vehicle fleets and private individuals will increase, thereby reducing mobile source emissions further;

- Creation of a USPS alternative fuel vehicle model for metropolitan areas that could be expanded and applied to other areas; and

- Reduction in risk from stored fuel, since the ethanol component of E-85 poses less risk to the environment and worker safety than traditional fuels.

USFilter Recovery Services, Inc.

ROSEVILLE, MINNESOTA
FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 21, 2000

The Project Sponsor: USFilter Recovery Services, Inc., is a subsidiary of Paris-based Vivendi, the leading global provider of commercial, industrial, municipal, and residential water and wastewater treatment systems, products, and services, with operations in more than 100 countries. The USFilter Recovery Services (USFilter) facility in Roseville, Minnesota, is in the business of treating inorganic industrial waste, and whenever technically and economically feasible, USFilter recovers the metals from the received wastes for recycling and reuse. Roseville is a suburb centrally located between the cities of Minneapolis and St. Paul.

The Experiment: In most electroplating and metal finishing manufacturing processes today, wash and rinse water is used once then treated on-site and discharged. USFilter proposes to install an ion exchange system at certain approved customers' facilities that removes metal contaminants from the water, making it available for reuse. The system consists of ion exchange canisters that USFilter would install on the customer's (primarily metal finishers and electroplaters) process lines that contain wastewaters. The ion exchange process causes the metals in the wastewater to 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. USFilter would collect the spent ion exchange canister containing the metals (using Minnesota Department of Transportation hazardous waste licensed transporters), replace the spent canister with a fresh one at the generator facility, and treat the spent resin at USFilter's facility in order to regenerate it.

The Flexibility: Those facilities that seek to use the USFilter ion exchange system would generate spent resins that are regulated as hazardous wastes under RCRA. In order to promote use of this system, flexibility has been granted to allow participating generators and transporters of the USFilter ion exchange wastes to replace certain existing RCRA requirements for hazardous waste generators and transporters with a comprehensive program implemented by USFilter. This program seeks to ensure that generators and transporters properly store and transport the USFilter water treatment ion exchange resins.

The Superior Environmental Performance: The following environmental benefits are expected from the USFilter project over three years:

- Reduction in discharge of neutralized effluent to the publicly owned treatment works by approximately 2.3 million gallons; and
- Recovery of approximately 2,250 pounds of copper, nickel, and zinc that would have been landfilled.

Waste Management, Inc., Virginia Landfill Bioreactors Project

King George County, Virginia
Amelia County, Virginia
Final Project Agreement Signed September 29, 2000

The Project Sponsor: Waste Management, Inc. (WM), provides comprehensive waste management services to more than 10 million residential customers and 1 million businesses. Based in Houston, Texas, WM operates a network of service facilities throughout the United States, Canada, Mexico, and Puerto Rico and is the largest company in its industry. WM proposes to implement and operate different bioreactor operations at the Maplewood Recycling and Waste Disposal Facility (Maplewood) in Amelia County, Virginia, and King George County Landfill and Recycling Center (King George) in King George County, Virginia. Maplewood is located approximately 30 miles southwest of Richmond, Virginia, and King George is located approximately 50 miles north-northeast of the city. The Maplewood and King George landfills are located in the same geographic area and receive similar waste streams.

The Experiment: In the past, the design goal of a "traditional" landfill was to minimize the quantity of water introduced into the landfill, thus minimizing leachate generation. The disadvantage to this approach is that the lack of liquid causes the biodegradation process to occur very slowly, thus leaving waste in a relatively undecomposed state for a long period. In this case, waste continues to be a potential source of groundwater contamination throughout the post-closure period of the landfill. Because biodegradation occurs slowly, the liner system is potentially exposed to leachate for a relatively long period of time. In a bioreactor landfill, controlled quantities of liquids are recirculated and/or added through waste as appropriate to accelerate the natural biodegradation rate of waste and therefore decrease the waste stabilization and composting time relative to what would occur within a conventional landfill. If the waste decomposes in the absence of oxygen (anaerobic decomposition), landfill gas or biogas is produced. Biogas is a mixture of methane, a major global warming contributing gas, carbon dioxide, and volatile organic compounds, which are local air pollutants. Methane gas, similar to natural gas, can be used as a fuel source if it is recovered and captured from the landfill.

This project will test two different methods for recirculating and adding leachate to the waste at the different landfills in order accelerate waste decomposition. The Maplewood bioreactor will involve the recirculation of leachate generated at the facility; and the King George bioreactor will involve the recirculation of leachate plus the addition of other liquids at the facility. Operating these landfills using two different application rates will allow the relative performance and cost-saving benefits of the two bioreactor approaches to be compared. Moreover, the waste received at these landfills is primarily municipal solid waste, making this experiment unique from other bioreactor projects in the XL program.

The Flexibility: As part of the project, WM will be granted regulatory flexibility from the requirement of RCRA that prohibits application of bulk liquids in municipal solid waste landfills (MSWLFs) and the recirculation of leachate in MSWLFs with alternative liner systems, as presented in Title 40 of the Code of Federal Regulations (40 CFR) Section 258.28.

The Superior Environmental Performance: The following superior environmental benefits are expected with this project:

- Reduction in source contamination in landfills and minimization of the threat to groundwater sources and surface water quality by accelerating the biodegradation of organic constituents in wastes;
- Increased waste screening to prevent the disposal of wastes that could adversely impact groundwater quality;

- Leachate containment within landfills due to construction of effective liner leachate containment systems; and
- Minimization of leachate formation by preventing the addition of liquids during the active life of the landfill.

Yolo County Bioreactor Project

YOLO COUNTY, CALIFORNIA

FINAL PROJECT AGREEMENT SIGNED SEPTEMBER 14, 2000

The Project Sponsor: The Yolo County Central Landfill (YCCL) in the northeast City of Davis, California, encompasses 722 acres and is owned and operated by Yolo County. The YCCL was opened in 1975 for the disposal of nonhazardous solid waste, construction debris, and non-hazardous liquid waste. Existing on-site operations include an 11-year-old landfill methane gas recovery and energy generation facility, a drop-off area for recylables, a metal recovery facility, wood and yard waste recovery and processing area, and concrete recycling area.

The Experiment: The county proposes to operate its next 20-acre landfill module near Davis as a controlled bioreactor landfill to attain a number of superior environmental and cost savings benefits. In a bioreactor landfill, controlled quantities of liquids are added and circulated through waste as appropriate to accelerate the natural biodegradation rate of waste and therefore decrease the waste stabilization and composting time relative to what would occur within a conventional landfill. If the waste decomposes in the absence of oxygen (anaerobic decomposition), landfill gas or biogas is produced. In the first phase of this 20-acre project, a 12-acre module has been constructed. This 12-acre module contains one 9.5-acre cell, which will be operated anaerobically, and a 2.5-acre cell to be operated aerobically. The county will construct the second phase of Module D in two years and, depending on the results of the first phase of Module D, the county may operate the second phase either anaerobically or aerobically. The monitoring and reporting of the second phase of Module D are not discussed in this proposal as the county intends to revise the FPA in two years when more data become available from phase one of the project. The county decided to construct this 20-acre cell in two phases to reduce the construction cost of the project and be able to apply what is learned from the first phase to the second phase.

During the waste filling, horizontal gas wells will be constructed in both the aerobic and anaerobic cells. Gas will also be extracted from the base layer of both cells during waste filling. The purpose of this extraction system design is to lower methane emissions, one of the climate change contributing gases, that would normally be released to the atmosphere during filling in the anaerobic cells. An impermeable cover will be placed over each cell shortly after waste filling has been completed. Landfill gas will be collected from the anaerobic cell, and the aerobic cell atmospheric air will be pulled or pushed through the waste. In the aerobic cell, it is expected that this will increase the rate of degradation but inhibit methane formation. Many gas and leachate parameters will be monitored during the operation of these cells to collect in situ data as well as laboratory analysis.

The Flexibility: The county is requesting regulatory flexibility from the prohibition in 40 CFR 258.28 Liquid Restrictions, which may preclude addition of useful bulk or non-containerized liquid amendments. The county is proposing to supplement the liquid addition with groundwater, but would like to obtain the flexibility to possibly use other liquids, such as gray-water from a wastewater treatment plant, septic waste, and food-processing wastes that are currently land applied. Liquid wastes such as these, that normally have no beneficial use, may beneficially enhance the biodegradation of solid waste in a landfill for this project. The county intends to use leachate and groundwater first, but if not enough liquid is available then other liquids will be used.

The county also requests similar flexibility on liquid amendments from California and local regulatory entities. Several sections of the California Code of Regulations (CCR), Title 27, Environmental Protection, address the recirculation of liquids in lined municipal waste landfills. While the regulations do not specifically endorse bioreactors, regulatory flexibility is provided.

The Superior Environmental Performance: With a bioreactor landfill, superior environmental and waste management results include:

- Maximization of landfill gas control and capture of methane and volatile organic compounds emissions;
- Greater recovery of landfill methane;
- Landfill life extension and/or reduced landfill use;
- Greater capture of leachate and a decrease in the pollutant loads of leachate;
- More rapid waste stabilization; and
- Decreased long-term risks associated with the landfill.