

Answering Your Questions

*About
FPL's
Power
Plant
Operations*

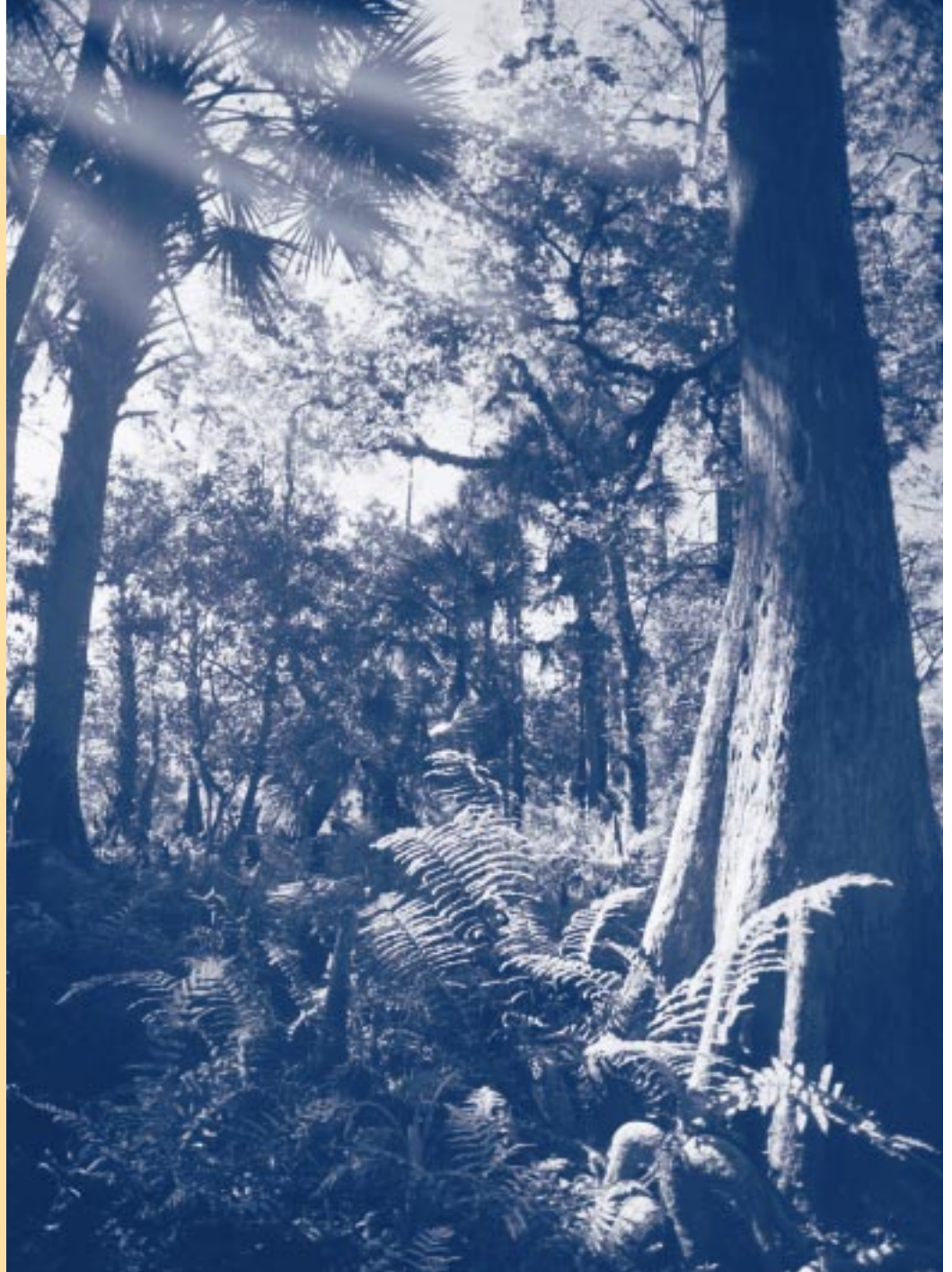


Table of Contents

- **Answering Your Questions About FPL's Power Plant Operations**
 - Introduction1
- **Making Power**
 - What is FPL's role?2
 - How does FPL produce electricity?2
 - What is FPL's system for delivering electricity in Florida?3
 - Does the power plant near my house only produce power for my neighborhood?.....3
 - How much electricity can FPL generate?3
 - Why do power plants need to be located near water?3
- **Minimizing Wastes**
 - What kinds of waste result from generating power?4
 - What happens to these wastes?4
 - What has FPL done to reduce air emissions from its power plants?4
 - What has FPL voluntarily done to reduce other waste from its power plants?.....5
 - What is FPL doing to reduce the visible plume from its plants?5
 - What chemicals does FPL release to the water?.....5
 - What has FPL done to conserve water use?5
- **Protecting People and the Environment**
 - How can we be assured the air quality in the communities surrounding FPL's power plants is safe?6
 - Can you explain more about the studies that address the health of people living in power plant communities?6
 - How are standards for air quality set?6
 - Do FPL plants contribute to global warming?7
 - What is FPL doing to support energy conservation?7
 - Why does FPL have electric vehicles in some areas?7
- **Toxics Release Inventory (TRI)**
 - What is the Toxics Release Inventory?.....8
 - How many TRI chemicals are there?8
 - Does EPA provide health-based limits for TRI chemicals?8
 - How are TRI reports calculated?.....8
 - What kind of companies have to report TRI chemicals?8
 - In the TRI report, where will most of FPL's releases occur?9
 - Are power plant emissions new?9
 - What chemicals will FPL report?9
 - Are all of these chemicals released to the environment?.....9
 - How does FPL compare to other electric utilities on TRI emissions?.....10
 - Can TRI be used to rank the risks of the emission levels of various industries?.....10
 - Do FPL's older plants have to meet EPA air emission standards?.....10
- **The Importance of Fuels and Fuel Balance**
 - How clean are the fuels FPL uses to generate electricity?.....11
 - Why does FPL use different fuels? Why not repower all plants to burn natural gas?11
 - Why doesn't FPL put pollution control equipment on its oil-burning plants?.....11
 - FPL says oil use at its fossil plants may increase in a few years. Why?.....11
- **Where to Get More Information**12



Answering Your Questions

About FPL's Power Plant Operations

Introduction

Every plant manager in the Florida Power & Light Company system recently set a new goal to become a better neighbor, and we want to make sure our activities fit with the interests of our community.

We also want to be the first and best source of information about our operations, especially when it comes to something as important as how they impact our neighbors and the environment. When talking with people in our communities, we are often asked about our operations – from how we make and deliver power, to what kinds of wastes we produce and how those wastes might affect people and the environment around our plants.

As we began preparing to communicate specifically about our operations, we thought it would be useful to develop this background information to answer some of the questions we are frequently asked about our power plants and how the FPL system works. We hope you find it useful. If you have any comments or questions about our operations that we haven't addressed here, please give us a call or send us an email. Information about how to contact us is listed on page 12.



Making Power

*What is
FPL's role?*

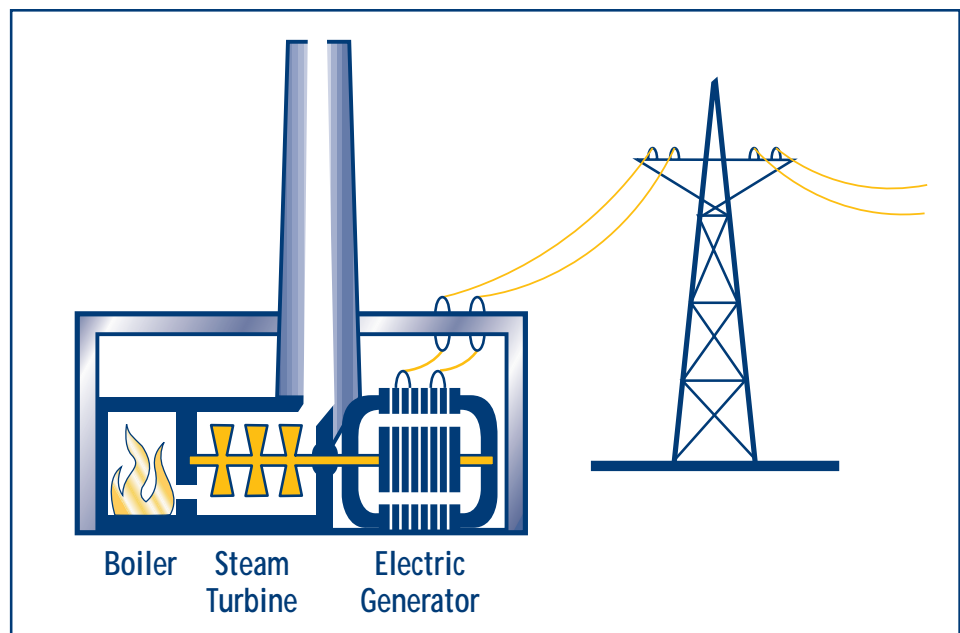
*How does
FPL produce
electricity?*

Our vision is to be the preferred provider of safe, reliable and cost-effective products and services that satisfy the electricity-related needs of all of our customers.

As you know if you own a computer, heat a pool or own a major appliance, electricity plays a big role in our quality of life in Florida. So, when people buy electricity, they really buy its benefits – like air conditioning and house lights or streetlights – not so much the energy itself.

In a nutshell, we buy fuel and use it to generate electricity safely, efficiently and cost-effectively. We have 11 power plants that burn oil, natural gas or a combination of both and two nuclear energy plants that use uranium as a fuel source. The following information focuses on the operations of our plants that burn oil or natural gas, known as fossil fuels.

How fossil fuel plants work

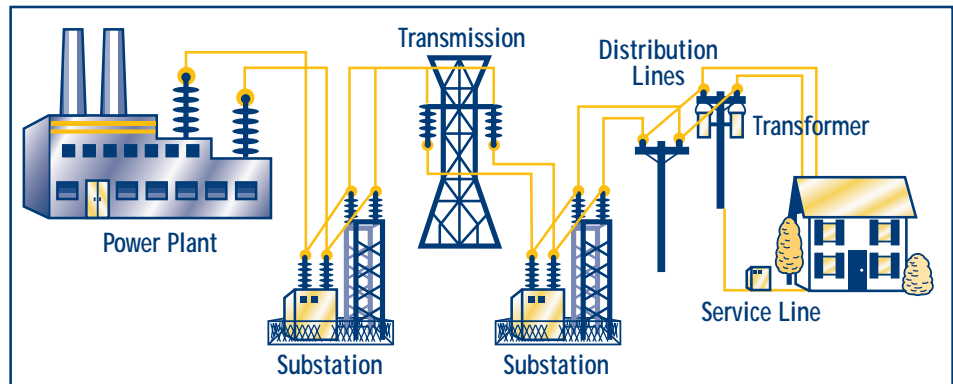


In our fossil fuel plants, we burn fuel in a large boiler. The heat from the fire boils water and turns it into steam. The steam is at very high pressure. It spins the blades of a turbine, just like the wind makes a pinwheel turn. A long shaft attached to the turbine turns a generator, which makes electricity. The power then goes through a transformer, which boosts the electricity to a very high voltage so we can send it to our customers.

What is FPL's system for delivering electricity in Florida?

We use a complex series of switches to control the direction and path of electricity from the time it leaves our plant to the time it arrives at homes or businesses. After electricity is generated at the power plant, it passes through a transformer that boosts the electricity to a very high voltage. High voltage power is carried by transmission lines high above the ground into area substations. At these substations, the voltage is reduced. Distribution lines – some overhead and some underground – pick up the power from substations and deliver it to individual neighborhoods. Once again the voltage is reduced before it is delivered to your electric meter.

Distribution



Does the power plant near my house only produce power for my neighborhood?

Our power lines connect into a state and nationwide transmission network (grid) that helps deliver electricity to the 3.7 million customers in our service territory or other areas outside of Florida.

Your local power plant generates electricity, which is delivered to the power grid for transmission where needed – to your neighborhood or others throughout FPL's service territory. When our power plants create more power than our customers need, we sell the excess to other utilities. Sometimes, on extremely hot or unseasonably cold days, we need more than we can generate so we purchase power through this network at the best available price.

How much electricity can FPL generate?

Electricity is measured in watts, which is the amount of work it can do in one second. There are 1,000 watts in one kilowatt and one million watts in one megawatt. All of our plants combined have the ability to make more than 18,000 megawatts at any given moment, but consumer demand varies on a daily and seasonal basis. We sell electricity by the kilowatt-hour which is the number of kilowatts used each hour as measured by meters like the one you have at home. The average home uses about 1,100 kilowatt-hours per month.

Why do power plants need to be located near water?

All of our fossil fuel power plants use water from rivers, bays and cooling ponds to cool the steam after it spins the turbine-generator to produce electricity. This process takes place in a piece of equipment called a condenser. The condenser works something like a radiator. Cool water passes through a series of tubes, condensing and cooling steam as it passes over the tubes. The steam condenses to water and is reused. The cooling water is then discharged directly back into the river or bay, or at some of our plants, discharged into cooling ponds for reuse in the condenser.

Minimizing Wastes

What kinds of waste result from generating power?

What happens to these wastes?

What has FPL done to reduce air emissions from its power plants?

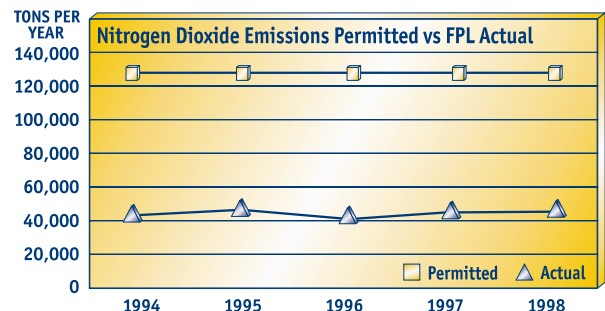
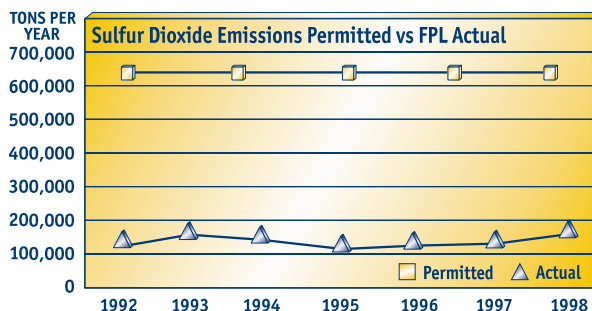
Oil, natural gas and other fuels contain chemicals such as sulfur and nitrogen as well as metals, such as nickel and vanadium. Small amounts of these materials are left behind when fuels are burned to generate electricity. These wastes are basically in two forms – solids and gases.

Some wastes take the form of tiny particles or gases called “air emissions,” which are reported to the government. State agencies give us permits to release emissions out of the power plant stacks, as long as we stay within the limits established to protect the health of people and the environment. These tiny particles or gases immediately scatter into the air and usually mix with airborne water and dust.

Water waste results from plant operation as well. Water is used in such applications as cleaning equipment or in other plant processes and is then discharged after treatment to meet our permit limits. These discharges also disperse.

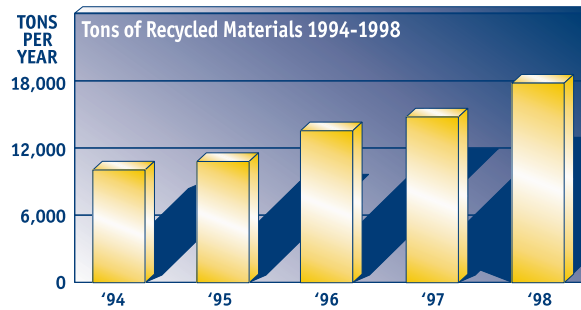
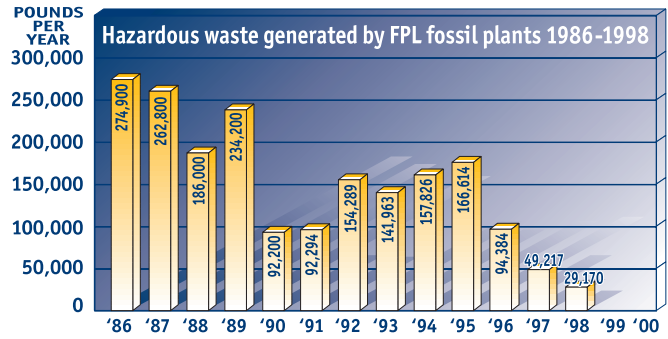
Solid wastes are mostly ash left over from the combustion process and are typically recycled and sold to make usable products. For example, FPL sells most of our ash to companies that extract valuable metals for use in a wide variety of applications. Most other solid materials generated at the plant, such as metal, paper and wood, are recycled with very little sent to landfills.

As part of our commitment to improve our environmental performance, we voluntarily do more than what is required by state permits. We strive to go “beyond compliance.” By relying on our nuclear generating capabilities, which are virtually free of air emissions, and improving the efficiencies of our fossil fuel power production, we have significantly reduced our air emissions and continue to operate well below the air emission permits.



What has FPL voluntarily done to reduce other waste from its power plants?

■ FPL has reduced hazardous wastes, such as paints and solvents, from our plants by 89 percent since 1986. We did this through inventory control, product substitution, better job planning and heightened employee awareness.



■ We have increased recycling from 10,700 tons to 17,800 tons in the last four years. Materials recycled include scrap wood, cable, porcelain and other materials from our facilities.

■ FPL also has an ash recovery program that virtually eliminates ash sent to landfills. The ash is now delivered to a company that extracts useful metal for resale or is used in manufacturing brick, concrete and asphalt.

What is FPL doing to reduce the visible plume from its plants?

Our neighbors tell us an important focal point for our operations is reducing “the smoke” sometimes seen coming from our power plant stacks. To address this concern, we created employee teams to research cutting-edge technologies and proven practices that keep visible air emissions as low as possible. Our goal for 1999 is to reduce opacity at each power plant from 10 to 50 percent, depending on site-specific operations. We are doing this by putting best practices into place, enhancing our equipment and installing advanced technology for power plant controls and burners.

What chemicals does FPL release to the water?

Three chemicals – chlorine, chlorine dioxide, and hydrazine – are used at some plants in various processes. These chemicals, used to treat cooling water and boiler water, are almost completely consumed within the plant processes. This results in very small amounts being released to the environment. These discharges are strictly limited in the facility’s State Industrial Wastewater Permit, based on their effect on fish and plants. Although only trace amounts of chemicals remain in discharges, FPL is initiating a program to significantly reduce the amount of water that is released, therefore reducing chemical releases.

What has FPL done to conserve water use?

We will be installing equipment at eight power plants to collect, treat and reuse water used for such purposes as cooling components and generating steam. This will reduce our need for water from ground wells or from municipal supplies. When the system goes into operation, we will achieve a 30 percent reduction of water use through our recycling efforts.

Protecting People and the Environment

How can we be assured the air quality in the communities surrounding FPL's power plants is safe?

Can you explain more about the studies that address the health of people living in power plant communities?

How are standards for air quality set?

Several outside organizations have determined the air around FPL plants is safe based upon current health standards and risk assessment guidelines. Numerous studies, including a seven-year evaluation by the federal Environmental Protection Agency, EPA, indicate air emission concentrations and the level of public exposure to FPL's power plant emissions are not high enough to cause harm. This evaluation was completed in 1998 and applied the latest risk-assessment tools endorsed by the National Academy of Science, the Risk Assessment Council and the Science Policy Council.

Yes. In 1990, the EPA began its study of electric utility air emissions to determine if they are a threat to public health and to decide if regulations were necessary to control hazardous air pollutants. In 1998 the agency concluded that, nationwide, fewer than 0.5 cancer cases per year were likely to result from inhaling this kind of emission. EPA selects cancer occurrence as a primary consideration in risk, so if emissions are determined to be safe from a carcinogenic standpoint, then overall health impacts would be even smaller. In fact, EPA reported no emissions were present at a level that could pose a threat to public health, and it recommended against the need for regulation.

In 1994, the Electric Power Research Institute (EPRI) completed a similar evaluation of 600 power plants nationwide. This study measured any increase in human risk of cancer caused by power plant air emissions. Its findings indicated an increased risk in fewer than one in one million people. For perspective, the government uses one in one million level of risk as an acceptable level of risk for regulatory purposes. The EPRI risk assessment of our oil-fired power plant in Fort Myers found no significant health risks of any kind associated with plant emissions. (Fort Myers participated in EPRI's study because its operations accurately represented most of FPL's oil-fired power plants.)

All Florida electric utilities are regulated by the federal and state government agencies responsible for creating and enforcing standards that protect public health and the environment. Each power plant must apply for and earn an operating permit before it is allowed to generate power. Operating permits are issued for a specified number of years and are based on scientific calculations of the amount of wastes that can safely be released over that time. When the permit expires, the power plant must apply for another permit. Scientists involved in setting permit levels factor in a wide margin of safety to accommodate the reduced health tolerances of sensitive groups such as children or people with asthma. Our plants at FPL meet, and in most cases, perform better than our operating permits allow.

Do FPL plants contribute to global warming?

The most typical releases monitored and reported by electric utilities are air emissions. For example, some scientists believe one of the primary contributors to global warming is carbon dioxide (CO₂). Although one of the nation's top generating utilities, FPL is ranked among the nation's lowest in its CO₂ emission rate. In an annual report on greenhouse gases, the U.S. Department of Energy recognized FPL as having the lowest emission rate of carbon dioxide emissions by all reporting utility companies. FPL also was one of the first Florida utilities to participate in the federal Climate Challenge Program – a voluntary program between electric utilities and the U.S. Department of Energy to limit CO₂ emissions to 1990 levels. We believe we will be able to further reduce CO₂ through increased efficiencies and use of natural gas. We recently announced plans to “repower” two of our older oil-burning facilities at Fort Myers and Sanford and convert them to natural gas.

What is FPL doing to support energy conservation?

FPL offers its customers special programs that provide year-round, energy-saving services such as duct tests, free home energy surveys and cash incentive programs to upgrade insulation and central air conditioning. We also provide optional load management programs that help reduce power usage by predictable and specific levels during times when energy demands are highest. These programs allow participating business and residential customers to receive lower electric bills for allowing FPL to reduce their electric use occasionally. We see these programs as an economical and environmentally beneficial alternative to power plant construction.

Why does FPL have electric vehicles in some areas?

Electric vehicles are one example of the wise use of electricity, making good sense for the environment and our customers. In some states, including Florida, cars are the biggest source of air pollution. Electric vehicles are as much as 99 percent cleaner than gasoline-powered cars, even with emissions from power plants that generate electricity to recharge EV batteries. The efficiency of FPL's electric power system also can be increased. Recharging occurs mostly at night when power demand and costs are lower. EVs can help FPL operate more efficiently and economically by making use of the energy resources already available.



Toxics Release Inventory

What is the Toxics Release Inventory?

The Toxics Release Inventory, usually referred to as TRI, is a source of information about chemicals that are used, manufactured, transported or released to the environment. It was created in 1986 by Congress to give the general public access to information about the types and quantities of chemicals that are part of plant operations. TRI data is collected and published every year by the U.S. Environmental Protection Agency.

How many TRI chemicals are there?

Industrial sectors such as chemical and plastics production have been reporting their TRI data every year since 1986. This year, July 1999, is the first time electrical utilities will report their TRI emissions.

Does EPA provide health-based limits for TRI chemicals?

EPA identified nearly 650 chemicals that require TRI reports. The complete list of these chemicals can be found on EPA's "List of Lists." (For additional information on this list, please see the EPA web site at www.epa.gov/opptintr/tri) Based on the reporting criteria outlined by EPA, FPL power plants will only be reporting on eight of these chemicals.

How are TRI reports calculated?

No. TRI reports are not used to identify any potential health risks. The term "TRI threshold limits" refers strictly to a set of guidelines that determine which companies must report based on the amount of their emissions. EPA's only role is to compile TRI reports and make them available to the general public.

What kind of companies have to report TRI chemicals?

EPA has set broad guidelines in how chemical use can be calculated. This results in wide ranges in the chemicals reported and makes it difficult to make comparisons among reporting companies. At FPL we have developed our report based on EPA guidance documents.

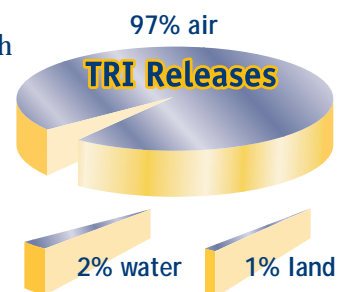
A company must file a TRI report if it manufactures or processes at least 25,000 pounds of a listed chemical or "otherwise uses" at least 10,000 pounds of a TRI listed chemical. Until recently, only manufacturing industries filed annual TRI reports. In 1997, EPA expanded the list to include electric utilities, coal and metal mining, commercial hazardous waste treatment, petroleum bulk terminals, chemical wholesalers and solvent recovery services. This added 6,000 new facilities nationwide to file their first reports in July 1999. In total, 30,000 facilities are now required to file annual TRI reports.

In the TRI report, where will most of FPL's releases occur?

Are power plant emissions new?

What chemicals will FPL report?

About 97 percent of FPL's TRI releases occur through wastes in the form of air emissions from the stack. About 2 percent of our releases are through water, such as chemicals used in plant cooling water systems, and approximately 1 percent of TRI releases occur by land when ash collected in power plant furnaces is recycled or shipped to landfills.



No. In fact, FPL and other electric utilities has been monitoring and reporting the primary emission substances – sulfur dioxide, carbon dioxide and nitrogen oxides – for many years to local and state environmental agencies. TRI is a new federal reporting requirement that allows people to become more aware of specific chemicals in their community.

We welcome the opportunity to discuss what our emissions are – and what we have been doing and will continue to do to improve our environmental performance.

At FPL we use oil and gas at some of our power plants. These fuels contain natural impurities that are released during combustion. Most of our TRI-listed chemicals result from the combustion process and fall under the category of “chemicals processed.” Most of the chemicals we’ve listed in the “otherwise used” category are mixed with water to clean and maintain power plant equipment.

We will report eight chemicals in our first TRI report in July 1999. The top three are:

Sulfuric acid aerosols. A common example of sulfuric acid is as the main ingredient in such products as car batteries. Sulfur is naturally present in the oil we burn, and electric utilities have been reporting sulfur dioxide emissions for years. Sulfur combines with oxygen in the furnace and eventually converts into a mist containing diluted sulfuric acid. It can enter the air in gases through power plant stacks. We will report a total of about 3 million pounds.

Hydrochloric acid aerosols. Hydrochloric acid is used to adjust the pH in pools. Our fuel's natural chloride combines with hydrogen in the furnace to form hydrogen chloride. This chemical can mix with moisture in the air to form a hydrochloric acid aerosol. FPL will report about 600,000 pounds.

Nickel. Nickel is found in many food products and is emitted by volcanoes, forest fires and vegetation. Power plant emissions are equal to about four percent of natural nickel emissions. Nickel is found in the ash produced from combustion of fuel oil. Most of the ash is "recycled" into commercial products. FPL will report about 44,000 pounds.

If you want information about the five other releases, which are relatively small, or about TRI in general, please contact the individuals listed at the back of this pamphlet.

Are all of these chemicals released to the environment?

How does FPL compare to other electric utilities on TRI emissions?

Can TRI be used to rank the risks of the emission levels of various industries?

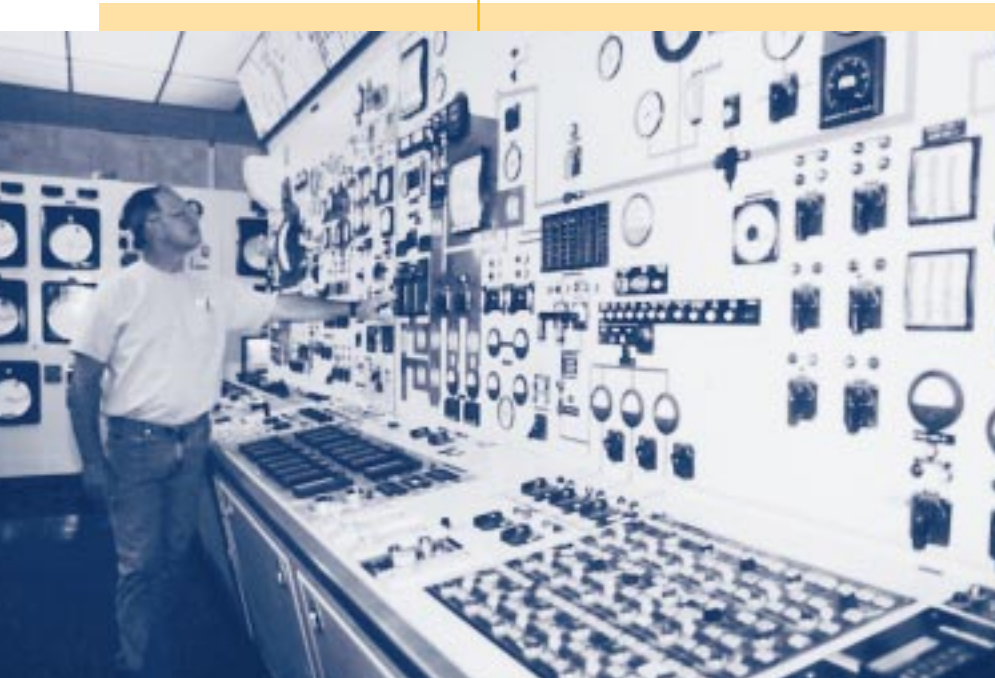
Do FPL's older plants have to meet EPA air emission standards?

No. In some cases, a substance must be reported in our TRI report as a "transfer." That means it is actually recycled at another facility for processing into other products. For example, ash collected in our furnaces is transported to another company that extracts useful metals for resale. This shipment is counted as a transfer in our TRI report.

It is difficult to compare one electric utility against another because EPA allows variations in the way TRI data is calculated, which results in vast differences in the totals reported. FPL uses a method that we believe to be the most accurate basis for comparing utilities of varying size and TRI calculation methods.

Scientists such as Dr. George M. Gray with the Harvard Center for Risk Analysis have written papers on the limited value of TRI. One of the issues is that TRI releases cannot be used to determine the actual risk associated with the reported releases. In other words, chemical use does not equal chemical risk, yet TRI publishes only chemical use. Dr. Gray also points out that although the electric utility industry may report large quantities of emissions, the resulting risk to public health is minimal. (Please see our web site to read Dr. Gray's entire article.)

Yes. Our older plants must meet health-based standards for strict emissions limits as set by the Florida Department of Environmental Protection (DEP). DEP establishes limits for sulfur dioxide, visible air emissions and particulate matter, plus nitrogen oxides at selected plants. We monitor these emissions with continuous emission monitors to measure and record releases. We report this information on a regular basis to DEP and EPA.



FPL plants have continuous emission monitors to measure and record releases.

The Importance of Fuels and Fuel Balance

How clean are the fuels FPL uses to generate electricity?

At FPL we use a very clean fuel generating mix, and we are proud of our environmental performance. Our two nuclear power plants – St. Lucie on Hutchinson Island and Turkey Point south of Miami – have virtually no air emissions. In addition, we are the second largest user of natural gas in the nation. In repowering our Fort Myers and Sanford power plants to use natural gas instead of oil, we will further increase the use of this clean fuel. Our generating system produces fewer emissions per megawatt-hour of electricity than any other major electric company in Florida and are among the nation's lowest.

Why does FPL use different fuels? Why not just repower all plants to burn natural gas?

We are committed to enhancing our operations in order to deliver low-cost, reliable and cleaner energy to all our customers. We recently announced plans to “repower” two of our older oil-burning facilities at Fort Myers and Sanford and convert them to burn natural gas. We will continue to explore opportunities to convert additional plants. However, it wouldn't be wise to put all our “energy” eggs in one basket. Our natural gas and oil plants, coupled with our clean nuclear power plants, provide for a balanced fuel mix. This enables us to avoid dependency on any one fuel source, while maintaining our overall environmental performance. Our customers continue to tell us that not relying on one fuel source is important to them.

Why doesn't FPL put pollution control equipment on its oil-burning plants?

Our emissions control team is reviewing all possibilities to reduce air emissions – from installing pollution control equipment to investing in additional repowering projects. Before committing to any course of action, we must carefully evaluate factors like the possibility of electric utility deregulation in Florida, the arrival of independent merchant power plants and asking our ratepayers to bear the cost of pollution control equipment for plants that may be operated less in later years.

The daily output from our power plants varies, depending on customer energy needs and scheduled maintenance requirements. In other words, supply is always matched to demand, and we typically use our most efficient power plants first when meeting energy requirements. After we repower Fort Myers, Sanford and perhaps other plants to burn natural gas and improve overall efficiencies, the role of our remaining oil-burning plants may be different.

FPL says oil use at its fossil plants may increase in the next few years. Why?

Until our Fort Myers and Sanford plants are “repowered” to burn natural gas, we'll continue, and even increase, our reliance on the oil-burning plants in order to meet the growing energy demands. This increase in demand has resulted from an influx of new customers into Florida, as well as record-breaking levels of electricity use during extraordinarily hot or cold weather. When Fort Myers and Sanford repowering projects are complete, we should have a decline in oil use and a corresponding reduction in emissions.

Where to Get More ...

Information

We at FPL look forward to continuing to provide reliable electric service to the people of Florida. We are committed to improving our environmental performance and being a better neighbor, and we're interested in hearing your thoughts about how we're doing. If you have any questions, comments or suggestions about our operations, please contact one of the following employees:

Turkey Point and Cutler Plants

Manny J. Rodriguez: 305-552-3443
manny_j_rodriguez@fpl.com

Ft. Myers Plant

Grover Whidden: 941-332-9210
grover_whidden@fpl.com

Riviera Plant

Rod Macon: 561-640-2201
rod_macon@fpl.com

Martin Plant

Rachel Scott: 561-781-3118
rachel_scott@fpl.com

Canaveral Plant

Sandy Sanderson: 407-726-4955
sandy_sanderson@fpl.com

Manatee Plant

Mel Klein: 941-316-6399
mel_klein@fpl.com

Lauderdale and Port Everglades Plants

Lynn Shatas: 954-321-2215
lynn_shatas@fpl.com

Putnam and Sanford Plants

Bob Coleman: 904-254-2350
bob_coleman@fpl.com

Additional web sites of interest include:

(Repowering information) FPL at www.fpl.com

(General utility information) Edison Electric Institute: www.eei.com

(TRI reporting) Environmental Protection Agency: www.epa.gov

(TRI and Risk Assessments) Harvard Center of Risk Analysis:
www.hsph.harvard.edu/organizations/hcra.html



