# To our Customers, Shareholders, Employees, and the Communities in which we operate —

Environmental excellence — like our objective of being the premier energy services company — is a challenge that constantly redefines itself. Today's leading edge of environmental performance quickly becomes tomorrow's baseline, raising the bar against which excellence is measured.

Continuously challenging ourselves to improve our environmental performance is part of our culture. It's central to the way we do business, and it's critical to our success.

#### **1998 Accomplishments**

This environmental report details our performance in 1998. It describes the progress we made and the initiatives we are undertaking for even greater accomplishments tomorrow. Here are a few highlights:

- We sold eight of our utility generating plants in 1998, but chose to retain responsibility for remediation of soil and groundwater at these facilities to ensure that these efforts are completed successfully.
- We continued providing landmark energy efficiency and clean air transportation programs to Californians through our utility. These programs have brought significant benefits, and we are proud to provide them.
- In New England, we completed a major acquisition of competitive power generation facilities, totaling 4,000 MW. In keeping with our goal of environmental excellence, we will voluntarily reduce air emissions and improve wastewater discharges, in excess of regulatory requirements, at these newly acquired facilities.
- We captured the attention of environmental leaders and customers alike with the launch of an award-winning clean energy product line, Clean Choice, through our retail energy services unit.
- In the Northwest, we successfully helped policymakers streamline regulations in ways that meet environmental objectives while saving our customers time and money.
- In Washington, D.C., we continued to work with the Natural Resources Defense Council and others to ensure that environmental and consumer protection concerns are included in comprehensive federal legislation designed to open electricity markets.

Our environmental successes last year are especially significant because they were achieved amidst dramatic changes that are bringing customer choice and market competition nationwide. New competition and increasing demand for reliable energy products delivered at lower costs are forces that raise the bar in all areas of our business, including environmental performance.

## **Opportunities for Future Improvements**

We look at our record for last year and recognize that, although we can be proud of our accomplishments, there nevertheless are a number of opportunities to do better. Our corporate environmental policy provides a solid framework for these improvements. Just as important, we have the right culture in place and are determined to improve our environmental record.

Our commitment to doing things right is the foundation for our future success. This commitment, along with our strong track record, is an assurance to our customers, local community neighbors, elected officials, and policymakers that PG&E Corporation will continue to conduct its operations in an environmentally sensitive manner in the years to come.

We look forward to making 1999 a year in which we add significant achievements to our long history of environmental stewardship.

**Robert D. Glynn, Jr.** Chairman of the Board, Chief Executive Officer, and President PG&E Corporation April 30, 1999

# ENVIRONMENTAL PERFORMANCE

# What does it mean to be the premier energy services company when it comes to environmental performance?

It means integrating optimal business performance and environmental stewardship. It means weaving environmental excellence into the fabric of our corporate culture so that it is understood and practiced by every employee. It means taking a hard look at our environmental performance, reporting these results to the public, and focusing on improving our performance. It means capitalizing on opportunities to create demonstrable added value for shareholders through exceptional environmental performance. It means joining stakeholders, including policymakers, other businesses, and communities, to shape the way we look at our environment and work to protect it into the 21st century.

# PURSUING ENVIRONMENTAL EXCELLENCE

We strive to attain high standards of environmental performance, manage our operations responsibly, conserve natural resources, and enhance the quality of life in the communities we serve. It is the continuous pursuit of these goals that constitutes environmental excellence.

**Setting Targets for Improvements** 

As part of their business planning, our businesses set environmental goals and objectives. Some examples of 1998 environmental goals include:

- improving waste management practices;
- increasing the amount of wastes being recycled;
- improving pollution prevention and waste minimization;
- increasing the number of facilities audited; and
- enhancing the scope and breadth of employee training.



Our formula for pursuing environmental excellence is straightforward. First, we communicate the Corporation's environmental vision and provide a comprehensive framework within which expectations can be laid out and measured. Then, we set performance goals and measure outcomes.

Our environmental policy articulates our philosophy regarding environmental matters. It spells out our expectations, engages employees in the pursuit of environmental excellence, and provides for accountability in the management of our efforts.

Detailed guidance on environmental responsibilities is spelled out in Environmental Management Systems (EMS), which are required of each business that operates energy-related facilities. These systems are based on U.S. Department of Justice criteria and the ISO 14000 standards.

Each business's EMS encompasses documents, plans, procedures, and training programs that spell out steps for protecting the environment. In addition, it requires the implementation of risk-based audits that are conducted by independent auditors to provide an objective measure of our compliance record.

Environmental activities begun by the Corporation's businesses in 1998 include:

- The reorganization of our utility's EMS to ensure that the program maintains the highest standards of environmental excellence.
- Upgrading emergency response and waste management plans and procedures for our competitive market generation unit. This effort included creating inventories of hazardous wastes at all facilities, with the objective of identifying best practices for minimizing the environmental risks associated with these materials.

#### Measuring Performance Through Audits

Our utility and gas transmission units conducted audits under existing programs during 1998, whereas our competitive market generation unit initiated its risk-based audit program. In each program, the emphasis was on measuring the effectiveness of compliance and risk management efforts and on identifying ways to improve environmental performance.

Our utility conducted 68 formal audits at 39 facilities and 606 operation self-audits in 1998, exceeding its goals. The audit findings primarily identified administrative issues, such as labeling and record-keeping requirements. Formal audits are performed by the utility's internal environmental auditing staff. Audit reports are provided to responsible utility officers and facility

managers. These officers and managers are required to certify that findings have been addressed.

Based on a review of its auditing program, our utility is making modifications that include redesigning audit reports to provide more thorough information on facility compliance. These improvements will ensure that the program maintains high standards and will improve the risk assessment process.

Our gas transmission unit's operations were also audited in 1998. In the Northwest, the audits focused on a programmatic review of hazardous waste record-keeping from five operating districts in Oregon, Washington, and Idaho. Our environmental staff also worked with a consortium of utilities in three audits of vendor waste disposal facilities. In Texas, internal teams conducted informal audits at 23 natural gas facilities.

We used an external audit team to assess nine operating facilities of our competitive market generation unit in 1998. Six additional audits were conducted at three facilities. An audit review panel consisting of senior management from our competitive market generating unit reviewed all audit findings and their closure status. The audit findings focused on a need for improved record-keeping and documentation. We have initiated steps to improve performance at individual plants in the areas cited. The unit is also using the findings to guide efforts to enhance its EMS.

#### **1998 Compliance Performance**

PG&E Corporation's environmental compliance performance improved significantly over its 1997 record. In total, PG&E Corporation's businesses received 20 Notices of Violation (NOVs) during 1998, as compared with 32 NOVs in 1997, and paid \$35,977 in enforcement penalties, as compared with \$15.9 million in 1997. The breakout of these NOVs follows:

- Our utility received a total of seven NOVs, or half the total received in 1997. Three of the seven NOVs resulted in fines, totaling \$17,807. Five of the NOVs were for air quality– related violations, such as excess emissions and record-keeping noncompliance for testing and monitoring requirements. The two remaining NOVs involved hazardous materials.
- Our gas transmission unit received one NOV during 1998, issued for excess emissions at a gas turbine in Oregon. No NOVs were received in Texas, Washington, or Idaho. The unit paid no fines or penalties during 1998.
- Our competitive market generation unit received a total of 12 NOVs during 1998, down from a total of 18 in 1997, and paid a total of \$18,170 in fines, down from \$89,600 paid the previous year. The violations, all for excess air emissions, occurred at three facilities (two plants in New Jersey, which accounted for 10 of the 12 NOVs, and one in Florida, which received two NOVs). Twenty-eight sites completed the year with no NOVs.



Average emission rates from PG&E Corporation are significantly lower than national averages.

National averages based on 1996 data from "Benchmarking Air Emissions of Electric Utility Generators in the United States," Natural Resources Defense Council and PSE&G.

# **Communicating Responsibility**

In 1998, all PG&E Corporation employees received a copy of "Protecting the Environment: An Overview of Environmental Laws." The booklet outlines the responsibilities that our 24,000 employees have to protect the environment. It also highlights the basic concepts underlying environmental regulations.

# PG&E Corporation Environmental Policy

PG&E Corporation is committed to being an environmental leader by providing safe, economical, and reliable products and services in a responsible and environmentally sensitive manner. It is our policy to:

- Comply fully with the letter and spirit of applicable environmental laws and regulations, and seek innovative ways to exceed current standards of environmental protection, while achieving success in competitive markets;
- Develop standards and programs that foster environmental excellence as a contributor to shareholder value, and incorporate such policies into business plans;
- Develop and implement a risk-based audit plan that ensures that periodic independent reviews of all aspects of environmental performance are conducted; and
- Actively engage the talents, dedication, and commitment of our employees by encouraging them to contribute innovative and thoughtful solutions for improving environmental performance.

All of our businesses are responsible for implementing and complying with these policies and establishing appropriate environmental management programs.

# INCREASING SHAREHOLDER VALUE

Managing our environmental performance is an essential component of delivering the greatest possible value to our shareholders. A strong environmental track record serves to protect and enhance shareholders' investments in our company. With this as our focus, PG&E Corporation undertook efforts in 1998 to increase the value of its business through environmental improvements.

## **Embracing New Responsibilities**

We have fully embraced the environmental responsibilities associated with the 15 hydroelectric facilities acquired from NEES. As the owner and operator of these systems, our competitive market generation unit is now responsible for managing the flow of approximately 300 miles of the Connecticut River and 65 miles of the Deerfield River. These two systems occupy 32,000 acres of land in Vermont, New Hampshire, and Massachusetts.



## Asset Acquisitions Create New Environmental Opportunities

PG&E Corporation completed the \$1.6 billion acquisition of New England Electric System's (NEES) generating business in 1998. The transaction added to our competitive market generation portfolio 15 hydroelectric and three large, fossil-fueled generating facilities, representing 4,000 megawatts of generating capacity.

New England Electric System and federal and state regulators who had to approve the acquisition sought a new owner with the capability and commitment necessary to meet a high standard of environmental performance. PG&E Corporation brought both.

Improving the environmental performance of the NEES generating facilities became a fundamental consideration in the preparation of the bid for the assets. A thorough integration of environmental performance goals with overall business goals and objectives was essential. It was clear that maximizing the value of these assets would require managing the important environmental challenges they presented.

PG&E Corporation is now addressing those challenges. We are working to reduce air emissions associated with the older, fossil-fueled units, and we are assuming responsibility for the environmental commitments related to the operation and relicensing of the hydroelectric systems on the Deerfield and Connecticut Rivers.

We will honor commitments to emissions reductions made by NEES as part of the 1996 utility restructuring plan, known as the Consumers First program. Under this plan, NEES and other generators committed to ensuring that older fossil-fueled sources would meet the same air emissions standards required of new units by 2010.

Specifically, we are working at the Brayton Point and Salem Harbor Stations to achieve emissions reductions of nearly 60 percent for nitrogen oxides and 75 percent for sulfur dioxide. We will meet these goals through a combination of additional emission controls, fuel switching, and the retirement of emissions allowances.

# **Keeping Our Commitments to the Community**

year-old Hunters Point Power Plant once reliable alternative electricity resources are operational. Local officials praised the agreement for responding to community concerns about environmental conditions in the Hunters Point/Bayview neighborhood.

# Asset Divestitures Will Continue Our Environmental Legacy

Recent changes in the energy marketplace, including regulatory restructuring, have created clear incentives for moving the ownership of power plants away from regulated utility companies.

As a result of these changes, six fossil-fueled and two geothermal generation facilities were auctioned in 1998. In conjunction with the divestiture, we conducted an extensive environmental investigation at each facility, which included site-specific risk assessments.

As part of the sale agreements for the power plants, we committed to retain management responsibility for certain remediation efforts involving soil or groundwater, to foster successful completion of these efforts. By taking this step, we are ensuring that environmental impacts from historic facility operations will be properly addressed.

#### Savings Through Waste Reduction

Our businesses aggressively seek opportunities to reduce waste and to reuse or recycle materials. These efforts conserve resources and landfill space while reducing capital costs and operating expenditures.

Upgrades to utility electric transmission and distribution systems last year not only increased system reliability, but also produced significant amounts of material for recycling. The volume of materials the utility recycled in 1998 increased 3.6 percent from 1997, to a total of 18,551 tons. More than 1,963 tons of the highest-value recycled materials — copper and aluminum from conductors and transformers — were recycled in 1998. This reduced the need for new mining of these materials by an equal amount and netted the utility revenues of \$3.2 million.

Approximately 2,700 wooden utility poles were reinforced in 1998, allowing them to remain in service for an additional 10 to 50 years. This action postpones disposal of 580 tons of wood, reducing significantly the need to log trees to make new poles. Rejuvenating these poles saved \$12.4 million.

Our other businesses also found significant opportunities to reduce costs through recycling and reuse. The Cedar Bay Generating Plant in Florida entered into a contract with a firm that will use the plant's fly ash as a stabilizing agent for scrubber sludge. These efforts are saving significant amounts of landfill space, as well as saving approximately \$500,000 annually. At the Carneys Point plant in New Jersey, solids from raw water filtration that were previously disposed of in a landfill are now applied as beneficial use at a mushroom farm, saving landfill space and reducing expenditures by roughly \$100,000 per year. Additionally, lime slurry grit was eliminated as a waste stream at a savings of \$10,000–15,000 in annual disposal costs.

Our Texas operations also recycled 1,022 drums of filters in 1998 at a savings of \$53,000 over traditional disposal costs.

To be a leader in environmental performance, we must work to create new efficiencies in the way energy is produced and used. Essential to this pursuit of continuous improvement is a commitment to invest in new programs and technologies and in our employees. The Corporation continued to do both in 1998.

Our utility serves a population of more than 13 million Californians, and by helping these customers conserve energy, we are helping one in every 20 Americans reduce unnecessary energy use. As a result of the utility's Customer Energy Efficiency (CEE) programs in 1998, energy savings were:	
<ul> <li>345 million kWh of electricity, equivalent to the annual usage of 55,000 households; and</li> <li>8.3 million therms of natural gas, equal to the annual spaceheating requirements of 15,000 households.</li> </ul>	
More than 325,000 households participated in CEE programs during	
In addition, the 1998 CEE programs can also be credited with reducing air emissions.	

# **Energy Efficiency Programs**

## Our Businesses Deliver Energy Efficiency and Lower Energy Costs

Our retail energy services unit provides businesses and institutions with comprehensive, customized services to manage and reduce their energy-related costs. The company creates long-term value for its customers by creating energy solutions that can include energy efficiency retrofits, as well as power quality solutions, competitively priced electricity and natural gas, regulatory and tariff consultation, billing options, and other energy information management programs. To date, this unit has entered into long-term agreements, many with Fortune 1,000 companies, that in total represent more than \$2 billion in revenues.

#### A Tradition of Energy Conservation Advocacy

Since 1976, our utility unit has developed and implemented numerous energy efficiency programs. The most recent evolution of these efforts are market transformation programs, which aim to eliminate market barriers to improvements in energy efficiency by involving manufacturers, distributors, and retailers in the production, promotion, and sale of energy-efficient equipment and practices. These programs were developed as part of regulatory proceedings with the California Public Utilities Commission.

In the residential sector, the Energy Aware Housing Agent Program was one of 11 market transformation projects implemented in 1998. This information campaign was designed to

increase awareness among lenders, brokers, real estate agents, and consumers of Energy Efficient Mortgages (EEM), which allow home buyers to finance and implement energy-savings measures when they purchase a home. While the program was in place last year, EEM closures rose by more than 500 percent, compared with the same period in 1997.

On the nonresidential side, teams are working with the city of Oakland to implement projects that will help the city save over \$500,000 on its annual electric bill by upgrading aging facilities. These projects include lighting retrofits in eight major facilities, chiller controls in the Oakland Museum, and light-emitting diode (LED) traffic lights.

## **Recycled Paper Use Increases**

Our businesses make it a priority to buy and use recycled paper products. For example, last year 84 percent of the approximately 3,800 tons of paper products purchased by our utility unit contained at least 20 percent post-consumer waste. In mid-1997, the baseline for reporting recycled paper products was raised from 10 to 20 percent post-consumer waste. Despite this shift to a more stringent standard, the Company achieved an overall improvement of 20 percent from 1997.



#### Waste Management and Pollution Prevention

PG&E Corporation continued numerous efforts in 1998 aimed at managing waste and reducing costs through recycling and reuse programs as well as waste reduction initiatives.

Our utility unit's goal for 1998 was to reduce generation of hazardous waste to less than 5,152 tons. We outperformed this goal, reducing the generation of hazardous material from routine electric and gas operations by more than 1,700 tons.

The utility recycled 48 percent of its hazardous waste in 1998, though this achievement fell short of its goal to recycle 60 percent of hazardous waste. Because the waste profile has changed, greater amounts of contaminated soils, which are not recyclable, are being generated as a result of increased voluntary site cleanups. Additionally, a significant amount of the two largest recycled waste streams — oily water and spent lubricating oil — were eliminated with the divestiture of the fossil fuel plants.

At the Diablo Canyon Power Plant, the Hazmat 1000 Project successfully reduced hazardous materials on site by 60 percent. Hazardous materials are controlled at the plant through database tracking and a label program that makes it easy for workers to immediately recognize a product as hazardous. The purpose of the Hazmat 1000 Project was to reduce the number of hazardous materials onsite, refine the database to make it user-friendly, and establish controls on the introduction of any new materials to the site.

To reduce the generation and disposal of hazardous waste, we continue to identify all waste streams and set annual goals for studying them systematically. By applying a life-cycle cost analysis, the utility then selects cases for pilot studies. In 1998, full life-cycle cost evaluations were conducted on five waste streams: transformers, transformer oil, rechargeable alkaline pager batteries, treated wood, and transportation of recyclable materials. The results confirmed the value in purchasing rechargeable alkaline batteries and in implementing a new contract with a transformer recycler to accept and recycle transformer product.

Our competitive market power plants began last year to develop waste inventories as part of

the EMS. Each waste stream is identified and tracked, along with the cost of disposal. Plants are now using this record to identify opportunities to reduce and recycle. Additionally, we initiated a pollution prevention program in 1998, known as the P2 Program, to encourage plants to reduce the generation of hazardous wastes and the use of toxic materials.

Our 15 New England hydroelectric dams and stations have replaced hydraulic oil with biodegradable, vegetable-based hydraulic ßuid in all systems that sit outside over the water. Citrus-based cleaning solvents are used instead of chlorinated solvents. This implementation occurred over several years in order to minimize environmental risk and reduce employee exposure to hazardous substances.

Hazardous waste control efforts in our Northwest operations reduced the quantity of hazardous waste by 83 percent between 1994 and 1997. This trend continued in 1998, with a focus on substitution or replacement of solvent-based parts cleaners.

#### **Technological Innovations**

New technology is one of the most effective ways to improve our environmental operations. In 1998, our competitive market businesses used technology to enhance environmental performance in a number of ways. These efforts focused on achieving further reductions of nitrogen oxides emissions and on preparing facilities to participate in the new NOx Budget Program. Here are two examples:

- At Brayton Point Station, we began testing innovative software applications known as neural networks. If the tests are successful, the systems will be installed at Salem Harbor Station as well. This "smart software" works to reduce formation of NOx in the boiler and to maintain or reduce heat rate, learning from itself as it conducts a series of tests and makes operations decisions based on the data. The software effectively places a dedicated operator in control of each parameter of combustion, providing for greater efficiency.
- The Manchester Street Station installed a new dry low-NOx burner system in 1998, which reduced emissions and will result in savings of \$1 million per year. De-ionized water use went from 500 to 50 gallons per minute, allowing the plant to use city water instead of well water. City water eliminated the need for ferric sulfate and lime slurry used in the well water treatment system and significantly reduced the amount of sulfuric acid and sodium hydroxide required to regenerate the ion exchange resins. Sludge production was eliminated through the shutdown of the well water treatment system, and ammonia use for emissions control was also reduced. This single new technology has delivered benefits across multiple operations at this facility.

We implemented an in-house emissions testing program in Texas to test 134 compressor engines at 30 sites, resulting in a savings of \$201,000 in outside testing costs. By reporting actual emissions generated at each site instead of the allowable emissions, the company saved \$220,000 in emissions fees. We are going beyond what is required and sampling additional locations on a rotational basis. This testing ensures that compliance is maintained and equipment is operated in the most fuel-efficient manner, while emissions are reduced to their lowest possible level.



1994 1995 1996 1997 1998

#### **Participating in Emissions Trading Programs**

Under the Clean Air Act Amendments, the U.S. Environmental Protection Agency launched a series of initiatives aimed at improving air quality through market-based emissions trading. Emissions trading is an effective tool for achieving environmental results in a cost-effective manner. One example, the agency's acid rain emissions trading program, is among the most successful emissions reduction efforts of the past decade.

Companies that achieve early reductions are rewarded with emissions credits that can be saved or sold under an emissions trading program. These incentives for companies to lower emissions spur technologies and efficiencies, while simultaneously improving air quality. Two of our businesses have been active in these programs to promote pollution prevention and energy-efficient strategies and technologies.

In California, emission reduction credits are issued by local air pollution control districts for emission reductions that go beyond regulatory requirements. Credits can be used to mitigate increases in emissions from new or modified sources and can be bought or sold, but generally they are only useable within the air basin where they were created.

We hold credits in four of California's air basins. The San Francisco Bay area and Monterey Bay credits were generated through the shutdown of fossil-fueled steam plants. The Mojave and Sacramento credits were generated through the control of natural gas compressor emissions. About half of the total value reflects Bay area credits, and about half of those credits are restricted to mitigating fossil-fueled power plant emissions. These credits have not been traded or sold.

Despite the fact that our businesses operate under some of the most stringent air emission standards in the country, a number of our generation facilities reduced emissions below their permit levels. Surplus credits were generated at these facilities through voluntary early emissions reductions in 1997 and 1998.

#### **Empowering Employees**

Technology is essential to superior environmental performance. But no technology is capable of ensuring environmental excellence without the right people to operate it, maintain it, and put it to its most effective use.

During 1998, we provided environmental training to approximately 12,000 employees. In addition, approximately 327 utility personnel received training on sensitive biological and cultural resources. These training programs were critical elements in helping the utility improve its environmental performance in 1998.

Employee training is an ongoing activity to ensure that environmental goals are communicated to all personnel. For example, in Texas in 1998, a new training program was initiated to instruct employees in environmental and safe loading practices. Training will continue for process safety management, pipeline safety, and risk management in 1999.

Our environmental training programs focus not only on what can go wrong, but on knowing why. In 1998 our goal was to have all employees at our competitive market power plants participate in either eight-hour environmental awareness training or refresher training for those sites that have been through initial training.

We also began integrating environmental performance into all levels of our work force through a program called Operationalizing Environmental Excellence. This effort aims to communicate the message throughout the organization that environmental excellence is everyone's responsibility. At the Hermiston plant, for example, environmental compliance is incorporated in the plant's qualification program for operators. When employees qualify to be lead control room operators, they train on environmental requirements just as they train on other plant systems. This training emphasizes that qualification in environmental compliance is of equal importance to qualification in other plant operational areas.

PG&E Corporation recognizes that incentive programs are a valuable tool in driving environmental improvements. Environmental performance is being incorporated into incentivebased pay or bonus systems in many of our businesses. This effort is reinforcing the Corporation's commitment to environmental excellence and underscoring the message that environmental performance is a shared responsibility.

Our businesses set environmental goals annually and score environmental managers on how well they perform against these goals. The importance of these goals is reinforced by including their successful achievement as part of the employee's financial incentive plan.

# STEWARDSHIP OF THE ENVIRONMENT

PG&E Corporation works to be a conscientious steward of the valuable natural resources under its care throughout North America, including land, air, water, and wildlife. It is an enormous task, one that PG&E Corporation is honored to undertake.

#### **Technology Can Map the Environment**

A geographic information system (GIS) application was installed in 1998 on our utility's intranet browser. Through the GIS, utility electric distribution planners and estimators have at the stroke of a keyboard detailed maps that show a model of the electric distribution system overlaid on geographic features, such as roads, streams, and topography.

A key feature of the application is the inclusion of sensitive environmental information, such as known locations and a predictive map of sensitive species and habitats. Unplanned, sustained electric distribution outages are also mapped by cause. This information from the utility can be used to design circuits that are more reliable and safer for birds and other animals.



In California, our businesses own or manage more than 268,000 acres of land, including mountain areas, forestlands, ocean coastlines, and desert landscapes.

The acquisition of hydroelectric generation assets from New England Electric System in 1998 added 32,000 acres of natural resources located in New Hampshire, Vermont, and western Massachusetts to our holdings. A combined 400 miles of the Deerfield and Connecticut Rivers

run through this land, a significant portion of which is to be placed under perpetual conservation easement.

# Protection of Waterways and Wildlife

#### Salmon, Steelhead, and Shad

As the owners and operators of hydroelectric systems, our businesses are actively engaged in efforts to support and restore fish populations in California and the Northeast.

In the Northeast, we maintain fish ladders installed at three dams on the Connecticut River to provide passage for American shad and Atlantic salmon in an effort to re-establish dwindling populations. Downstream passage is also provided by physical and operational modifications to the dams based on seasonal timing for out-migration of juvenile salmon.

On Battle Creek, an important tributary to the Sacramento River in northern California, we are working with federal and state agencies and others to restore Chinook salmon and steelhead habitat. We have continually provided increased instream flows to enhance habitat in the lower 17 miles of stream for winter- and spring-run Chinook salmon and steelhead. A long-term plan, developed in partnership with resource agencies and other stakeholders, is expected to be finalized in 1999 with full implementation by the end of 2001.

#### **Ospreys and Loons**

Utility poles, transmission towers, and power plants can be both home and hazard to important species of birds.

At Brayton Point Station in Massachusetts, workers maintain special platforms on which ospreys can nest. And when a pair of ospreys nesting atop one of the utility's distribution poles was at risk of electrocution, utility workers near the Black Butte Reservoir in California relocated the nest to a new platform after the birds had left for the season. Last year, they learned the birds had returned to the new platform and produced two offspring.

In Vermont, hydro personnel and biologists work together to monitor loon populations on the Somerset Reservoir and maintain reservoir levels to accommodate their nesting. Because these birds cannot walk, they make their homes at the water's edge. High reservoir levels can flood their nests. At the same time, reservoir levels that are too low will make it difficult for the birds to reach the water, where they feed on fish.

#### **Resources at Risk Receive Special Care**

PG&E Corporation employees are trained to recognize and protect special resources. These include sensitive flora and fauna, threatened or endangered species, and wetlands.

Construction and maintenance projects sometimes must be modified to protect species at risk. For example, during construction of a new substation near Vallejo, California, a contractor found an endangered red-legged frog. Preconstruction environmental training enabled employees to identify this protected species. The project was completed in the latter half of 1998, and careful monitoring ensured that no red-legged frogs were harmed. Additionally, the utility provided funding for the Solano County Farmlands and Open Space Foundation to enhance habitat for these frogs on a nearby preserve.

In Massachusetts, construction began last year on our Millennium power plant. The plant's site permitting process included a set aside of 55 acres for the protection of the marbled

salamander, a threatened species. As part of the construction process, we also funded a fouryear study by the University of Massachusetts focusing on migration patterns of the marbled salamander. Construction has been carefully planned to prevent adverse effects on valuable habitat and other protected wetlands.

Together with the Watershed Institute at California State University at Monterey Bay, we continued work in 1998 on the restoration of nine acres of wetlands at Moss Landing. The project, partly funded by a grant from the Regional Water Quality Control Board, will recycle water from an adjacent farm to re-establish native plants on a historic wetlands site. It will also enhance habitat in a wildlife corridor from the sand dunes and wetland area bordering Monterey Bay to Elkhorn and Moro Cojo sloughs. Once established, the wetlands will help prevent flooding and soil erosion and will filter out pollutants that otherwise contaminate local sloughs and Monterey Bay.

# **Reclaiming Blighted Lands**



A Pennsylvania waste coal site before and after reclamation by PG&E Generating.

Reclamation involves taking previously mined lands and returning them to beneficial use, such as wildlife habitat or residential, commercial, or industrial redevelopment. Waste coal, a once unuseable mining by-product left in enormous banks throughout Pennsylvania, is now being used as fuel at our competitive market generation plants, thanks to advanced technologies that allow it to be burned.

The fuel supply operations for the facilities

remove the waste coal from abandoned sites and reclaim the blighted land beneath. During the reclamation process, ash from combusted waste coal is returned to the site, where it plays a vital role in stabilizing the land and neutralizing the contamination associated with acidic runoff from the coal piles.

The Scrubgrass and Northampton facilities together have reclaimed 773 acres of land in the past five years. In recognition of their contributions to the environment, both operations were awarded the Pennsylvania 1998 Governor's Award for Environmental Excellence.

#### Managing Lands and Recreational Resources

The lands managed by PG&E Corporation often are places of striking natural beauty. Among our most important responsibilities is ensuring that these lands are open and accessible for responsible recreational use.

In California, we own and operate 93 recreational facilities throughout our service territory, including campgrounds, trailheads, fishing access, boat ramps, picnic and day-use areas, rest stops, and information kiosks. More than 338,000 visitors, including 167,600 overnight visitors, made use of these facilities in 1998.

In New England, more than half a million people per year visit the 50 recreational facilities and visitor centers on the Deerfield and Connecticut Rivers. These facilities include boat launches, picnic areas, canoe campsites, and fishing areas.



And in the Panhandle National Forest in Idaho, we helped build trails, parking areas, and road upgrades as part of a recreation/interpretive site at Moyie River pipeline crossing No. 4. The effort continues in 1999 with the addition of outdoor artwork and interpretive material.



We worked closely in 1998 with federal and state agencies and environmental organizations as part of the relicensing efforts for the hydroelectric systems in the Northeast. This successful effort resulted in an agreement among the stakeholders for us to undertake a number of mitigation measures aimed at protecting more than 30,000 acres of watershed/forests. These measures will improve water quality and habitats for fish and wildlife. They will also make major rivers accessible for recreation while allowing the hydroelectric facilities to continue operating.

Near Meadow Creek, Idaho, we recently completed a five-year restoration and monitoring program, a project recognized by the Natural Resources Conservation Service and Idaho Department of Environmental Quality as a model of cooperation in restorative land management.

Five years earlier, our gas transmission business acquired a conservation easement along a segment of the creek that had been degraded by cattle. Cattle access to the area was subsequently restricted, and, with the help of property owners and community volunteers, a riparian area of over 3,000 feet was replanted. Erosion control and fishery enhancement structures were installed in the stream as well. Grasses, forbs, and woody vegetation are once again successfully established.

Our employees also worked last year to protect native plant species in the Northwest. Noxious weeds and exotic plants are a serious concern in the western United States, where an estimated 2,000 exotic and noxious weed species are already established — species such as spotted knapweed, scotch thistle, bull thistle, dalmatian toadflax, and yellow star thistle.

In 1998, we treated more than 90 acres of land in the Northwest against noxious weeds and other harmful plants, which can spread along the corridors created by utility rights-of-way. If unchecked, these non-native species can infest and damage native ecosystems and cropland. These efforts, which range from pulling weeds by hand to using biological controls and herbicides, have been ongoing since 1993. In addition to land treatment, our employees take precautions in the course of constructing projects, including requiring that equipment and vehicles be washed down before leaving infested areas.

# CONTRIBUTING TO COMMUNITIES

We are actively working to maintain a strong, positive presence in local communities. In addition to being a major employer and taxpayer, the Corporation's employees volunteer for many environmental and educational activities.

# **Employees are Active Volunteers**

For the 10th consecutive year, Company employees volunteered their weekends to restore burned areas in the U.S. Forest Service's Groveland Ranger District. The forest fire of 1987 and 1989 destroyed more than 147,000 acres of trees. During the past 10 years, more than 66,650 trees were planted. In 1998, 100 volunteers planted more than 7,000 seedlings.



In New England during 1998, we provided a grant of \$100,000 to support innovative environmental education programs conceived by schools, environmental organizations, and other conservation-minded groups. The grants were awarded to projects ranging from mapping wildlife habitats to creating outdoor classrooms. The projects all aim to help young people learn about and gain a better appreciation for their local environment.

The employees who work in our plants and offices are also active in their local communities, often participating in environmental education efforts and stewardship projects such as stream cleanups. In Oregon, the Hermiston plant provides educational outreach to the community on environmental issues, energy efficiency, and community involvement.

In Massachusetts, the MASSPOWER facility sponsors a Maine Maritime student studying environmental engineering through a work-study program and also provides \$10,000 to Western New England College for a student interested in engineering or environmental studies. And in Florida, the Cedar Bay plant sponsors an award-winning annual environmental education program that provides students with "Earthports" — designed like passports — that encourage them to travel to museums and other educational sites. Employees at the Logan plant in New Jersey and at the company offices in Bethesda participated in tree-planting activities on Earth Day.

In Monterey County, we were a lead partner in the Monterey Bay Region Futures Network, helping to forge partnerships in the areas of marine science and high technology, with a particular focus on education. A strong component of this effort was continued work with the University of California's Monterey Bay Education, Science and Technology Center and the Marine Advanced Technology and Education (MATE) project to develop and promote "green" jobs. We also participated in more than 25 environmental and sustainable development partnerships and collaborative projects in 1998 alone.

In the San Francisco Bay area, we participated in the leadership group of the Bay Area Alliance for Sustainable Development, a coalition developing an action plan that will lead to a more sustainable San Francisco Bay area. We also partnered with the Bay Institute to develop an educational booklet with 50 suggestions on ways to save San Francisco Bay.

A contribution of \$25,000 was made to support the work of the East Bay Conservation Corps (EBCC), a comprehensive education and skills development organization. Since 1991, we have contributed nearly \$450,000 to the EBCC and \$1.2 million to conservation corps organizations throughout California. The corps provides benefits to the community by working on socially and environmentally worthwhile projects, while providing academic and employment skills training for the youth in the community. The Company's most recent EBCC grant went to support the corps' Learning Center, a program for corps members, which integrates field and classroom-based education.

During the late 1980s, we entered into an agreement with the Pit River Tribe of northeastern California to help fund construction of an archaeological curation facility, which the tribe would operate. Additionally, we provided curation training to several individuals selected by the tribe to run the facility. In 1998, the Curation Training Program was completed, and the tribe celebrated

the opening of the new facility. All artifacts previously recovered by the utility during archaeological work in the Pit River area were transferred to the new facility.

# **Employee Volunteers**

In celebration of the 82nd birthday of the National Park Service, PG&E Corporation employees volunteered time and gave financial support at Yosemite National Park on August 25, 1998. All visitors entered the park free that day. Company employees greeted park visitors, provided information about the Yosemite Fund, and encouraged donations to support work to improve park facilities. All donations made to the Yosemite Fund by park visitors were matched by the company. We also presented the Yosemite Fund with a gift of \$50,000 for restoration of campsites on the shoreline of Tenaya Lake.

# LEADING FOR THE FUTURE

At the turn of the century, as an industry and as a society, we are facing new environmental challenges that demand innovative solutions and strategies. Working with partners in government and industry, PG&E Corporation is helping to shape effective energy and environmental policies for the future.

## **Driving the Use of Clean Vehicles**

In 1998, for the first time, our utility introduced electric vehicles for general use in its own fleet, with a variety of vehicles assigned to meter reading, mail delivery, and car pool use. The number of natural gas vehicles in the fleet exceeds 700. The Company now considers natural gas vehicles to be the standard for light-duty vehicle replacements and is evaluating the technology for medium and heavy-duty vehicles.



# Helping to Shape Environmental Policy

PG&E Corporation representatives came together with electric generating companies and regional and state-based environmental groups to help shape the Environmental Protection Agency's recent call for state implementation plans (SIPs) for NOx reductions. The NOx SIP Call, covering 22 states, will result in significant NOx cuts by 2003, reducing levels of the key contributor to ground-level ozone in the eastern United States. These efforts helped establish a new system for trading NOx emissions allowances.

During 1998, we also participated in a national task force of industry representatives and environmental groups to develop a process for certifying hydroelectric power as a renewable source of energy. This proposed certification process will set forth criteria for judging the environmental impacts of hydroelectric facilities, and will allow power from certain facilities that meet the criteria to be marketed and certified as renewable. Green-E, a national program certifying renewable energy resources, is expected to adopt these criteria and the implementation process for evaluating low-impact hydro power resources. We continued to promote policies in 1998 that support comparability in environmental performance among generators and that reward clean, efficient power producers in the competitive marketplace. The company will continue working with policymakers to advocate output-based generation performance standards. These standards reward efficiency by measuring a plant's emissions in terms of kilowatt-hours produced.

Approval was recently given in the Pacific Northwest to use routinely collected operating data to characterize air emissions rather than more expensive monitoring, avoiding costs of over \$5 million. Collaborating with state regulators, the Company was able to include in its permits provision allowing for the exchange of turbine units where the replacement causes no additional increase in emissions. This explicit permission sets a positive precedent for the industry nationwide.

Through active participation in the President's Council on Sustainable Development in 1998, we contributed to the development of final recommendations on policies and actions to reduce greenhouse gas emissions, on a new national environmental management system, and on programs to support sustainable development efforts.

We also participated in the Aspen Institute Series to develop improved policies and environmental management systems for the stewardship of natural resources. The series worked with the California Environmental Dialogue to develop and promote policies to reduce air emissions from mobile sources, preserve and restore natural habitats, and develop a long-term vision for environmental quality in California.

As Congress develops legislation to open electricity markets across the nation to all consumers, PG&E Corporation has been working with other organizations to ensure that environmental and consumer protection issues are not lost in the federal legislative debate. This effort, led by the Natural Resources Defense Council, will help ensure that federal electric deregulation legislation will not lead to a degraded environment.

#### **Marketing Green Power**

Our companies are helping shape future markets for "green" power, generated entirely or in part from renewable resources. In California, customers were introduced to a green product line known as Clean Choice, which provides three product options reflecting various mixes of renewable and nonrenewable fuels, including a 100 percent renewable option. The products include power from hydro, wind, biomass, and geothermal sources, and do not include nuclear power or power from coal, oil, or other fossil fuels. In addition, a portion of all three products includes energy from "new renewable" sources — renewable energy plants that will be built in the future — thereby helping to expand the development of environmentally friendly energy.

In 1998, we were honored by the American Lung Association with a Clean Air ENVY Award for the new clean power products we were offering customers. We are the first retail energy services provider in California to win an award for its "green" energy. In addition, the Natural Resources Defense Council evaluated all the energy mixes being marketed in California and added Clean Choice to its Environmentally Preferred Products List. Clean Choice electricity also is certified "Green-E" by an initiative of the nonpartisan Center for Resource Solutions, a San Francisco–based nonprofit organization.

Our companies participated during the year in a coalition of New England environmental groups and marketers that drafted a set of guidelines for green power marketing claims and submitted them to the National Association of Attorneys General. The association subsequently accepted the guidelines as the basis for a discussion on the issue and has begun proceedings to revise and finalize them. We will continue these efforts in 1999.



PG&E Corporation is also a member of the Renewable Energy Alliance (REA), an industry association of companies supporting the development of renewable power in competitive electric markets. Through REA, the Company will continue to participate in efforts to develop effective, appropriate guidelines for addressing such issues as green marketing claims and disclosure of information to consumers about the environmental attributes of the power that is purchased.

# Helping to Develop Clean Transportation Technologies

Number of NGVs and EVs in the

Utility's Fleet

Since 1990, we have been working to support the use and further development of natural gas vehicle (NGV) and electric vehicle (EV) technology through our utility Clean Air Transportation Program. These efforts showed continued success in 1998. EV and NGV technologies promise substantial

environmental and economic benefits for customers and communities in northern California.

Significantly, last year saw increasing use of natural gas as a transit fleet fuel, and the introduction of factory-built EVs from major automakers. Several major automakers began selling EVs in the utility's service territory in 1998, joining the Honda EV Plus, which debuted in 1997. Our utility established procedures for serving EV charging equipment at customer facilities and homes and is assessing the impact that increasing numbers of EVs will have on the demand for electricity.

## Addressing Global Climate Change

We became one of the original members of the Business Environmental Leadership Council of the Pew Center on Global Climate Change in 1998. The Pew Center focuses on research, public education, and strategies to meet the challenges of global warming. Throughout the year, the center commissioned and released several research reports on various aspects of the climate change issue and sponsored a high-profile communications effort aimed at policymakers.

We also co-sponsored a United Nations workshop on global climate change in 1998. The workshop focused on the environmental benefits of Reduced Impact Logging (RIL). RIL efforts began in 1992 as a partnership between New England Power and two Malaysian organizations to develop advanced harvesting techniques environmentally superior to conventional logging. In the pilot phase of RIL, an international team of experts verified the creation of more than 500,000 tons of CO2 offsets at a cost of less than \$1.50 per ton. So refined were the RIL verification and documentation procedures that they are now world standards for forestry operations.

## Commitment

PG&E Corporation continues its tradition of commitment to environmental excellence. It is our goal to continuously challenge ourselves to improve our environmental performance, work with environmental challenges to enhance the value of our business, maximize the skills of our employees to do the right thing, enhance our stewardship of the environment and the communities in which we operate, and join with our stakeholders to set the right course for our business and the protection of the environment in the future.