

Environment Introduction

In 2002, we continued to reduce greenhouse gas emissions from our power plants as part of our on-going commitment to improving our environmental performance across all our activities.

Electricity production, distribution and use result in a number of environmental impacts. These occur at local, regional and global levels. Greenhouse gas emissions and biodiversity losses, for instance, are best addressed globally. Emissions of sulphur dioxide and nitrogen oxides have a more regional impact. Local issues might include airborne pollutant emissions, cooling water intake and discharges, landfills, injury to animal and plant populations, and land use changes.

Over the last several decades the electricity industry has gained much experience in understanding and addressing these impacts and has achieved remarkable reductions in these, without compromising growth in electricity supply.

In providing our customers with reliable supplies of gas and electric energy, we recognize our responsibility to protect the environment and improve the overall quality of life in the Commonwealth of Kentucky.

The companies that make up the LG&E Energy family are committed to improving our environmental performance through our environmental principles listed below:

- We are committed to protecting the environment by ensuring compliance with all local, state and federal environmental laws and regulations; thus protecting our natural resources, the health and safety of our employees, and the surrounding public;
- We are constantly looking for ways to improve the efficiency of our production processes while managing our environmental obligations;
- We are continuing to incorporate pollution prevention practices into the foundation of our business plans;
- We are committed to open dialog with our stakeholders, the general public and regulatory agencies on the environmental impact of our operations and our overall environmental performance;
- We are training our employees, suppliers and contractors regarding our environmental standards and require them to perform their tasks in an environmentally responsible manner;
- We are promoting nature conservation;
- We are maintaining an effective and efficient Environmental Management System.

Environment

The issues

There are a number of major environmental issues that are central to our business and continuing success.

Above all, LG&E Energy Corp. is an energy company, deriving much of that energy from fossil fuels. Although the continuing availability of these resources has long been questioned, other related issues have recently become more pressing.

Burning fossil fuels releases various substances and almost all of these have some kind of detrimental impact on the environment when released in large enough quantities.

Carbon dioxide, for instance, contributes to global warming and climate change.

Other products, such as sulphur dioxide, can combine with water in clouds and can fall as acid rain many miles from where they were released. Others may have an impact at a local level.

LG&E Energy has worked for many years to reduce all of these impacts, and that work continues today. Each year, we invest millions of dollars in technology to reduce the impact of our existing plants.

The Environmental issues for LG&E Energy, upon which we report here, are:

- Environmental management systems;
- Air compliance;
- Water compliance;
- Waste compliance;
- Environmental stewardship programs;
- Energy efficiency;
- Recycling / beneficial re-use;
- Electro-magnetic fields (EMFs);
- Environmental data.

Shown below, are these issues mapped against our stakeholder groups to show which issues, we believe, are of most relevance to each stakeholder group.

Stakeholder Groups								
E.ON	●	●	◆	◆	▲	▲	■	○
E.ON investors	●	●	◆	◆	▲	▲	■	○
Govt. & energy regulators	-	-	-	-	-	▲	-	-
Environmental regulators	●	●	◆	◆	-	▲	■	○
Employees	●	●	◆	◆	▲	▲	■	○
Customers	●	●	◆	◆	▲	▲	■	○
Communities	●	●	◆	◆	▲	▲	■	○
External bodies	●	●	◆	◆	▲	▲	■	○
The media	●	●	◆	◆	▲	▲	■	○
Joint venture partners	●	-	-	-	-	-	-	○
Trade unions	●	-	-	-	-	-	-	-
Contractors	●	-	-	-	-	-	-	-
Suppliers	●	-	-	-	-	-	-	-

Key	
●	Environmental management systems
●	Air compliance
◆	Water compliance
◆	Waste compliance
▲	Environmental stewardship programs
▲	Energy efficiency
■	Recycling/beneficial reuse
■	Electromagnetic fields
○	Environmental data

Environment

Environmental Management System

Over 2002 the existing Environmental Management System (EMS) was greatly enhanced in line with the Powergen Group Environmental Policy. A paper-driven corporate management system was converted to a predominantly electronic-based system with the implementation of the Environmental Affairs Intranet Website.

Coinciding with this process, the corporate environmental compliance procedures were updated and expanded to include new regulations, requirement changes and additional guidelines. The Louisville Gas and Electric and Kentucky Utilities' environmental procedures were merged into a single document. Best practices were extracted from each to develop a more useful manual providing consistency across the two companies. This project was a joint effort in cooperation with the Environmental Compliance and System Laboratory, Audit Services, Health and Safety Departments, and site Environmental Coordinators and Management.

The Environmental Procedures Manual provides regulatory and company policy guidance to power plants, gas storage facilities, and distribution/transmission operations. The manual includes information pertaining to:

- Air, water and land environmental compliance requirements;
- Oil handling and Polychlorinated Biphenyls (PCBs);
- Storage tanks;
- Waste management;
- Emergency procedures;
- Auditing procedures;
- External inspections;
- Roles and authorities of corporate environmental staff;
- Training requirements;
- Document retention times.

In certain situations where time is of the essence, emergency procedures have been provided in a prominent location that can be quickly accessed. Staff can be e-mailed directly from the "Meet the Staff" section of the website. Each power plant has its own section where plant-specific environmental compliance procedures and information can be found. These individualized areas are meant to give each facility a convenient way to search for their site-specific documents and a sense of ownership.

The corporate Environmental Affairs Department's role does not change with the development of the new manuals and website and will continue to provide the same service. New employees or those employees with new responsibilities especially have found the website to be a great asset. Ever-changing environmental regulations and requirements can be confusing to understand and difficult to track. The Environmental Affairs Department will continue to maintain a close working relationship with facility personnel, but now the facilities have been given a dynamic tool to help make their jobs easier.

Environment

Air compliance

Regulatory agencies

The US Environmental Protection Agency (EPA) administers regulations as required by the Clean Air Act and its amendments. Local and state agencies can receive delegation to enforce various air quality protection programs. Specifically for LG&E Energy, the local regulatory agencies are the Louisville Metro Air Pollution Control District (for facilities within Louisville/Jefferson County) and the Kentucky Division of Air Quality (for facilities outside Louisville/Jefferson County). Regulations adopted by the state and local agencies must receive approval from the EPA. Once that approval is acquired, the new regulations are placed in the State Implementation Plan (SIP). Kentucky Administrative Regulations (KAR) and local agency regulations can either be as stringent as, or more stringent than, federal regulations listed in the Code of Federal Regulations.

Applicable regulations

The Clean Air Act established National Ambient Air Quality Standards (NAAQS) for designated criteria pollutants. The Clean Air Act Amendments of 1977 and 1990 called for enhanced restrictions on the criteria air pollutant emissions through such programs as New Source Performance Standards (NSPS), Prevention of Significant Deterioration (PSD), Title III Hazardous Air Pollutants, Title IV Acid Deposition Control, and Title V Operating Permits. These amendments, especially the Clean Air Act Amendment of 1990, placed significantly more emphasis on monitoring and reporting.

Title V set the framework for a new operating permit system to meet certain goals:

- Standardize permits;
- Create a single document that encompasses all regulatory obligations;
- Require regulated facilities to be more proactive in proving compliance;
- Require compliance certification by a Designated Representative.

We continue to forge ahead in this long process. Most of our facilities that are defined as major sources have received a Title V permit and have begun operating under the new system and are managing this considerable change.

Permit limitations vary according to the area's attainment designation per the NAAQS and depending on the type and age of the air pollution source. Non-attainment means one or more of the NAAQS have not been met. The Louisville metro area has been struggling with low level ozone pollution and at times has been in non-attainment. This continues to be a major issue for LG&E Energy.

EPA's call for reduced NO_x emissions by May of 2004 has challenged us to retrofit Selective Catalytic Reduction (SCR) units on many of our coal-fired boilers to meet a new more stringent system NO_x emission limit of 0.15 lb/MMBtu. NO_x, a precursor to ozone, is reduced to elemental nitrogen and water in the SCR. The reaction with injected ammonia takes place on a catalyst. Our coal-fired power plants have employed other NO_x controls in the past, but SCRs achieve much greater reductions.

Trimble County Unit 1 is the first power plant in the fleet to construct an SCR, which

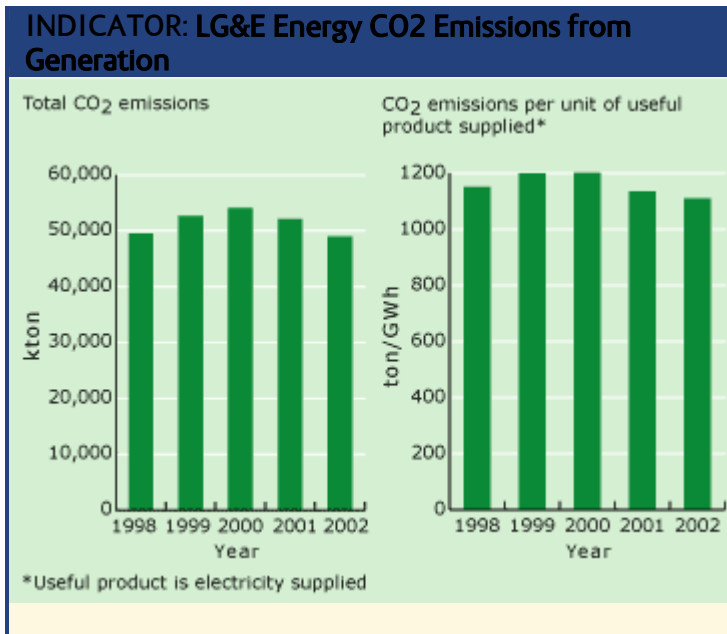


was completed in the spring of 2002. Many regulatory hurdles were overcome with the implementation of EPA's Risk Management Plan and Occupational, Safety and Health Administration (OSHA) Process Safety Management Plan due to the on-site storage of anhydrous ammonia. The Trimble County SCR is the first of nine units to be installed. SCRs are expected to be 90% efficient in removing NOx and will be of considerable benefit to the region's air quality.

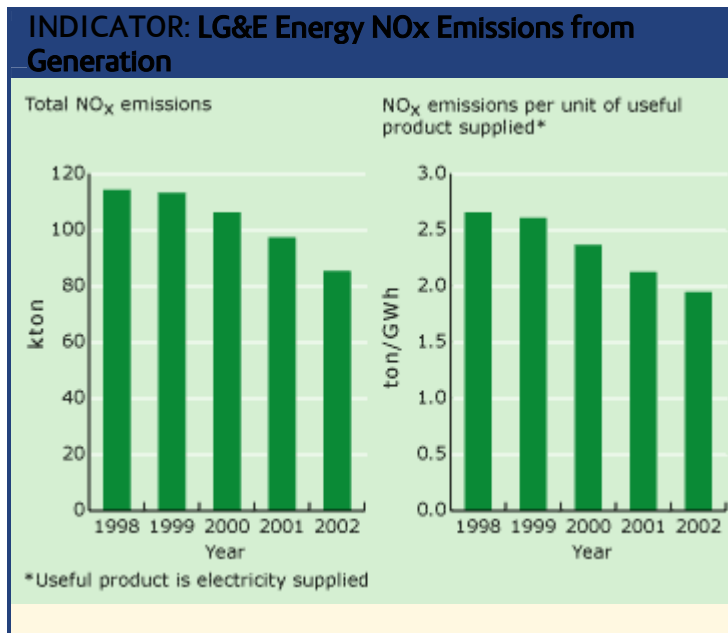
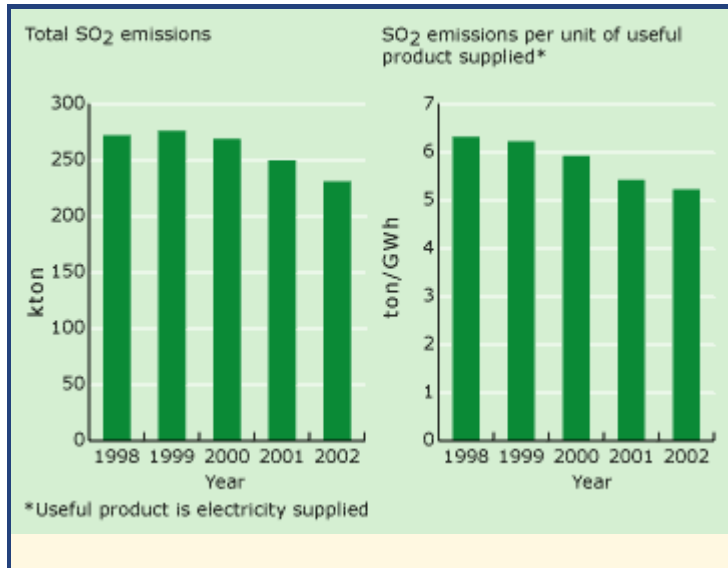
Compliance monitoring and reporting

All monitoring and reporting requirements are contained in the Title V permits. Those plants without Title V permits refer back to their existing permits and the regulations directly.

Continuous Emissions Monitoring (CEMs) are installed on all generating units over 25 MW, primarily for the measurement of SO2, NOx and CO2 emissions. Continuous Opacity Monitors (COMs) are also utilized. Data collected from these monitors are included in Emission Data Reports (EDRs) submitted to the EPA and the state and local agencies on a quarterly basis. During monitor downtime periods for SO2, scrubber parametric monitoring data are used to assure proper operation of the control equipment.



INDICATOR: LG&E Energy SO2 Emissions from Generation



Environment

Water compliance

Regulatory agencies

LG&E Energy is regulated by many different agencies with authority over a wide array of water-related issues.

These agencies include:

- US Environmental Protection Agency (EPA);
- US Army Corps of Engineers (COE);
- US Coast Guard;
- Kentucky Division of Water (DOW);
- Kentucky Department of Fish & Wildlife Resources (KDFWR);
- Federal Energy Regulatory Commission (FERC);
- Louisville Metropolitan Sewer District (MSD);
- Louisville Health Department.

The COE regulates dredge and fill activities in water sources and wetlands; floodplain maintenance; and administers nation-wide permits. The Coast Guard is responsible for responding to oil discharges or activities causing a sheen upon waters of the U.S., as well as navigational hazards. The DOW, in addition to running the Kentucky Pollutant Discharge Elimination System (KPDES) program, also regulates water withdrawal and discharges; stream crossing and construction permits; and groundwater protection plans. FERC is the permitting authority for our hydro-electric facilities. MSD and the Health Department regulate activities within Louisville/Jefferson County, including our package sewage treatment plants; discharges of non-industrial wastewaters; mosquito control; and spill reporting and cleanup. As part of the Oil Pollution Act, EPA oversees applicable facilities' development and maintenance of Spill Prevention, Control and Countermeasure (SPCC) Plans, which are designed to prevent oil spills from reaching waterways.



Applicable regulations

The United States Congress has enacted several pieces of legislation over the past 30 years that EPA oversees. Included among the major legislative acts:

- Federal Water Pollution Control Act (1972) – Initiated the National Pollutant Discharge Elimination System (NPDES), which the state of Kentucky took primacy over and renamed as KPDES;
- Clean Water Act (1977) – Introduced technology-based effluent limitations from industrial sources and set new water quality standards;
- Clean Water Act Amendments (1987);

- Oil Pollution Control Act (1990) – Established requirements to prevent oil spills and water contamination.

Compliance monitoring and reporting

Most of these regulations require an application for a permit which, upon review and approval, is good for either a specific project or is applicable for a set period of time (up to five years in the case of KPDES permits). The permits generally require monitoring and reporting with limits assigned to certain parameters in our wastewater effluents. The monitoring requirements vary greatly depending upon the project and reporting usually is submitted on a monthly basis to the regulatory agencies. LG&E Energy also participates in a yearly analysis of unknown samples sponsored by EPA to verify the accuracy of the test procedures and equipment. In 2002, all of the KU/LG&E power plants renewed their KPDES permits. As a permit requirement, each station is developing new Best Management Practices Plans that also include criteria to meet Spill Prevention, Control and Counter measure (SPCC) regulations. LG&E is also in the process of renewing the FERC hydroelectric operating license, which expires in 2005, for the Ohio Falls.

Environment

Waste compliance



Regulatory agencies

LG&E Energy is regulated by several different agencies on waste-related issues. These agencies include:

- US Environmental Protection Agency (EPA);
- US Department of Transportation (DOT);
- Kentucky Division of Waste Management (DWM);
- Louisville Metropolitan Sewer District (MSD).

EPA regulates the storage, handling, treatment and disposal of hazardous, special and solid wastes through several different departments. In many cases, the state of Kentucky DWM has adopted similar requirements to those of the EPA and has oversight responsibility, including permitting activities. DOT is responsible for managing the movement of wastes through the public domain. MSD has the authority to regulate the reporting and clean-up of petroleum product and hazardous material spills within Louisville/Jefferson County.

Applicable regulations

Included among the major legislative acts by which LG&E Energy must abide:

- Resource Conservation & Recovery Act (1976) – Establishes a “cradle to grave” regulatory system for the management of hazardous waste;
- Comprehensive Emergency Response, Compensation and Liability Act (1980) – Sets requirements for appropriate notification of hazardous substance releases to various agencies and oversight of the resulting clean-up;
- Emergency Planning and Community Right-To-Know Act (1986) – Requires emergency planning and reporting on a designated list of hazardous materials;
- Hazardous Materials Transportation Act (1974) – Within DOT, regulates for the safe transportation of hazardous materials in commerce;
- Jefferson County Hazardous Materials Ordinance (1995) – Establishes MSD as the regulatory authority for releases of petroleum products and hazardous materials in Louisville/Jefferson County.

Compliance monitoring and reporting

Samples must be taken to accurately characterize the hazards of waste materials to ensure proper disposal. Many of these regulations require some form of annual reporting for routine activities (Toxic Release Inventory, Community Right-to-Know Tier II Report, Annual Hazardous Waste Activity Report, Beneficial Reuse of CCBP Report), as well as immediate reports for release events. We also must apply



annually for various registrations (DOT Hazardous Materials Certificate, Kentucky Hazardous Waste Generator Registration). Training for all personnel involved with the waste cycle is required to be kept up to date. DOT requires training every three years and includes a written test.

Environment

Environmental stewardship programs

We understand the importance of protecting the environment and using natural resources in a responsible manner. Opportunities are actively sought to help improve the environment and replenish what is used. This, in turn, allows us to be a good neighbour in the communities in which we work and live.

These activities include preservation of land projects at the Trimble County Generating Station nature reserve and wetland, EW Brown Generating Station's preserve and the Owen County wetland. The combined acreage dedicated to these projects is over 200. This has helped the flora and fauna in these scenic areas to flourish. Native grasses have also been planted in transmission line rights-of-way, as an innovative, experimental approach to the maintenance of these areas without traditional, periodic clear-cutting practices.

The Peregrine Falcon restoration program, a partnership with the Kentucky Department of Fish and Wildlife, continues to see success. Four chicks were hatched at the Ghent Generating Station in 2002. A Peregrine Falcon nesting box is also located at Trimble County Generating Station. Trimble County falcon residents have had success in the past producing chicks, and the plant continues to attract mating pairs. Because tall stacks make safe and attractive homes for nesting, power plants make ideal locations to place nesting boxes. The Kentucky Department of Fish and Wildlife has also partnered with EW Brown to help enhance the stream area immediately below Dix Dam to make a natural habitat for brown trout.

Kentucky Utilities was recognized by the Mayor of Lexington for its long time participation and support of the Reforest the Bluegrass initiative to plant hardy disease-resistant trees within Lexington/Fayette County. In 2002 KU provided the 100,000th tree to be planted since the inception of the program. Volunteers' time and the trees themselves continue to be dedicated by the Company. Over 20,000 seedlings were planted in 2002.

Staff participated in the Ohio River Sweep for the 7th year in a row. Volunteers from six states help remove litter from the banks of the Ohio River constituting 1,962 miles and 37,000 tons of litter each year.

Environment

Energy efficiency

We have partnered with BeeLine Courier Service to promote the use of alternative-fuelled vehicles. BeeLine Courier Service has added electric vehicles to their fleet, and we provide the charging stations and space for parking. The program is being re-evaluated and a determination will be made whether to include additional cars.

We continue to encourage employees to reduce air pollution through the use of office shuttles, carpooling, mass transit and hybrid technology vehicles. Shuttles between the two main office complexes in Louisville are provided to the employees. Carpooling and the use of mass transportation are always encouraged but are specifically solicited on Ozone Action Days during the ozone season time period between May and September. Prizes are offered to those carpooling or riding the bus on Ozone Action Days to increase participation, and the program is administered by the Environmental Affairs Department.



In 2002, the Company officially joined the voluntary ENERGY STAR program. This program is administered by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE). This program assists industry and residential customers in decreasing their energy consumption through the use of energy efficient products. Appliances with reduced energy consumption save the consumer money and delays or avoids the need to construct new power plants. In doing so, we are committing to continuous improvement in the area of energy efficiency.

ENERGY STAR labelled products are 10–25% more efficient than that required by federal standards and have met strict criteria set by the USEPA and DOE. These products include appliances, home office equipment and windows to name a few. Specifically, we encourage the use of ENERGY STAR appliances through our voluntary energy audit and low-income weatherization programs (WeCare). We provide below market financing for ENERGY STAR products through the residential and commercial energy audit programs. We have purchased ENERGY STAR-approved energy efficient appliances for customers in the low-income weatherization programs. Over 1,500 commercial and residential audits were completed in 2002.

We actively promote the ENERGY STAR program through our customer communications channels, toll-free numbers, Internet access to information, the media and exhibits at the Kentucky State Fair and other local events such as Home and Garden Shows. As a member of the ENERGY STAR program, we are allowed to use their logo on promotional and informational brochures, which enhances our Demand-Side Management programs.

The Demand Conservation load management program expanded to Lexington and

surrounding counties in 2002. This voluntary program has already seen success in Louisville. In this program, customers can opt to have switches installed on their homes or small businesses that cycle central air conditioning units, electric hot water heaters, and pumps off and on to reduce the demand for electricity during peak usage times. Approximately 11,800 switches have been installed since the program began. There is no cost to the customer and we give a small monetary incentive to those participating in this program.

Demand-Side Management programs and the participation in environmental conservation initiatives help solidify our dedication to addressing results in this area and are an expression of concern for the well being of our customers and the future. Being a part of an effort to protect the environment also appeals to the customers involved.

Environment

Recycling & beneficial reuse

Our facilities attempt to eliminate, avoid or reduce generating waste, thereby avoiding disposal efforts and costs. Generally, efforts to achieve this include:

- Modifying processes;
- Choosing feed stocks with waste minimization in mind;
- Examining materials and operations management;
- Recycling.

Efforts to redesign our purchasing practices have led to reduced inventories on-site through contractor participation in 'just-in-time' deliveries, and optimizing materials utilization. In 2002, our efforts to recycle used materials resulted in preventing the following from being disposed of at local landfill sites:

- Paper – 97,000 lbs;
- Cardboard – 5,000 lbs;
- Aluminium cans – 5,000 lbs;
- Fluorescent bulbs/tubes – 6,350 each;
- IT equipment
 - 818 computers;
 - 460 monitors;
 - 188 printers;
- Scrap metal – 1,945,000 lbs.

Use and disposal of Coal Combustion By-Products (CCBP) from our facilities are subject to numerous regulatory requirements. These regulations allow for the development of special waste landfills, but costs and community opposition can be quite high and present significant challenges. Thus, beneficial reuse of CCBP presents an attractive alternative to disposal.

The current regulatory position is that this material presents low environmental risks and allows for its beneficial reuse in a variety of applications and products. However, the regulatory status of this material is continually being re-evaluated, and an increase in the stringency of these regulations could have a dramatic impact on how these products are managed.

The use of CCBP in products such as cement or wallboard generally encounters the least regulatory and community opposition. Ghent, Mill Creek, and Trimble County generating stations have secured contracts for 100% reuse of their gypsum in the manufacture of wallboard.

The use of CCBP as structural fill or road base warrants greater scrutiny of potential environmental issues and generally provokes greater interest on the part of the regulators. We actively involve regulators when initiating projects to "harvest" coal ash from Ash Treatment Basins (ATBs) for beneficial reuse as structural fill and / or road base. We pursue projects that make good business sense – those that utilize CCBP, yet minimize future liabilities associated with the misuse of our coal-combustion by-products.

Other efforts include participation in process research and development projects to segregate usable products such as sand, aggregates, and carbon from ash by-products. Ultimately, the sand and aggregates are marketed to cement-product manufacturers and the reclaimed carbon is recycled as boiler fuel.

In 2002, marketed or beneficially reused ash or scrubber by-products from LG&E Energy facilities included:

- 95,400 tons of bottom ash;
- 79,200 tons of fly ash;
- 1,127,800 tons of gypsum (for wallboard).

Environment

Electro-magnetic fields (EMFs)

Electro-magnetic fields have received considerable attention by scientific researchers, the media, and the public. It is a controversial issue because of the scientific uncertainties and possible health effects; and that no study to-date has conclusively demonstrated health problems caused by EMFs.

The Environmental Affairs Department provides information on electro-magnetic fields and is available to answer questions and/or take actual measurements of electro-magnetic fields upon request and at no cost to the customer. The Environmental Affairs Department will measure levels of electro-magnetic fields at residences, businesses, and so on. Requests are typically associated with exposure levels resulting from nearby transmission/distribution lines.

Environment

Environmental data

All environmental data for our US operations over 2002 are contained in an Excel spreadsheet, which can be accessed [here](#).

Data are provided for:

- US Power Stations (MS Excel 72k);
- Trend Data, 1996 – 2002. (MS Excel 34k);