ENVIRONMENTAL PERMITS
PROJECT SUMMARIES

CLIENT: Woven Apparel Fabric Manufacturer
PROJECT: Alternative Ash Disposal Process

This woven apparel fabric manufacturer owned and operated an 8.0 MGD WWTP that included a large liquid storage lagoon and was facing the high cost of removing and disposing of sludge from the lagoon. They were also paying large fees for fly ash disposal. LEAF recommended that ash be disposed of in the lagoon to provide an environmentally safe closure and reduce disposal costs. An application to modify the permit was prepared by LEAF to close the lagoon by land application of the liquid sludge to allow for closure by placing fly ash, generated onsite by combustion of coal, into the liquid sludge. The dry ash not only absorbs waster from the sludge, but its pozzolanic properties provide for a low permeability, high compressive strength substrate for the final cover.

Based on LEAF's recommended approach, savings to the client are $500,000 annually over the first three years of the project, and $250,000 per year over the remaining 6 years. The modified closure permit thus provides for a long term, inexpensive, and secure means of fly ash disposal, and eliminates the cost of land applying the liquid sludge.

CLIENT: International Textile Corporation
PROJECT: Wastewater Monitoring & Permit Limit Revisions

LEAF performed quarterly effluent monitoring, sampling, and analysis for a spunweb industrial fabric facility. The purpose of the ongoing monitoring was to establish that the company is within the new permit limits established by the industrial waste control section of the city government. After initial monitoring, our engineers assisted the client in negotiating increased limits in the permit. The City increased the limits in the Industrial User Permit, bringing the client into continuous compliance without the expense of treatment equipment, and the monitoring requirement was removed from the permit.

CLIENT: Knitted Apparel Fabric Manufacturer
PROJECT: Wastewater Treatment Revisions

Problems with a 5.0 MGD wastewater treatment plant led our engineers to evaluate the operation of the plant to resolve the current problems and prevent recurrence. We identified the design problem, recommended process changes, and implemented a more thorough monitoring and control program. Suggested process changes included the addition of nutrients to the system, reducing the solids inventory, and increasing the F/M ratio. The plant implemented all recommendations which brought the system into permit compliance without additional end-of-pipe treatment.

CLIENT: **Woven Apparel Fabric Manufacturer**
PROJECT: **Wastewater Monitoring**

The presence of metals in wastewater discharges caused concern for both the company and the state regulatory agency. Our engineers conducted an in-depth sampling program and identified the sources of copper and lead in the plant discharges to receiving streams. We then negotiated with the state for realistic permit limits and developed process controls to meet those limits without building additional waste treatment facilities; we also coordinated in-stream bioassay studies to develop water-effect ratios per EPA guidelines. The water-effect ratios are expected to result in increased permit limits due to the site-specific receiving stream conditions.

CLIENT: **Manufacturer of Animal Feed Supplements**
PROJECT: **HAZMAT Compliance**

Blending, packaging, and shipping a wide variety of minerals for feed supplements creates many challenges, not the least of which is compliance with Department of Transportation Hazardous Materials Regulations. Determining which mixtures are regulated as a hazardous substance can be complicated. Ensuring that each hazardous substance is packaged, marked, labeled, and placarded properly, and is shipped with all the required information on shipping papers, can be a nightmare. Frustrated after several citations, this nationwide supplier of animal feed supplements enlisted the services of LEAF. We developed a comprehensive, easy to follow field and administrative manual for packaging and shipping their products that are considered hazardous materials per 49 CFR Chapter 1, Subchapter C.

Part of this project entailed reviewing all company products for Subchapter C applicability. Once this was completed, LEAF prepared a manual, in table format, that could be distributed to all domestic locations, used as a quick reference guide for shipping specific products, and is easily expanded for new products. The client distributed the manual to each plant and now calls LEAF as needed for assistance with regulatory questions concerning new products and formulations.

CLIENT: **Specialty Fabric Manufacturer**
PROJECT: **SPCC Plan Development**

Our engineers inspected eight manufacturing facilities and made recommendations pertaining to improved handling and storage of chemicals and petroleum products. A Spill Prevention, Control, and Countermeasure (SPCC) Plan was developed for each facility that exceeded the federal requirements of 40 CFR part 112, which implemented Best Management Practices (BMPs) for stormwater. Additional expenditures for impending Stormwater Permits were thereby avoided.

CLIENT: **Woven Apparel Fabric Manufacturer**
PROJECT: **Wastewater Pollutant Assessment**

Our senior engineers were asked to conduct an intensive sampling project to identify the sources of conventional pollutants and metals which discharged from a greige plant to a POTW. We then negotiated increased permit limits with the city and state based on the Headworks Analysis results. A combination of process controls and pretreatment units were recommended and installed to meet permit conditions. The plant is currently maintaining compliance with all required permit limits. Expensive treatment units for removing metals were avoided due to our efforts.

CLIENT: **Cigarette Manufacturer**
PROJECT: **Waste Stream Assessment**

An investigation was conducted to identify process and stormwater outfalls and to determine waste streams causing BOD, TSS, copper, and zinc violations. Our engineers developed operating procedures for neutralization systems, negotiated increased Industrial User Permit limits, and implemented process changes to ensure permit compliance. A program was initiated to eliminate stormwater runoff from sanitary sewers. LEAF provides monitoring and reporting services for all outfalls that discharge to the city.

CLIENT: **Metal Fabricating Systems Manufacturer**
PROJECT: **Stormwater BMPs and SPPP/SPCC Plans**

Our engineers investigated site conditions and recommended stormwater Best Management Practices (BMPs) to reduce stormwater monitoring and recordkeeping requirements. We then developed a Spill Prevention, Control, and Countermeasure (SPCC) Plan as a complement to a Storm Water Pollution Prevention Plan (SPPP) for the manufacturer which included addressing hazardous waste storage areas and wastewater pretreatment facilities.

CLIENT: **Cotton Fabric Manufacturing Facility**
PROJECT: **Wastewater and Stormwater Permits**

After it's relocation in North Carolina, this client retained LEAF to evaluate the permitting requirements for its operations and prepare the necessary permit applications for compliance with water and wastewater discharges, stormwater discharge, hazardous waste and air emission regulations. Our engineers prepared and submitted permit applications for NPDES wastewater and stormwater discharges, a request for Change of Ownership for the existing facility Hazardous Waste Identification Number, a permit application for Yarn Manufacturing, and a Synthetic Minor Permit Application. Once the stormwater permit was issued, LEAF prepared a SPPP and a SPCC Plan for the facility.

CLIENT: **Used Tire Recycling Facility**
PROJECT: **Air and Stormwater Permits**

LEAF was retained by this new facility for start-up permitting services. LEAF prepared the initial air permit for the facility's shredding, grinding and storage units, and evaluated applicability to federal, state and local air regulations for the activities involved in recycling of rubber, steel and synthetic fiber. Our engineers also reviewed facility stormwater discharges in preparation of a stormwater permit application, and prepared a SPPP.

CLIENT: **Lumber Manufacturer**
PROJECT: **Storage Pond Closure**

LEAF assisted a lumber company to obtain a Recycle System Permit for capture of wastewater from a wet decking (log storage) operation. The wet decking operation was needed for excess inventory which resulted from hurricane cleanup activities. LEAF installed and monitored several shallow groundwater wells, and no impact on groundwater was ever detected. When the operation was no longer needed, the decision was made by the lumber company to rescind the permit and close the facility, therefore, LEAF prepared a Closure Plan for the recycle facility and supervised final closure activities. The permit was rescinded by the NCDEQ and the groundwater monitoring system was closed in accordance with NC regulations by LEAF.

CLIENT: **Various Industries Subject to the Area Source Boiler GACT**
PROJECT: **Energy Assessments**

LEAF prepared in excess of twenty (20) energy assessments as required by the area source boiler GACT. Many of the facilities included lumber mills, textile facilities, and woodworking operations. LEAF prepared thorough, yet concise energy assessments, recommending easy steps which each facility could take, saving the facilities thousands of dollars. All energy assessment work was completed in accordance with EPA guidelines.