1999 Annual Report

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations

Welcome



Lucent Technologies is committed to levels of performance that will sustain its leadership in the telecommunications market, one as dynamic and volatile as any imaginable. We recognize that realizing this commitment means constant change. It means having the ongoing ability and conviction to reinvent ourselves, shift our mix of technologies and talents, and rethink our approaches.

Richard A. McGinn
Chairman and
Chief Executive Officer

In such a demanding and disruptive environment, it is more important than ever to be clear about what we stand for as a company. And we are. Our values make it clear that Lucent Technologies stands for an obsession with serving customers, a commitment to business excellence, personal accountability and integrity, and a strong sense of social responsibility.



John D. Pittman
Vice President, Chief
Quality, Environment,
Health and Safety Officer

It's in this context - our commitment to market leadership, the realities of change and reinvention, and the strength of our foundational values - that we present the 1999 EH&S Annual Report.

It all starts with the Lucent EH&S Policy, the compass that guides us in managing the existing and evolving environment and our health and safety risks. Our policy is a tool that helps us drive cost reductions and identify and eliminate EH&S market barriers around the globe. It is a cornerstone of our commitment to our people, our communities, our customers and our shareowners - who increasingly value and demand safe, energy-efficient goods and services that will have minimal environmental impacts throughout their life cycle.



Richard H. Bennett, Jr.
Global Environment,
Health and Safety
Vice President

Four years ago when we launched Lucent as a new company, our EH&S community set ambitious goals to translate our EH&S policy into clear, measurable expectations.

- We said that by the year 2000 we would have EH&S management systems for at least 95% of our products, services, operations and facilities. We have accomplished that goal.
- We said we would improve the energy efficiency of our operations and avoid what would otherwise be the emission of at least 135,000 metric tons of greenhouse gases. We accomplished that goal, a year early.
- We said we that would recycle at least 70% of our wastepaper by year 2000. That we would develop and apply Design for Environment criteria to produce competitive, environmentally preferable products and services. That we would reduce manufacturing waste disposal and reportable air emissions as we added new operations and grew the

business globally. We are proud to report that we achieved all of these goals. At the same time we reduced our lost workday accident rate by more than 17%, against a 30% reduction target.

When we set these goals four years ago, we knew they were ambitious, but we had no idea how ambitious given the profound changes to our business since that time. Nearly 40 percent of our employees are new to Lucent Technologies since our EH&S goals were set. In the last year alone, we have added almost 30,000 new employees. Additionally in the past four years, we have acquired and integrated more than 30 companies into Lucent. Amid all this change, our EH&S programs and management systems have continued to work and produce results.

Given this sustained performance, it is clear that the people of Lucent are engaged in support of our EH&S programs. Some have gone above and beyond to achieve EH&S breakthroughs, both large and small. These special contributors have been celebrated through the Lucent Environment, Health and Safety Heroes Award Program - a program that recognizes employees who have made a real difference in addressing EH&S issues and opportunities at work and in their communities. Twenty-four projects, involving hundreds of employees from Shanghai, China, to Allentown, Pa, were recognized for their EH&S contributions through their designation as recipients of a Lucent EH&S Heroes Award in 1999.

We have made the EH&S policy the way we do business and we have engaged people across Lucent in translating policy into action. Our distributed EH&S professional community provides the leadership and support to make this possible. As we look to the future, in a world of ever-evolving laws and regulations, of increasing competition, our EH&S community is continually finding ways to reinvent itself. For us, the next generation begins today - whether it's helping to design the networks we deliver to our customers or implementing innovative and proactive EH&S goals, strategies and programs. We remain committed to acquiring, developing and retaining the EH&S talent needed to create a diverse and global EH&S community with the ability and motivation to stay in front of the demands of change.

Lucent's commitment to EH&S performance stands. It is part of who we are as a company. It is part of what we need to do to excel in the marketplace. We are proud of what we have achieved, but we also know that the demands on EH&S performance, like everything else, are escalating. The story told in the 1999 EH&S Annual Report shows that we are up to the challenge.

1999 Annual Report

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations



Policy

Lucent Technologies is committed to protecting the environment and the health and safety of our people, our customers and the communities where we operate. Meeting this commitment is a primary management objective and the individual and collective responsibility of all Lucent employees worldwide. To that end, we will:

comply with all applicable environmental, health and safety laws, regulations and Lucent's Global EH&S standard

establish management systems for environment, health and safety based on recognized standards, and set company-wide goals for continuous improvement

integrate environment, health and safety into our business plans and decisions - including the design, production, distribution and support of our products and services

ensure that our products are safe, and work with suppliers and customers to promote responsible use throughout their life cycle

reduce environmental impact and conserve natural resources by minimizing waste and emissions, reusing and recycling material, and responsibly managing energy use.

motivate and prepare all employees to take personal accountability for protecting the environment and creating a safe and healthy workplace

be a leader in deploying and promoting innovative, cost-effective environmental, health and safety technologies and procedures both within and outside the company.

We will regularly review and improve this policy, communicate it to all employees, and make it available to all stakeholders.

Lucent At A Glance

We make the things that make communications work.™

MISSION
To provide customers with the world's best and most innovative communications systems, products, technologies and customer support, and to deliver superior, sustained shareowner value.

REVENUE
$38.8 billion in fiscal year 1999 (up nearly 21% over 1998)

EMPLOYEES
153,000 as of 12/31/99 (about 23% outside the U.S.)

LOCATIONS
Offices or distributors in more than 90 countries and territories; Bell Labs facilities in 25 countries

HEADQUARTERS
600 Mountain Ave.
Murray Hill, NJ 07974
USA
908 582-8500

www.lucent.com

1999 Annual Report

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations



Goals

By the year 2000 we will:

have in place EH&S management systems — based on recognized standards — for at least 95% of our products, services, operations and facilities.

reduce our lost workday accident rate by 30% as we move toward our long-term objective of zero on-the-job injuries.

develop and apply Design for Environment (DFE) criteria to produce competitive, environmentally preferable products and services.

improve the energy efficiency of our operations to avoid what would otherwise be the emission of at least 135,000 metric tons of greenhouse gases.

recycle at least 70% of our waste paper.

At the same time, we will sustain the successes and significant gains already made in reducing manufacturing waste disposal and reportable air emissions as we add new operations and grow the business globally.

In support of these goals, **we will engage** all Lucent employees world-wide in addressing environmental, health and safety issues and recognize their achievements at work and in their communities through program like Lucent's Environmental, Health and Safety Heroes.

1999 Annual Report

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations



Management Systems & Design for Environment

Deploying Environmental Health and Safety (EH&S) Management Systems throughout Lucent's global operations has been a priority since 1996. These systems are essential to the implementation of our EH&S policy, goals and worldwide standards, which clearly state our commitment to protect and preserve the environment and to ensure the health and safety of more than 150,000 employees. For Lucent, management systems are a business imperative and have increasing importance for our global customers.

Four years ago Lucent embarked on an ambitious program to deploy EH&S Management Systems, based on recognized standards, for at least 95% of its own products, services, operations and facilities by year 2000. That goal has been accomplished. In fact, three of Lucent's five global regions reported 100 percent deployment of environmental management systems.

These systems are designed to provide Lucent with the capability to improve the company's overall EH&S business performance. They enable us to identify opportunities to decrease or eliminate the impact of significant aspects, including injuries and waste generation, as well as energy, water and chemical usage. Management systems at Lucent are critical tools to achieve compliance with existing regulations. They are also a catalyst to driving continuous improvement, and delivering competitive advantage through improved efficiencies and reduced operating costs.

Lucent's EH&S Management Systems are increasingly designed to meet the individual needs of our Business Groups while providing flexibility during periods of organizational change. A major goal going forward is to deploy EH&S Management Systems in new Lucent locations within 18 months of completing an acquisition. We are also committed to aligning our management systems with those of contract manufacturers, original equipment manufacturers (OEM) suppliers and outsourced services providers whose operations are essential to our future business success and EH&S performance.

MANAGEMENT SYSTEM

A management system is a set of policies, programs, procedures and processes that our Business Groups rely on to ensure that their business operations comply with requirements imposed by regulatory authorities, customers and Lucent's own EH&S Policy.

EH&S ASPECTS

Environmental aspects are an organization's actual and potential interactions with the environment and their resulting impact. These aspects include consumption of resources such as energy and water and the use of materials and chemicals used at a facility. Other environmental aspects can involve the products manufactured, air and water released as a result of manufacturing processes, solid and hazardous wastes, and local environmental interactions and impacts such as those that can affect the land or surrounding community. Occupational health and safety aspects involve potential hazards resulting from an organization's activities, products or services that can negatively interact with human health or cause property damage. At Lucent, EH&S aspects of significance become the basis for setting performance objectives and targets.

In addition to deploying EH&S Management Systems, incorporating Design for Environment (DFE) criteria and capabilities into the design of new products is another essential approach to building our EH&S capabilities. DFE provides Lucent and our customers with a competitive advantage, new business opportunities and effective management of potential market barriers while ensuring that our products have minimal environmental impact

We view our evolving EH&S Management Systems and Design for Environment programs as significant initiatives that will enable Lucent products to be designed, provisioned, delivered and installed anywhere in the world.

1999 Annual Report

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations



Environmental Management Systems

Lucent's initiative to deploy Environmental Management Systems (EMS) gained serious traction in 1999. By year's end, Lucent's Business Groups had deployed Environmental Management Systems covering 98% of the company's products, services, operations and facilities — exceeding our year 2000 goal of 95% deployment. Many of our Business Groups have based their Environmental Management Systems on ISO 14001, an internationally recognized standard, and have opted for independent third-party certification. As expected, a recent analysis of EMS implementation at many Lucent facilities shows a significant drop in the number of environmental findings reported when pre- and post-EMS deployment audits are compared.

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations



Occupational Health and Safety Management Systems

In 1999, Lucent met its four-year goal to deploy Occupational Health and Safety Management Systems (OH&SMS) for 95% of the company's products, services, operations and facilities. Deployment of OH&SMS surged from 21% deployment in 1998 to 95% in 1999. Because of the diversity of Lucent's global operations and the absence of a uniform internationally recognized standard in this area, our Business Groups have deployed OH&S management systems based on a combination of external standards or Lucent's defined OH&S management platform. Some of the external standards include BS 8800, ISA 2000 and voluntary government programs such as the U.S. Occupational Safety & Health Administration (OSHA) Voluntary Protection Program (VPP). By year-end 1999, Lucent had 12 locations certified under OSHA's Voluntary Protection Program. To gain VPP status, employees at these sites must design, implement and participate in an exemplary health and safety program that meets OSHA criteria.

OH&SMS CERTIFIED LOCATIONS

While no internationally recognized standards exist for Occupational Health & Safety Management Systems (OH&SMS), several countries and companies - including Lucent - have developed their own standards for which third-party certification is available. By year's end 1999, Lucent had 29 manufacturing plants, R&D locations, administrative facilities and joint ventures in seven countries with certified OH&SMS in place. Cities and countries where Lucent operations have earned OH&SMS certifications include:

INTERNATIONAL • Brunei
• Beijing, Qingdao and Shanghai, China
• Bray, Ireland
• Singapore
• Tres Cantos, Spain
• Bangkok, Thailand

UNITED STATES • Orlando, Fla. • Norcross, Ga.
• Naperville and Lisle, Ill.
• Shreveport, La.
• Haverhill and North Andover, Mass.
• Omaha, Neb.
• Mount Olive and Princeton, N.J.
• Allentown, Breinigsville and Reading, Pa. • Mesquite, Texas

1999 Annual Report

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations



Design for Environment

Our goal is to develop and apply Design for Environment (DFE) criteria that make all of our products and services competitive, environmentally responsible, compliant with legal requirements and responsive to the environmental needs and concerns of our customers. By year-end 1999, we had 100% of our planned DFE infrastructure in place - up from 73% in 1998, and 41% in 1997. Each of our product groups now uses a formal DFE process to actively consider and evaluate DFE criteria for its products. Our DFE criteria have continue to evolve. Today, DFE embodies product design processes that apply engineering concepts to minimize environmental impacts throughout a product's entire life cycle. That life cycle includes product design, manufacture, use and disposition at the end of the product's intended life, whether that product is reused, recycled, taken back or disposed of in an environmentally responsible manner. At Lucent, our DFE program has four basic objectives:

- **De-materialization —** using as little and as few types of materials as possible.
- **Recyclability —** reusing or processing a product into other materials or products of varying value.
- **De-toxification —** making products with minimal toxic materials and by-products.
- **Energy Efficiency —** using minimal energy in a product's manufacture and use.

DFE's value in creating a competitive advantage is becoming more important in the global market as customers and regulatory authorities increasingly mandate environmentally responsible products. Bans and restrictions on materials, increased energy efficiency, modular designs for upgrading products, use of recycled materials in packaging and products, and recycling of packaging itself are trends gaining momentum on a worldwide basis. At Lucent our goal is to build upon our evolving DFE infrastructure and EH&S Management Systems to ensure that our products can be used anywhere in the world.

1999 Annual Report

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations



Environmental Progress

Since 1992, energy management teams distributed throughout Lucent Technologies have eliminated more than 190,000 metric tons of greenhouse gases (primarily carbon dioxide) from the company's global operations. While this achievement translates directly into cost savings for the company — more than $50 million in total since 1996 — it also reflects Lucent's commitment to protect and preserve the environment.

When we introduced our new Environment, Health and Safety Policy in 1996, we made it the individual and collective responsibility of all Lucent employees worldwide to reduce the environmental impact of our operations and conserve natural resources by minimizing waste and emission, reusing and recycling material, and responsibly managing energy use. We also established ambitious EH&S Year 2000 Goals. We have, in general, achieved or exceeded these goals because Lucent employees around the world have been engaged, concerned and committed to continuous improvement measured against recognized EH&S standards.

At Lucent, we know that our customers and shareowners want a safe and clean environment. In today's evolving communications industry, progressive environmental practices are a competitive advantage — from using as few types of materials as possible in the products we market to ensuring that the materials we do use can be recycled, reused or processed into other usable materials or products.

Our objective is to continue our drive to achieve performance levels beyond simple remediation and compliance to existing laws and regulations. We intend to deploy innovative solutions that substantially improve our environmental performance and reduce costs. The recent deployment of EH&S Management Systems covering more than 95% of our products, operations and facilities are helping to identify and exploit additional EH&S performance improvement opportunities as well as capitalize on emerging trends and technologies. We also will continue to implement our own EH&S Worldwide Standards in geographic areas where

WORLDWIDE STANDARDS

The Lucent Technologies EH&S Worldwide Standards are specific design and operating requirements that codify and communicate the minimum level of performance needed to comply with Lucent's EH&S Policy. The standards apply to all Business Groups, Corporate Centers, employees and contractors worldwide who perform the operations covered by the standards. EH&S areas addressed by the standards include: ozone depleting substances, water and wastewater management, disposal of waste and contaminated scrap, transportation of hazardous materials and wastes, incident reporting and record-keeping, chemical management, drinking water, personal protective equipment, product safety, contractor EH&S management, fire and life safety, control of hazardous energy, occupational exposure, real estate transactions, ladder and confined space safety, machine guarding, and powered industrial vehicles.

EMS Certification

By year's end 1999, sixty-three Lucent manufacturing plants, R&D locations, administrative facilities and joint ventures in 15 countries had earned Environmental Management System (EMS) certification. Most of the EMS certifications are based on ISO 14001 environmental standards and are the result of independent third-party certification. Cities and countries where Lucent operations have earned EMS certifications include:

regulatory policies and environmental guidelines are still in the early phases of their maturity cycle.

In 1999, Lucent continued to improve or sustain its environmental performance. In 1996, we set a Year 2000 Goal to improve the energy efficiency of our global operations to avoid what would otherwise be the emission of 135,000 metric tons of greenhouse gases. We first surpassed that goal in 1998. Last year we again exceeded that goal and prevented the emissions of 190,000 metric tons of carbon dioxide, long suspected as a major contributor to global warming. Our 1999 results in energy efficiency translate directly to $18.4 million in annual cost savings while reducing energy consumption by 1,746,001 million British thermal units (Btu).

In 1999, Lucent's air management programs sustained the gains of prior years in reportable air emissions, even as we expanded operations globally. While 1999 reportable air emissions — 33,000 kilograms — were slightly higher than 1998 results, they still are well below the 39,565 kilograms reported in 1997. From 1996 to 1999, we reduced air emissions, indexed to production, by 65.7%.

Lucent's paper recycling programs in facilities throughout the world once again produced results that exceeded our Year 2000 Goal of recycling a minimum of 70% of our waste paper and cardboard. In 1999, we recycled 13,144 metric tons — or 80% of our waste paper, up from 72% in 1998.

In the areas of water usage and conservation, and sanitary and wastewater discharges, Lucent has ongoing initiatives to ensure we meet or exceed local standards throughout the world. In addition, the company has established its own minimum standards in these areas with Lucent's Global EH&S Standards that, in many instances, exceed local requirements.

In the area of waste disposal, Lucent continued in 1999 to exceed our goal of maintaining total manufacturing waste disposal at our 1994 level, indexed to production. We remain committed to practices that eliminate or reduce manufacturing waste at its source.

In 1999 Lucent Technologies also formed an environmental remediation subsidiary, Lucent Technologies Construction Services, Inc., to take full responsibility for meeting clean-up requirements for a targeted subset of Lucent's environmental liabilities. The focus of the subsidiary is to improve the efficiency and effectiveness by which Lucent meets its remediation obligations and satisfies regulatory requirements. Lucent has partnered

INTERNATIONAL

- Pinkemba, Australia
- Campinas, Brazil
- Beijing, Qingdao and Shanghai, China
- Saumur, France
- Augsburg and Nuremburg, Germany
- Bangalore, India
- Cibitung, Indonesia
- Bray, Ireland
- Matamoros, Mexico
- Bydgoszcz, Poland
- Singapore
- Tres Cantos, Spain
- Hsinchu, Taiwan
- Bangpakong, Thailand

UNITED STATES

- Little Rock, Ark.
- Westminster, Colo.
- Orlando, Fla.
- Norcross, Ga.
- Naperville and Lisle, Ill.
- Shreveport, La.
- Haverhill and North Andover, Mass.
- Omaha, Neb.
- Basking Ridge, Berkeley Heights, Chester, Holmdel, Hopewell Township, Middletown, Mount Olive, Murray Hill and Whippany, N.J.
- Columbus, Ohio
- Allentown, Breinigsville and Reading, Pa.
- Mesquite, Texas

with Roux Associates, Islandia, N.Y., in this venture. Roux brings a broad base of site investigation and remediation expertise to the partnership that we believe will strengthen our efforts in this important EH&S performance area.

In compliance with Lucent's EH&S Worldwide Standards, hazardous waste from Lucent facilities is directed to approved facilities for reclamation, treatment or other disposition.

1999 Annual Report

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations



Health and Safety Progress

From a fiber-optic manufacturing facility in Beijing, China, to a Bell Laboratories R&D facility in Princeton, N.J., Lucent's EH&S community continued to advance initiatives in 1999 designed to improve the health and safety performance of all Lucent employees.

At Lucent, we know that the vitality of our work force is critical to our continued success, locally and globally. Protecting their health and safety is a business imperative. We're building upon previous successes and targeting emerging concepts and initiatives to re-invent and expand our programs to reduce EH&S risks, ensure compliance, improve productivity and reduce operating costs. Our greatest current opportunities for improvement are in the area of musculo-skeletal disorders and we are focusing our efforts on achieving ergonomic improvements in virtually every aspect of our work.

In 1999, we continued to deploy Occupational Health and Safety Management Systems (OH&SMS) across Lucent. Our Year 2000 Goal — called for having EH&S Management Systems in place for at least 95% of our facilities, products and services. By year-end 1999, we had accomplished this goal.

Our OH&SMS approach identifies specific safety and health hazards that are targeted for swift and effective management based on their relative risk to people working at each location. This systems-based approach allows performance improvement initiatives to be efficiently planned, tracked, managed and communicated.

Another Year 2000 Goal was a commitment to reduce our lost workday accident rate compared with our 1996 baseline. This goal considers accident-related injury cases involving one or more days away from work. Over the last four years we reduced Lucent's overall lost workday accident rate more than 17% — while short of our 30% reduction target, this was a significant accomplishment that puts us at or better than current industry averages. As Lucent's EH&S Management Systems continue to gain traction and new initiatives are deployed, our EH&S community is confident that our lost workday accident

INTERNATIONAL STANDARDS

OH&SMS 18001 (Health and Safety) — while no internationally recognized standards exist for occupational health and safety management systems (OH&SMS) several countries and companies have developed their own OH&SMS for which independent third-party certification is available. Because of the diversity of Lucent's global operations, Lucent has developed its own OH&SMS.

ISO 14001 (Environment) — is an internationally recognized independent third-party certification developed by the International Organization for Standardization that demonstrates that business policies, programs, procedures and processes incorporate an effective Environmental Management System (EMS). The intent of ISO 14001 is to provide a quality-based management system that supports continual improvement in environmental performance and prevention of pollution.

BS 8800 (Safety) — is the British Standards Institute's system that applies the quality and environmental management principles of plan, do, check and act to occupational health and safety.

ISO 9001 (Quality) — is an internationally recognized standard for quality management systems. Quality management systems' elements provide the framework for our product realization process.

rate will continue to trend towards supporting our long-term objective of zero on-the-job accidents.

In 1999, Lucent continued to integrate safety and health performance into the day-to-day operations of our business. Our Microelectronics Group applied for and received third-party certification for its BS 8800-based Safety Management System at its Bangkok facility. Lucent's Network Products Group's (NPG) facility in Bray, Ireland, was the first facility in the world to be assessed and registered against the OH&SMS 18001 and ISA 2000 health and safety standards. The ISA 2000 standard is the International Safety Management Organization Limited's design, which is compatible with ISO 9000 and ISO 14001. Lucent Technologies Fiber Optic Cable Ltd. in Beijing and Lucent Technologies of Tianjin Cable Co., Tianjin, China, were the first companies in their respective cities to achieve ISO 9001, ISO 14001 and OH&SMS 18001 certification. Our Customer Operations and Program Management organization in Brunei was the first service operation to integrate its Quality and EH&S systems and achieve certification to the ISO 14001 and OH&SMS 18001 standards.

Last year, Lucent Real Estate (LRE) deployed EH&S Management Systems at 41 administrative locations that are benchmarked against the international ISO 14001 standard and the U.S. Occupational Safety and Health Administration (OSHA) Voluntary Protection Program (VPP).

The Bell Laboratories facility at Princeton, N.J., became the first of the Bell Lab's locations to be certified under OSHA's VPP program when it received Star Status in 1999. The Bell Labs' Crawford Hill facility in New Jersey has received an OHSA recommendation for Star Status. Bell Laboratories also submitted VPP applications in 1999 to OHSA for its facilities in Whippany, N.J., and at its Lisle/Naperville complex in Illinois and will seek OSHA certification for its remaining New Jersey sites in 2000, bringing coverage to all Bell Labs locations.

This sample of accomplishments provides a clear indication that in 1999 Lucent's EH&S community continued to identify and capitalize on opportunities to improve the company's health and safety performance. The Lucent Environmental Health and Safety Center continues to support Lucent's Business Groups and Corporate Centers in developing and deploying EH&S initiatives — including customized safety improvement solutions that go beyond traditional EH&S methods.

ISA 2000 (Health and Safety) — is the International Safety Management Organization Limited's design for health and safety standards and is compatible with ISO 9000 and ISO 14001. It also provides a template for compliance with various national standards such as BS 8800.

Voluntary Protection Program (VPP) — The U.S. Occupational Safety and Health Administration (OSHA) is not just a regulatory enforcement agency. OSHA also encourages private industry efforts to improve occupational safety and health by recognizing positive models of successful programs. To earn VPP "Merit" or "Star" status, employees at a location must demonstrate exemplary employee health and safety programs that meet a set of criteria established by OSHA that are above and beyond regulatory requirements. Twelve Lucent locations have earned VPP Star recognition. Two other locations have earned VPP Merit status.

1999 Annual Report

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations



Exploring the natural wonder of a spider web along the Braille Trail, an environmental learning experience for visually impaired children at the Oklahoma City Camp Fire Boys and Girls Club, are Blake Adams (front left), Camp Counselor Shannon Finley, and Megan McKinsey. Looking on are Oklahoma City Pioneers President Rodney Cross and Judy Seikel, Lucent Human Resources manager.

Lucent EH&S Honors Its Environmental Health and Safety Heroes for 1999

Question: What does a 3-year record of zero lost workday cases in Shanghai, China, have in common with an environmental education program for visually impaired children in Oklahoma?

Answer: They're both outstanding examples of projects in which Lucent employees are successfully addressing environmental, health and safety issues at work and in their communities. And they're part of a larger group of 24 projects that earned a Lucent Environmental, Health and Safety (EH&S) Heroes Award for 1999.

"The Heroes Awards program has been very successful in raising employee awareness of the benefits of being involved with sound environmental, health and safety programs," said John Pittman, vice president, chief quality, environment, health and safety officer. "This not only benefits the immediate location or community where the programs are found, but it also proves to be a business advantage for Lucent."

Renew America, a nonprofit environmental awareness organization, assembled a

consortium of industry experts that selected the individual or team programs to receive the fourth annual Heroes Award, which carries with it a $1,000 contribution to a non-profit EH&S organization of the winners' choice. Here are descriptions of the award-winning projects by category:

- Program Effectiveness
- Management Practices
- Planning for the Future
- Social Responsibility

PROGRAM EFFECTIVENESS

A Safety Success - This new safety program was created to eliminate accidents at the Lucent facility in Matamoros, Mexico. Its success rate was remarkable: Accidents decreased from .51 to .06 for every 100 employees; 2,450 employees were recognized for having no accidents in 1999. Mexican officials declared the facility a safe workplace.

Less Waste, More Savings - A separate effort at the Matamoros facility optimized the space available for waste management and implemented a "just-in-time" collection schedule that reduces disposal costs, identifies specific waste recycling vendors, and increases the amount of recycled waste instead of landfill. The reclamation of solid and hazardous waste will save more than $80,000 a year.

Let the Sunshine In - In Santa Lucia, Venezuela, the near-equator sunlight is now being used to improve visibility and reduce overall energy consumption at Lucent. Installation of novel translucent roof sheets improves floor luminosity by 50 percent, saves 20 megawatt hours each month in energy, cuts expenses more than $15,000 per year, and reduces the total emission of greenhouse gasses to the environment.

Water, Water Everywhere - The semiconductor facility in Allentown, Pa., is the Microelectronics Group's largest water user. Lucent heroes there implemented "high-tech" purification and recycling processes that reduce water use by more than 1.7 million gallons a day and eliminate the discharge of 13,000 pounds a day of total dissolved solids to the Lehigh River. New processes also help deliver ultrapure water to the facility's clean rooms, critical to the production of integrated circuits.

The Air We Breathe - A new air emission system at Atlanta Works replaced more than 140 individual, high-maintenance scrubbers, improving air quality and recovering additional material for recycling. The system eliminates downtime from scrubber maintenance, improves the hygiene of the clean room, and provides a 99.9 percent submicron particle reduction with an annual cost savings of about $2 million.

Savings in Thailand - For five years, facilities managers at the Microelectronics plant in Thailand have succeeded in increasingly conserving water and energy. The team has redirected, recycled and limited the overflow of wastewater, and now uses flow meters to monitor water waste and regulate fan speeds to enhance cooling and optimize water tower capacity. Total cost savings: $75,000 per month.

See the Light - Microelectronics' John Serrone brightened his team's office workspace in Berkeley Heights, N.J., with new light diffusers, timers and motion sensors. The results have been a safer workspace, fewer ergonomic problems, lower energy consumption and a lot of cheerier people. The building's owners liked Serrone's approach so much they incorporated his design philosophy into the rest of the building

Safety and Savings - The Lucent Shanghai fiber-optics facility has had a perfect safety record - no lost workday cases - for the past three years. In addition, energy conservation has cut costs by more than $130,000 a year. The project team instilled a strong EH&S consciousness throughout the plant by

providing training and considering EH&S objectives as part of the annual employee performance appraisal process.

MANAGEMENT PRACTICES

Changing Attitudes - In just 10 months, a team from Lucent's Global Provisioning Center in St. Petersburg, Russia, effectively implemented a complete EH&S management system both during the start-up and in the operation of its new facility. Despite the lack of a local infrastructure for hazardous waste disposal, the team addressed disposal issues relating to mercury relays and batteries.

Freeing Up Time - A team of employees from Switching Solutions Group and EH&S employees in Taiwan collaborated on developing a database system that ensures EH&S data is current and electronically available. Since the database system is integrated with other information technology systems, it also becomes critical to the business decision-making process. The system has reduced overall paper consumption and saved more than 250 administrative hours in the first year.

An ISO First - A team composed of Bell Labs, EH&S, Real Estate, Advanced Technologies and Microelectronics employees joined together to implement the first EH&S management system to receive ISO 14001 (environmental standard) certification for a stand-alone R&D organization in the United States. During 1999, 30 environmental objectives were accomplished, resulting in $875,000 in total cost avoidance.

Breaking New Ground - A team from Lucent in Brunei overcame start-up challenges to implement a fully integrated Quality, Environmental, Health and Safety (QEH&S) management system. In just eight months, the program received third-party integrated QEH&S certification in ISO 9001 (quality standard), ISO 14001 (environmental standard) and OHSAS 18001 (health and safety standard).

More Training, Less Problems - In Tianjin, China, a team of employees implemented a ISO 14001 and OHSAS 18001 management program that not only boosted the company's image in the locale, but also improved employees' attitudes and increased participation in EH&S training opportunities. The program helped reduce from 21 to seven the number of non-conformance items in the corporate compliance audit.

A Star is Born - The Lisle/Naperville Voluntary Protection Program (VPP) went above and beyond the OSHA compliance standards and received "Star" status - the highest level of recognition - for its efforts. The VPP team implemented self-inspection, accident investigation and safety recognition programs, and focused on increasing employee awareness and involvement in safety activities.

PLANNING FOR THE FUTURE

We're Here to Help - Helping Lucent Business Groups to meet customer and legal requirements and sell their products globally, the Design for Environment (DFE) core team provided support to implement DFE programs within product design, quality management and environmental management systems and processes. One example: The Wireless Group developed a product with a 75 percent reduction in packaging weight, a 33 percent cut in energy consumption, an 85 percent drop in lead use and a reduction of 2.5 tons a year in manufacturing waste.

Lightening the Load - Terry Rankle introduced a new type of shipping container at the Merrimack Valley Product and Export Center that replaces standard equipment on heavy wooden pallets. The new lightweight plastic design reduces the pallets to from 65 pounds to 19 pounds and allows workers to load the containers though different access areas. The new design also was introduced at the Kansas City Global Provisioning Center and can be used at most of Lucent's facilities to pack and ship a variety of product lines.

Peer Pressure - The use of simple tools and a peer-to-peer approach to change work habits proved highly effective for the ergonomics team in Little Rock, Ark. Composed mostly of general operators, the team used risk reduction training and self-evaluation to address the issue of cumulative trauma and musculoskeletal disorder injuries. So far, the results have exceeded the goals as nearly 80 percent of the high-risk factors have been eliminated, saving $62,000 in workers compensation and 2,000 production hours.

On-Site Savings - The Site Material Simplification and Standardization team in Hsinchu, Taiwan, identified areas of installation waste materials and introduced a development engineering handbook to guide new engineering rules. The project reduced the use and subsequent waste of material by more than 30 percent and cut expenses by more than $1 million from 1998 to 1999.

SOCIAL RESPONSIBILITY

Stopping the Violence - Vickie Jackson, an account executive in Miami, Fla., and her family founded the Domestic Violence Education and Prevention Project (DVEPP). The nonprofit organization educates individuals, social, civic and religious groups and businesses on domestic violence and how to prevent it. Over the past six years, DVEPP has informed thousands and has helped save countless lives.

The Greening of Blue - A team of concerned employees at the Microelectronics facility in Reading, Pa., partnered with local authorities to promote resource conservation and environmental remediation at the Blue Marsh Lake, a source of drinking water and recreational facility for 1.2 million visitors a year. As a result, Berks County received $21 million to address water quality issues at the lake and various environmental projects in the area.

Rocky Mountain High - As a member of the James P. Beckwourth Mountain Club in Denver, Hilliard Moore helped form the club's Outdoor Education Center for inner-city youth environmental education. The center increases the awareness of minority youth of the need to preserve, enhance and manage the wilderness environment and urban ecosystem and their own communities.

Living in Harmony - Branchburg, N.J., is rapidly changing from a rural to a suburban community. The Branchburg Environmental Commission, headed by Bell Labs employee Tom Okrasinski, put in place a plan to integrate environmental concerns within the community's lifestyle functions. The project included watershed improvements, open space acquisition, a contamination assessment program, critical area development restrictions and environmental education.

Cleaning Up the Past - The EH&S team in Bydgoszcz, Poland, designed a comprehensive remediation strategy that prevented the spread of and eventually eliminated soil and groundwater contamination caused by a previous owner of the facility. The strategy's success was confirmed when it received the highest score at the region's EH&S conference ratings and $20 million in tax credits for Lucent.

The Braille Trail - A group of employees at the Oklahoma City facility helped support the creation of the Braille Trail project at the local Camp Fire Boys and Girls Camp. The trail provides an environmental learning experience for visually impaired children to enjoy the outdoors by guiding them through stations along a nature path with tape players and headsets. The Braille Trail is a teaching tool for both the visually impaired and an awareness tool for sighted individuals to experience the daily challenges faced by others.

1999 Annual Report

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations

1999 Heroes Awards

PROGRAM EFFECTIVENESS

A Safety Success
Angeles Montantes
Norma Gutierrez
Marcos Valdez
Silvestre Arellano
Sonia Arrazolo

Less Waste, More Savings
Efrain Alvarado
Luis Mejia
Zohe Rodriguez
Marco A. Valdez
Silvestre Arellano
Efrain Alvarado

Let the Sunshine In
Jordi Morellon
Jose Felix Azocar
Manuel Tovar
Arturo Sosa

Water, Water Everywhere
Michael J. Kaszyski
Steve Silic
Ken Fulford
Joe Fruhman
Dave Sodl
Ilse Stoll
Byron Davis
Joe Laudenberger
Deb Wenger
David Dickinson

The Air We Breathe
Lisa C. Green
Sharad Shah
Sherrie Walker
John Harrison
Elwood Anderson
Terry Tincher

Savings in Thailand
Pisith Bhuthathorn
Sucheep Karntorn
Sutee Testosaporn
Suphot Meesawad
Komol Cherdpanich
Bandit Boontham

See the Light
John Serrone

Safety and Savings
Zhang Jian Rong
Liang Jun
Feng Li
Li Fuyu
Li Wei
Lu Shuyi
Yu Huixin
Wu Huifang
Yu Jinxiang
Yu Ling
Zhang Weilin
Zhou Fan





Jiang Wei Jun (center), deputy general manager, and Liang Jun (right), an EH&S engineer, emphasize environmental awareness, health and safety at the Lucent Shanghai fiber obtics facility. There have been zero lost workday cases at the facility over the past three years.

MANAGEMENT PRACTICES

Changing Attitudes
Elena Nikolaevna Zabavnova
Tatjana Gromova
Elena Ilioukova
Leonied Kravchenko
Natalya Koriakovtseva

Freeing Up Time
Chen Chung Wu
Meei Tseng
Scocher Wei
Steven Huang
Dennis Tan

An ISO First
Mark Jacobs
Jose Alvarez
Irwin Asher
Ed Barabas
Larry Bernson
Terri Boehm
Robert Caporaso
John Clai
Rich Clauss
Phil Costello
Warren Davis
David Dickinson
Ray Dinsmore
Gary Fisher
Linda Floyd
John Galasso
Thomas Giacco
Jim Giordano
Mike Glowatz
Ed Goldston
Bill Havel
Scott Houthuysen
Anna Jackson
Rose Knox
Eric Kutter
Chris Lombardo
Diane Ludewig
Pamela Kay Lyles
Bob Markow
Dane Martindell
Dave McCleary
Dennis Mog
Alex Moore-Staub
John Mosovsky
Ed Nowak
Tom Okrasinski
Angela Pascucci
Ron Pluto
Bill Schaeffer
Bill Schleck
John Signorello
Ralph Taylor-Smith
Ron Stow
Jorge Valdes

Breaking New Ground
Chen Chung Yee
Rodney Tang Chin Leong
Tommy Chin Tin Lung
Shim Kim Eng
Lu Bee Li
Laura Wong Sing Chai
Irene Teo Bee Chengk
Azlina bte Ahmad
Omar bin Hj Alitdin
Omar Khayyam Ansari

More Training, Less Problems
Zhou Qing Bo
Pei Fucai
Liu Jia
Yao Yanping
Li Li
Wang Tiecheng
Wang Huilai
Guo Yongshan
Zhang Ying
Hu Fenming
Ze
Liu Jinmei
Wang Ying
Wang Baoqu
Zhang Fengyu
Yang Wensheng
Hu Peiwen
Ma Xijie
Gong Weidong
Lin Yue
Yan Zhanying
Ning Peiying
Su Quingdong

A Star is Born
Steve Eagels
Barry Jaeger
Beth Johnson
Bill Jacobson
Carolyn Rock
Debra Dittmer
Dianne Mikrut
Fran Fitzhenry
Heidi Castelluccio
John Clai
John Lukasik
Lou Gagliano
Marilyn Mason
Mike Tang
Red Korn
Richard Babic
Rick Coleman
Robert Harringer
Roger Henry
Ron Zarn
Rosa Banks
Sam Harrold
Sam Richmond

Tony Tuttle

PLANNING FOR THE FUTURE

Peer Pressure
Cathy W. Webb
Carole Ahart
Cherry Beets
Estella Brown
Shirley Carlisle
Morris Chin
Rita Curlie
Keith Hall
Jayne James
Bob Lloyd
Donna Mattingly
Tona Nordengren
Sharon Pittman
Denard Stewart
Denise Thomson

Lightening the Load
Terry Rankle

On-site Savings
Rickey Yang
Dennis Yang
Tom Chen
Rohini Wang
Patrick Chen
K.T. Yeh
Neicar Chang
F.C. Hsu
Mano Lo

We're Here to Help
Barry Dambach
Iris van de Graaf
Arjen Salemink
Henk Groeneboer
David Dickinson
Ethel Hopkins
Werner Glantschnig
John Mosovsky

SOCIAL RESPONSIBILITY

Stopping the Violence
Vickie M. Jackson

The Greening of Blue
Nancy J. Sharp
Chuck Russo
Bill Hess
Kevin Gratz
Chris Stewart
Jack Molets
Rachel Roland
Dave Baldinger, Sr.

Rocky Mountain High
Hilliard Moore

Living in Harmony
Thomas Okrasinski

Cleaning Up the Past
Pawel Knecht
Jan Kwiatkowski
Jan Wilma
Tomasz Kiec
Jerzy Szarafiniak

The Braille Trail
Judy Seikel
Rodney Cross
Margie Storey

1999 Annual Report

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations



Partnerships

Member, WasteWi$e - a voluntary U.S. Environmental Protection Agency (EPA) program that encourages businesses to eliminate costly municipal solid waste. The program addresses preventing waste, buying products with recycled content, recycling materials, reducing the volume and harshness of solid waste, and using landfill disposal as a last resort. Lucent's Global Real Estate organization is guiding Lucent's facilities in this effort.

Charter Member, Climate Wise - a voluntary EPA and U.S. Department of Energy program to implement cost-effective energy efficiency and pollution prevention measures to reduce greenhouse gases.

Member, EPA's PFC Emission Reduction Partnership for the Semiconductor Industry - an EPA initiative to reduce emissions of greenhouse gases at integrated circuits manufacturing facilities. Lucent's Microelectronics Group collaborates with the EPA to research environmentally responsible and cost-effective solutions for controlling emissions that may contribute to global warming.

Ally, U.S. EPA Energy Star Computer Program - an EPA program designed to promote development of energy-efficient office equipment. As an Energy Star Ally, Lucent's Microelectronics Group incorporates low power consumption design into many integrated circuit products to help other manufacturers achieve energy-efficient systems and equipment.

Participant, U.S. Occupational Safety & Health Administration's (OSHA) Voluntary Protection Program (VPP) - an independent, third-party certification process that recognizes exemplary employee health and safety programs at individual facilities. To gain certification, management and employees must operate an effective safety program that meets a set of criteria established by OSHA, above and beyond regulatory requirements. Many Lucent facilities have earned VPP Star or Merit status.

Member, The Pollution Prevention Partnership - an alliance of business, government and public interest groups that promotes pollution prevention and waste minimization in Colorado industries.

Charter Member, Texas Natural Resource Conservation Commission's Clean Industries Plus Program - an initiative that selects environmental leaders to partner with the state to develop future regulations, policy and legislation.

Environment, Health and Safety

Lucent Technologies
Bell Labs Innovations

Awards

The **Wireless Network Group's (WPG) Columbus (Ohio) Global Procurement Center** received two awards for safety performance from the Safety Council of Central Ohio, which is part of the National Safety Council in Illinois and affiliated with the Greater Columbus Chamber of Commerce. WPG received the **Columbus Chamber of Commerce Achievement Award** for reducing 1999 accident rates by 25 percent compared with the previous year. The **Columbus GPC** also earned the **Columbus Chamber of Commerce Group Award** for best safety record and outstanding occupational health and safety management program in Central Ohio for its industry group.

Network Power Group's Dallas, Texas, facility was awarded the 1999 Environmental Vision Award for Environmental Stewardship by the Texas Corporate Recycling Council. The NPG facility also received the **Region VI "Star Among Stars" Recognition** for reducing accident rates in 1999, and was honored as the recipient of the **Texas Natural Resource Conservation Commission's Award for Reaching Out to the Community with Recycling**. NPG was also honored with the **Texas Clean Industries Plus Program Charter Member and Award** earned by companies that have in place a recognized environmental management system, such as ISO 14001, and a community program that provides communication and input about environment issues.

The **Global Environmental, Health and Safety Corporate Center's Asia/Pacific Region** received the **Business Achievers Award for the Environment Green License.** This award recognizes the best local businesses for their commitment to customer service.

Lucent's **Microelectronics Group** received the **Electronics Industries Alliance (EIA) 1999 Corporate Award.** The EIA's Environmental Progress Committee selected Microelectronics after it successfully deployed a business-wide, third-party certified ISO 14001 Environmental Management System.

The **Network Products Group's Brisbane, Australia, manufacturing facility** became the first manufacturing site in the world to be assessed and registered against the OH&SMS 18001 and ISA 2000 Health and Safety Standards.

The **Network Products Group's** joint venture **Lucent Technologies of Tianjin Cable Co., Ltd.**, in Tianjin, China, became the first company in Tianjin to have ISO 9001(quality), ISO 14001 (environment) and OH&SMS 18001 (health and safety) certifications. The certifications were awarded by SGS Yarsley Certification Group.