

For the people of Hewlett-Packard

March-April 1990

MEASURE

HP and the environment:
a user's guide

HANDLE
WITH CARE

HEWLETT
PACKARD



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MEASURE

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Hewlett-Packard Company is an international manufacturer of measurement and computation products and systems recognized for excellence in quality and support. The company's products and services are used in industry, business, engineering, science, medicine and education in approximately 100 countries. HP employs more than 94,000 people worldwide and had revenue of \$11.9 billion in its 1989 fiscal year.



Making all the right moves

Thriving in today's business world means getting the right people in the right places. HP's current redeployment program is a strategic plan to do just that.

Question: What is the essence of good management? One answer came some years ago from John Doyle, Executive VP, Business Development. He told an assembly of general managers that it is essential to be "hardheaded" in setting business goals and strategies before attempting to be "softheaded" in dealing with people. The alternatives—being softheaded and hardheaded, or either all "soft" or all "hard"—are sure paths to failure or frustration.

HP's current redeployment program in the U.S. provides a pretty good test of that thinking. It was preceded by a whole set of hard decisions and changes involving organizational roles and responsibilities, especially within the computer groups. At stake were future levels of profitability and competitiveness: Without the changes, both would erode and drag down the whole organization.

Put more positively, redeployment—as a by-product of restructuring and competitive strengthening—is expected to translate into significant advantages for HP, both in the marketplace and the work place.

As a result of the decisions made during the first half of 1989, employment targets for many of the computer divisions were revised—some up, most down. Overall, HP anticipated



then that about 1,000 jobs would be affected during the coming year as the changes took place.

In some cases, those changes involved shifting and consolidating operations while others arose from scaling back or shelving lower-priority projects. Meanwhile, other parts of the company continued to grow and to need more people.

This clearly was different from previous times of difficulty. In 1970, for example, the company adjusted to a very general slowing of orders and mounting inventories by installing

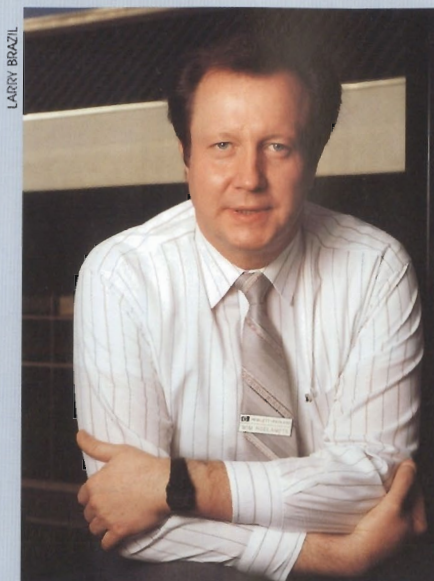
“HP is committed to finding jobs for good performers...”

the “nine-day fortnight.” This called for people to take every other Friday off without pay. In about six months the company was back on track.

Redeployment—defined by Webster’s dictionary as “a move from one front (military) or area to another”—is HP’s response to today’s challenges. Its premise is straightforward: “We are now overstaffed, and your job here no longer exists. Will you accept a new job elsewhere within the company? We’ll give you time to find that job, and we’ll help you all we can.”

“HP is committed to finding jobs for good performers, preferably in the same geographic area and at the same job level,” says Tom Pierson, manager of human resource planning and staffing in Corporate Personnel. “For some people, redeployment means a chance to explore new career opportunities or to move to a more affordable area for housing.

“We’ve established severance benefits for the few people who don’t find the location or job they prefer. But our No. 1 objective is to convince these



Wim Roelandts

“We all need to be keenly aware that we are not dealing with an abstract concept called ‘headcount,’ but with people who have dreams and aspirations and feelings. Yet, while these changes are difficult, they are very proactive in nature, and should strengthen our competitiveness and ensure that HP will be a force to reckon with in the computer business.”

WIM ROELANDTS
Vice President/General Manager
Computer Systems Group

“If you look at manufacturing production costs, we’ve made significant and continuous progress during the whole decade of the ’80s. But there’s always more to do, and lowering manufacturing costs remains one of our top priorities.

“The two major consolidation moves—of Cupertino (California) computer-platform activities to Roseville (California), and workstation activities between Apollo and Colorado—are expected to produce savings in the range of \$25 million to \$30 million a year. A lot has been accomplished, although not without some pain.”

DEAN MORTON
Executive VP/Chief Operating
Officer

“Let’s assume for a moment that I own two stores in different towns—one store needing help, the other overstaffed. It might be simpler to add people in the first and fire people in the other. But what about loyalty, security, opportunity and other values that add strength to a business? These factors are important. So why not give people a chance to transfer, even if it involves a longer commute, a move or learning new skills? That’s what redeployment is all about.”

PETE PETERSON
Manager
Corporate Personnel Operations



Susan Simmons

“The closing of the printed-circuit operation here at Waltham was no real surprise, having been planned some time ago, put on hold, and then revived last year. Also, for the past four years it has been part of the Circuit Technology Group (CTG), not the Medical Products Group. But with 131 people

involved and a six-month window to identify job openings, PRCD management and Waltham personnel were faced with a real challenge.

"The key answer has been communication. Intensive and widespread communication coupled with leadership from the management team and employee flexibility extended over a matter of months as the operation was phased out. It included weekly feedback meetings, visits to and from hiring locations, and a lot of individual sessions with managers and personnel reps.

As a result, at least 28 people have relocated outside the area as far away as San Diego (California) and Fort Collins (Colorado) or to other CTG operations. The flex forces in place at Medical's Andover and Waltham sites enabled us to redeploy most of the employees within Massachusetts. Fortunately, our group has been doing well."

SUSAN SIMMONS
Personnel Manager
Waltham, Massachusetts, site

"Recruiting out of Fort Collins (Colorado) has been very proactive—by Loveland (Colorado), Greeley (Colorado) and Boise (Idaho), all of them growing somewhat. We can only hope that it will take care of the 20 or so employees still seeking redeployment.

"Our upcoming challenge is to place about 80 or so employees as a result of the Apollo Exeter (New Hampshire) and Fort Collins restructuring. We will continue to look toward other divisions in the region, as well as encouraging all employees to attend any future road shows put on by visiting divisions.



STEVE CASTILLO

Pete Peterson (left) and Tom Pierson discuss redeployment issues.

Unfortunately, the skill sets do not always match the needs, and mobility is a problem for others.

"Having placed more than 70 engineers during the past six months is an indication of some fairly effective programs. We remain optimistic."

BILL BRUNELLI
Personnel Manager
Northern Colorado

"We're going to have to get used to the idea that we're never going to have all of the right people in all of the right places all of the time. While it's in a 'big-deal' phase now, redeployment has become part of 'business-as-usual' in our industry.

"Terms such as work-force flexibility, balancing, rightsizing and redeployment are commonplace in our industry and, frankly, they all mean the same thing—control expense growth. The driver is competition. Clearly understanding our customer needs and selecting the right places to add value in the product and support chain are the challenges."

TOM PIERSON
Manager/Human Resource
Planning and Staffing

(The two major international organizations—Europe/Middle East/

Africa Operations and Intercontinental Operations—both report similar situations: Redeployment isn't dealt with within the sales region and the divisions; it has to be handled within the country organizations because of the national boundaries.)

"Although we have seen successful years, Europe has always been very conservative in managing its employment levels and we have taken many steps to keep it that way. Our focus is on more flexibility of the work force in terms of its composition, individual development plans and employee attitude for adapting to change. Emphasis on performance and reducing the cost envelope are key considerations for continued success."

ANDRE BREUKELS
Personnel Director—Europe

"Due to our broad geographic dispersion and our cultural diversity, it is not very easy to move people from one location to another within Intercon. As a result, we run a tight ship in terms of our hiring activity, and we use flex forces and agency personnel as a cushion to maintain employment security for our employees."

POLLY JOHNSON
Intercon Personnel Manager



proven performers to stay with HP.”

In January, HP announced an Enhanced Early Retirement program (see page 7) which is expected to create 800 or more job openings throughout the U.S. That should help create some openings for employees who otherwise might need to relocate to another area.

To date, the redeployment effort has been both successful and stressful.

The success side shows up in a number of ways:

- More than 400 employees have been placed in new jobs since the redeployment program began in August 1989. Approximately 600 employees are still to be redeployed.
- A very broad-based program keeps the placement process moving. It includes personal and group counseling, placement centers, “job fairs” and other interactions between “demand” and “supply” divisions, and a monthly candidate list report prepared by Corporate Personnel to identify available employees by job title.
- A freeze on outside hiring, plus reducing services by internal contractors and flex-force people, which helped boost the demand for inside job candidates.
- Relocation services and support are provided those who accept offers outside their areas.
- When needed, retraining is offered.

But, given the fact that most HP people enjoy their jobs and have adjusted their lives accordingly, it isn't easy.



Job fairs like the one above at Worldwide Customer Support Operations in Mountain View, California, help link sites which have job openings and redeploying employees.

Consider the following:

- Redeployment can mean anything from a lesser position to a longer commute or a move to a distant location.
- Stress becomes common in affected organizations.
- Candidates have discovered that some positions still posted as “open” have, in fact, been filled.
- Competition among candidates for certain jobs can be strong.
- Much more management time is spent on a redeployment placement than on normal hiring.
- Outside observers—press, analysts, investors, families and prospective employees—have sometimes misread the intent and impact of redeployment, casting it in the same light as a layoff.

The current outlook is for redeployment activity to peak soon and then settle down to a normal rate by mid-year. Leaders in HP's personnel community say that redeployment, as such, is not at all new to HP as a method of handling employment imbalances.

A summary of HP viewpoints comes to something like this: From the very start, the company has sought to avoid ups and downs in employment, doing so by staying out of the boom-and-bust contract arena and by lean hiring practices. At the same time, it has never guaranteed absolute job security.

HP has, however, made strenuous attempts to provide employment security—especially for people who contribute to the company via their individual performance, their good relationships with others and their willingness to learn new skills suited to the times.

How does redeployment fit this picture? It says that—yes—most if not all of the people on the lists were contributing or at least satisfactory employ-

ees. Their release from previously existing jobs was caused by events beyond their control—the “radical change” that has beset almost the whole computer industry.

The purchase of Massachusetts-based Apollo Computer in May 1989 posed such problems for HP. Now part of the Workstation Group, Apollo's staffing included all of the categories required by a full-scale and growing corporation. The company also had experienced two years of earnings drought, in spite of its excellent product line and strong position in the workstation market.

HP and Apollo knew employee reductions would occur as a result of the merger. The merger agreement spelled out the terms under which staff reductions and changes would be made, including an attractive severance package for employees.

As a first phase, 150 people were released from “redundant” jobs—mostly corporate staff positions no longer needed as Apollo became an HP

Managers in hiring areas need to be open and accommodating to internal transfers.

division. Then, after a period of intensive planning for the necessary consolidation of Apollo and HP workstation activities, a further cut of 330 jobs was announced.

But serious efforts are being made to provide Apollo people with opportunities to compete for other HP positions. And there have been about 50 successful placements so far.

Local entities have cooperated with Apollo to maximize the number of placements, given the limited open-



SHMUEL THALER

Dorothy Whelan, a contracts coordinator at the Mountain View, California, Service Center and a 30-year HP veteran, says the EER program is “right for me.”

The return of EER

HP's Enhanced Early Retirement (EER) program is an important step in the company's efforts to balance the work force.

The program—entirely voluntary—lets employees who will be 55 years old and who have 15 or more years of service by December 31, 1990, retire early with an added incentive. Participants will receive

an amount equal to one-half month's salary for each year of service up to one year's salary.

About 2,400 of HP's 60,000 U.S. employees are eligible for EER. HP estimates that 800 to 1,000 people will participate.

EER proved to be a popular and equitable way to help balance the work force when HP first offered a similar program in 1986. Nearly 800 people—about 40 percent of those eligible—took the Enhanced Early Retirement then.

EER “seems to us the most fair way to gain some flexibility in our balancing efforts while recognizing those who have given many productive years to the company,” says President and CEO John Young.

ings. Skill mix and relocating to other areas have been barriers to additional placements.

Susan Bowick, personnel manager for the Workstation Group, calls it “a very difficult and trying time. But we've turned the corner, and now people are focusing on the future together as we begin to implement an aggressive set of 1990 plans.”

HP wants to retain its strong contributors. It can and it will—if several things happen. Managers in hiring areas need to be open and accommodating to internal transfers. And the people who are candidates for transfer need to be quite flexible in accepting new jobs.

In fact, HP's human resources people see career flexibility as an ever-

increasing requirement in the work place. Career paths that may once have seemed to run so straight and far can become side roads as new technologies, heightened competition and organizational changes reroute the traffic patterns.

Hardheaded people will know when it's time to make or accept a lane change. —Gordon Brown

(HP retiree Gordon Brown was Measure editor from 1968 to 1982. He wrote “The test of time” history section in Measure's March-April 1989 issue. — Editor)



Old ideas—and the Berlin Wall—have come tumbling down, and the abrupt changes could mean new opportunities for HP.

Breaking down the walls

Political and social reforms in East Central Europe could mean exciting new business opportunities for HP.

Crowded into Budapest's Freedom Square in front of the Parliament House last October 23, the group of Hewlett-Packard people felt the electricity in the air.

They had driven to the square from HP's office in a quiet residential area, drawn by the central drama of Hungary's Proclamation Day.

To the intense excitement of thousands of spectators that day, Hungary changed its name from "People's Republic of Hungary" to "Republic of Hungary"—eliminating the term "People's" that is used mainly in absolute regimes. Free elections were announced for the first time in 40 years.

With spectacular speed, a political hurricane has swept through the countries in East Central Europe (ECE) where HP has done business since the 1960s: Hungary, Poland, Czechoslovakia, Bulgaria, Romania and East Germany. It has been generated by the *perestroika* and *glasnost* policies of Soviet President Mikhail Gorbachev

and his persuasion of Stalinist leaders.

Note the "East Central Europe" nomenclature: Political terms such as "East Bloc" and "Eastern Europe" are now out of favor. There is no bloc any more, as each country determines its own way and pace.

As these countries press toward multiparty systems and new experiences with democracy, some are also frankly courting economic alliances with the west.

One hurdle to overcome is generating the necessary hard currency, since ECE countries, along with the USSR, have currencies that are difficult to convert to those used in the west.

Another major stumbling block has been the tightened restrictions on trade by COCOM, led by the U.S., in the aftermath of the Soviet invasion of Afghanistan in 1979. (COCOM is the Coordinating Committee on Multilateral Export Controls to East Bloc countries.) With the current thaw in relations between the U.S. and the Soviet Union, the U.S. government has

recommended various degrees of easing restrictions on exports to ECE and the USSR.

HP wants to be able to ship more goods, including Intel 80386-based personal computers, and loosen other controls used in the U.S. and COCOM. The company has also suggested revising U.S. technical data controls that stand in the way of sales, and the need for after-sales support.

For a center-front and optimistic point of view, ask Toni Polsterer about the implications for HP in the headlines coming out of the ECE. He has been the general manager for HP Austria/East, based in Vienna, with responsibility for Yugoslavia, the USSR and the ECE.

"In 1989 we saw more change in one year than what occurred in the last 40 years," Toni says. "At the speed with which events are taking place, speed is very important for HP's response."

HP Vienna is now reviewing its strategy to act decisively to capitalize on HP's strong early start in the ECE. This could mean new initiatives in sales programs and support, along with continuing to serve the present customer base.

"This is potentially one of the greatest opportunities for HP in many years," Toni declares. He points to the rich industrial tradition of the area that just needs updating, its good schools

"This is potentially one of the greatest opportunities for HP in many years."

and well-educated people— although he recognizes that the economic infrastructure of these countries will need massive rebuilding.



August 1989—Poland names first non-Communist Prime Minister since World War II.

October 1989—Hungary changes its name to "Republic of Hungary."

November 1989—Leadership change in East Germany is followed by the opening of the Berlin Wall on November 9. Entrenched Communist leaders in Bulgaria and Czechoslovakia leave office.

December 1989—A popular uprising in Romania leads to trial and execution of the country's dictator.

Toni's own familiarity with this market goes back to the mid-1960s as part of a pioneering sales team that handled all HP products.

In 1967 he was the first HP person to visit Poland, receiving a warm welcome "although I didn't speak a word of Polish." While in Czechoslovakia in 1968 with a demo bus of instruments for a conference, he witnessed "Prague Spring," the freedom movement that failed.

In 1969 HP began to explore opportunities with the USSR, starting with HP's medical products. Bill Hewlett was one of the senior executives who visited there in the 1970s to assess the situation. Agreements for technical cooperation led to permission to open an HP Moscow office in 1973.

The HP office which opened in Vienna in 1971 to serve Austria evolved

into an area headquarters as HP sales grew in neighboring countries. In that decade HP signed its first agreements with institutes and university departments in ECE countries to provide service and, in some cases, handle pre-sales consulting for HP products. In 1978, HP opened an office in Prague, Czechoslovakia.

From 1980 to 1986, avenues for sales in the ECE/USSR were limited, and even providing service was difficult. But HP didn't give up, selling products such as medical and analytical equipment, peripherals, desktop computers and part of the test and measurement product range that had a good chance of receiving export licenses.

When conditions began to improve, HP opened a commercial office in

"You're a part of the tradition set by Bill Hewlett and Dave Packard in Europe and elsewhere."

Budapest, Hungary, in 1988. Today HP is among the few western companies already in the ECE with a sales presence and a strong support network.

In Romania, this long-term relationship brought an urgent appeal to HP for help when thousands of people were injured in the December 1989 uprising. HP Vienna immediately sent an HP 78352A patient monitor to a Bucharest hospital.

President John Young visited the Vienna office last November to review approaches that HP might take in setting up new cooperative arrangements with large customers or agencies in the ECE/USSR. He met many of the 180 people who work for HP throughout these countries and felt their euphoria about the change under way.

"You're part of a tradition set by Bill Hewlett and Dave Packard in Europe and elsewhere," he told them. "HP tries to get in position early and to be flexible. It will pay off to have people like you who know local organizations—it would be easy to make a lot of mistakes."

In response to the rapid political and economic changes, the European Multicountry Region in February named Toni Polsterer to become HP's first USSR general manager, with Peter Kohl heading an expanded Vienna management team. By the end of the year, sales activities in both East Germany and West Germany will be combined under the German Sales Region.

Franz Nawratil, vice president and director of marketing and sales for European field operations, is both excited and cautious about HP's next steps. "Some of our best customers will be looking at establishing facto-

"We have one foot on the gas pedal and one foot on the brake."

ries in ECE. We're set up to help them because we're already locally present.

"With western manufacturing technologies moving into these territories, we'll have opportunities in our traditional type of marketplace: computer-integrated manufacturing and computer-aided design.

"Still, I think we're going to have to stay very much on our feet to understand what's happening and how quickly we can take advantage of the situation. There are many options and in quite a number of cases we will have to break new ground."

The rate at which HP will move for-



Visiting a Moscow trade show in October, Soviet President Mikhail Gorbachev meets HP's Ed McDonald outside the American Medical Consortium booth in which HP was an exhibitor.

ward with new investment in the ECE will hinge on export controls, the political and economic stability of these countries, their hard currency and the success of Mikhail Gorbachev's efforts to open the Soviet Union's society and to revitalize its economy.

As HP keeps an eye on the changing scene, "We have one foot on the gas pedal and one foot on the brake," says Bill Johnston, Corporate director of international planning and administration.

The Medical Products Group (MPG) has HP's longest track record for working with the USSR. It is now pursuing what could be a model program, spurred by the agreement between Gorbachev and U.S. President George Bush that the Soviet Union's medical/health-care community is in the greatest need of services from the west.

MPG has joined five other U.S. companies in forming the American Medical Consortium. (HP is the only medical instrument company.) A counterpart Soviet Medical Consortium also has been formed. They will work together to develop a mechanism to exchange rubles for dollars, laying the groundwork for future joint ventures.

At the same time, MPG has made a

separate proposal to the USSR Ministry of Health. "Our intention is to come to an agreement to assemble one of our ultrasound imaging products, the HP SONOS 100, in the Soviet Union," says Ed McDonald, general manager of the Marketing and Distribution Business Unit. Parts that HP can buy there will be identified later.

MPG already has an arrangement with the All-Union Cardiology Center to localize HP's cardiac imaging products in the Russian language.

As western products gain a greater foothold, western management style is also arousing interest. Area personnel manager Chris Cerny, talking to managers of Czech companies, found them soaking up everything about performance evaluations and the HP way, both of which were new concepts.

"Can you talk openly about where you stand in your grade? Can you talk openly with a manager and even be critical—does that really happen?" they wanted to know.

The revolutionary idea of openness is reaching deep into these formerly closed societies. There may be difficulties, but there is no turning back.

—Betty Gerard

America's new Czech-mate

For Shirley Temple Black, U.S. ambassador to Czechoslovakia, living and working on the other side of the world from her Woodside, California, home can be lonely. But she cheered up instantly not long ago while attending an international engineering fair in Brno.

While strolling down an aisle, she caught sight of the Hewlett-Packard logo and "it was like seeing an old friend," says Shirley, whose home is only a few miles from HP's Palo Alto corporate offices.

Being the 24th U.S. ambassador to Czechoslovakia is the latest chapter in Shirley's long and varied career. Known internationally as a child film star (and 1935 Oscar winner as a 7-year-old), she has established a solid reputation as a diplomat and public servant during the past 20 years.

Her experience has included positions as special assistant to the chairman of the Council on Environmental Quality, U.S. ambassador to the Republic of Ghana and U.S. chief of protocol.

Since becoming ambassador to Czechoslovakia in August 1989, Shirley has spoken out on the importance of business and engineering exchanges between the U.S. and Czechoslovakia. "The country needs good joint ventures with American companies," Shirley says.

Shirley is a strong promoter of two-way trade, but her work is cut out for her. Today's U.S. trade turnover with Czechoslovakia is the lowest in East Central Europe, ranking 13th among the importers of U.S. products, and 88th among



It's an exciting time to be U.S. ambassador to Czechoslovakia, says Shirley Temple Black, a 20-year diplomat and public servant who began her duties in August 1989.

exporters to the U.S.

"Technology has a tremendous future here," the ambassador says. "Czechoslovakians are extremely talented. Once they are given things to do besides rolling steel, they will thrive," Shirley told *Measure*.

One area where the ambassador hopes businesses will make an impact throughout East Central Europe is technology related to pollution control. The environment is one of her long-standing interests.

Shirley became ambassador at a time when the new Czech government came to power on a wave of popular support in November 1989. "For the first time," she says, "the people have freedom of worship, assembly and speech." Ironically, 21 years ago as a representative for the International Federation of Multiple Sclerosis Societies, Shirley was caught in the 1968 events of "Prague Spring" when Soviet tanks entered the city to oust the Czechoslovak leader Alexander Dubcek. Her meeting with him was canceled 15 minutes before it was due to take place.

As ambassador, she brings her warmth and diplomatic talents to encourage the growth of friendship

with the new government. She says that even when relations were strained with the Communist government, they were always excellent with the people. Recently, an older man kissed the U.S. flag on the embassy car in a silent and moving gesture of goodwill.

Shirley looks forward to strengthening U.S.-Czech links and to promoting business ties. "In international relations," she says, "you have to use the art of persuasion. I've been quite successful at this and will continue to do so in this job as long as the President wants me here...I'm honored to be serving the President and the American people."

The ambassador says she would not give up her job for anything in the world, but she does miss California. When asked if she had a special message for the HP readers of *Measure* and her fellow Californians, Shirley enthusiastically replied, "Yes! Tell them I miss them and the home area."

—Mary Weed

(Mary Weed is HP's manager of executive and internal communications in Europe. This is her first article for *Measure*.—Editor)

YOUR TURN

Measure readers share their views on matters of importance with employees

A shaky decision

I read with interest the recent article on the Bay Area earthquake. There was one item I found rather odd: We will now have a room at Corporate that “has been stocked with supplies ranging from an emergency generator to flip-boards or a message center. It will serve as a permanent Bay Area command post.”

While this is in itself not so strange, its location is: on the top floor of the Corporate office building! Now stop and think about that for a moment. If the Bay Area suffers a major quake, what happens to big buildings? That’s right, they fall down. It seems a single-story site may have been a better choice.

Am I overlooking something obvious?

STAN JAFFE
Santa Rosa, California

Yes. While the Corporate offices building is, indeed, a four-story structure, it was built in stair-step fashion on a hillside. Each floor has ground-level accessibility. Seismic consultants recommended that HP locate its command post near the top-floor lobby.—Editor

Here's to openness

How many other companies would publish a letter from an employee (admittedly retired) opposing their CEO’s vision of the future (Innovation, not positioning—January-February 1990)?

That’s what makes HP a leader, not a follower, in our industry. Product innovation *with* strategic company positioning are keys to our company’s future. The way we will accomplish this is by using the openness in our culture to share and discuss ideas—

the duty of each HP employee.

The more ideas, the greater the possibilities. Please continue to stimulate debate on our vision for HP in the 1990s through *Measure*.

JO NAYLOR
Sydney, Australia

We've been had

Your article “We’ve been framed” in the January-February issue should have been entitled “We’ve been had.”

Whatever HP paid Anspach Grossman Portugal was too much for such a terrible design. The new stationery is ludicrous! Disjointed lines do not unify; they draw attention to themselves and away from the subject matter! There is nothing unifying about the various elements on page 21; if you were to physically separate them and mask the HP logo, most people could not identify them as elements of a common campaign.

Everyone I’ve asked has the same opinion: We’ve been had.

JOHN ALLEN
Corvallis, Oregon

Extreme bad taste

I think that creating a game (Roadkill Bingo, November-December 1989) for children whereby the object is to scan the highway looking for fatally injured animals lying on the pavement is in extremely bad taste.

Personally, I cannot see one ounce of humor in the fact that animals experience pain, suffer and die on our highways, and to actually base a children’s game on this fact is repugnant, pure and simple.

BOB PETERSCAK
Paramus, New Jersey

On the other hand

Congratulations to Lynn Matson for such a great idea! I remember many six-hour car trips my family and I make from Guadalajara to Mexico City where our parents live, and I think of all of the games we invent to entertain my daughters, Sandra and Susie, 11 and 9 years old.

I congratulate Lynn and his family who work together to create this game.

PATRICIA SANTANA
Guadalajara, Mexico

Where's my Ferrari?

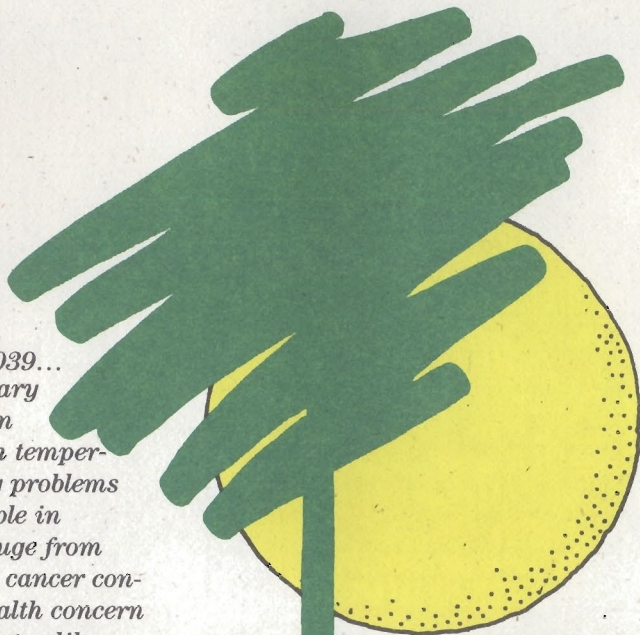
I really enjoyed the article in the January-February issue about Ferrari putting HP to the test. Congratulations to AMSO on a job well done! I just have one question: Do HP employees now receive a substantial discount on Ferrari 348 cars?

MIKE (where’s my Ferrari?)
HARDCASTLE
Roseville, California

Please send mail

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GLOBAL FIBER NEWS SERVICE, JANUARY 2039...

In HP's 100th anniversary year, planet Earth again experienced record high temperatures. Coastal flooding problems left 5 million more people in Bangladesh seeking refuge from rising sea waters. Skin cancer continues to be a major health concern as the number of cases steadily grows each month.

In 50 years, we may be living with a scenario similar to this nightmare. Or, today's "pollution prevention" practices may result in air and water that's cleaner in 2039 than ever before in recorded history. Elaborate and efficient mass-transit systems and vast manufacturing centers that recycle nearly everything might be the norm.

What has become increasingly apparent since environmental issues gained worldwide attention is that whatever our future, it will be determined by the 5 billion residents of planet Earth.

The environmental threats of the '90s are "much more serious" than 20

Only three percent of the Earth's water is fresh water.

years ago, according to Denis Hayes, organizer of Earth Day 1990 and Earth Day 1970. "If the planet as we know it is to be saved," he says, "we must begin to take responsibility."

HP is taking responsibility for the environment in a variety of ways, and this section of *Measure* attempts to introduce some of the key issues and a few of the ways the company's responding. This section won't attempt to catalog all of HP's efforts to address environmental issues. If you'd like more information, contact your local environmental, health and

HP and the environment: a user's guide

safety (EHS) manager or the Corporate EHS department.

"HP is committed to principles aimed at protecting the environment as well as the health and safety of our employees and our communities," says Chief Operating Officer Dean Morton. "We're also committed to practices that anticipate and address problem areas as effectively as possible."

That means, Dean says, we may have problems from time to time. "But we have processes in place to solve those problems."

One of the most effective tools for anticipating problems, according to

Take showers rather than baths.

Dean, is the EHS audit conducted regularly at most HP sites.

"The audit helps managers review their environmental, health and safety programs in great detail," says Dean. "They compare their results to other HP divisions as well as to a standard of performance." Dean and

other members of HP's Executive Committee review all audit reports.

Improvements in controlling wastewater releases from HP sites are another area of interest to top management (see *Measure*, July-August 1989). "We tracked more than 5,000 wastewater samples last year," says Dean, "and we exceeded regulatory control limits nine times. Although our long-term goal is zero limits above regulatory requirements, last year's performance is a dramatic improvement over the 279 instances we saw in 1978."

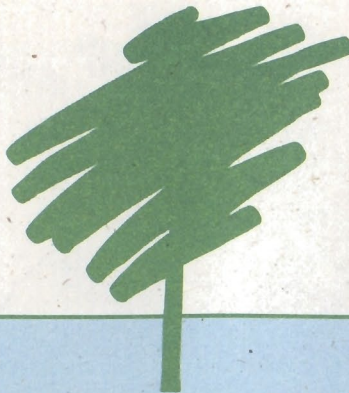
Part of HP's responsibility to the environment is working with local communities to support environmental programs and education efforts and to develop effective legislation:

- HP has helped fund and promote the Chemical Education for Public Understanding Program (CEPUP) in

A running faucet sends three to five gallons of water down the drain every minute.

Fort Collins and Loveland, Colorado, junior high schools and in other communities. CEPUP's goal is to build public understanding about chemicals in today's society.

- For the past few years, HP's grants programs have supported a variety of environmental activities and organizations. In 1989, HP contributed more than \$300,000 to non-profit environmental groups. HP computerized the offices of Conservation International, a worldwide group committed to preserving the Earth's ecosystems. Local U.S. contributions committees made grants to environmental organizations from Massachusetts' Merrimack Valley to California's Yosemite Valley.



■ Employees at HP's Corvallis site last year worked with the Oregon State Public Interest Research Group (OSPIRG), a public advocacy organization, and the Oregon Department of Environmental Quality to develop the Toxics Use Reduction and Hazardous Waste Reduction Act. The legislation limits the quantities and types of chemicals that can be used in manufacturing and disposed of as hazardous waste. "Electronics companies like HP have been much better about working on these issues than other industries," says Joel Ario, executive director of OSPIRG.

Legislation that requires the use of fewer chemicals and more effective waste treatment appears to be a trend in the U.S. California, Massachusetts,

Use rags (they're washable) rather than paper towels to wipe up spills.

Washington and Oregon all have passed or are considering similar laws. HP often brings its technical experts into the process of developing effective legislation that helps solve real environmental problems.

One way to ensure legal compliance with stringent chemical-use regulations, as well as encourage a cleaner environment, is to eliminate the use of chemicals altogether. "One of the most important things we can do as a company," says Dean, "is to minimize any negative impact on the environment. That's a direction we need to move in companywide."

He says several HP sites are already taking the right steps:

■ The Boise, Idaho, site now "designs and manufactures for environmental risk reduction" by including EHS issues along with business and techni-

What can you do?

Individuals—not governments, corporations, organizations or "society"—will ultimately shape the Earth's environmental future. Throughout this section we've sprinkled a few facts about our environment and ideas you can apply now to help resolve environmental problems. After considering the simple steps you can take, "recycle" them by sharing the ideas with friends or family. You might even start your home recycling program today.

cal feasibility issues when reviewing product and process strategies. Protection of the environment, employees, customers and the general public are primary goals when HP designs products.

■ San Diego Division created a Site Chemical Review Council to provide direction, guidance and expertise regarding chemical-related product development issues. Site Environmental Specialist Debbie Sibert says, "the council helps identify potential issues at the product-development stage rather than trying to fix problems after a product is introduced."

Despite increasing competition, expense controls and other pressures, HP's managers need to consider environmental matters as they would other business fundamentals, Dean says. "Excellent companies do all of these things well."

Phasing out CFCs

Among the many chemicals used in electronics manufacturing—some of which are hazardous if not handled properly—there is a family of compounds that is extremely effective, versatile and among the safest for employees and HP communities. These compounds, however, also pose one of the most significant long-term threats to planet Earth's environment.

DuPont developed chlorofluorocarbons (CFCs) in 1930 and soon adapted them to a variety of manufacturing applications. The electronics industry found them especially useful as cleansing agents. High-technology applications today represent about 12 percent of worldwide CFC use.

In the mid-1970s, scientific findings suggested a link between CFCs and a chemical breakdown of the Earth's ozone layer. Ozone in the upper atmosphere screens out most of the dangerous-to-Earth-life ultraviolet radiation from our sun. As CFC molecules evaporate from broken air conditioners, refrigerators, spray applications or uncovered chemical containers, they rise to the stratosphere. A chemical reaction changes ozone molecules to oxygen—a molecule incapable of fil-



tering ultraviolet radiation streaming from our sun, 93 million miles away.

In 1985, scientists discovered a deterioration of the ozone layer over the South Pole, and recent analysis suggests a similar breakdown may be occurring over the Northern Hemisphere as well.

Experts believe that CFCs also influence a possible global warming trend (the "greenhouse effect"). There is general agreement that a decaying ozone layer will, if nothing else, increase the chances for people to get skin cancer.

HP uses CFCs for precision cleaning of electronic components and printed-circuit assemblies, and in refrigeration and air-conditioning systems. Halon, a CFC, is the chief propellant in many of HP's fire extinguishers. CFCs also help

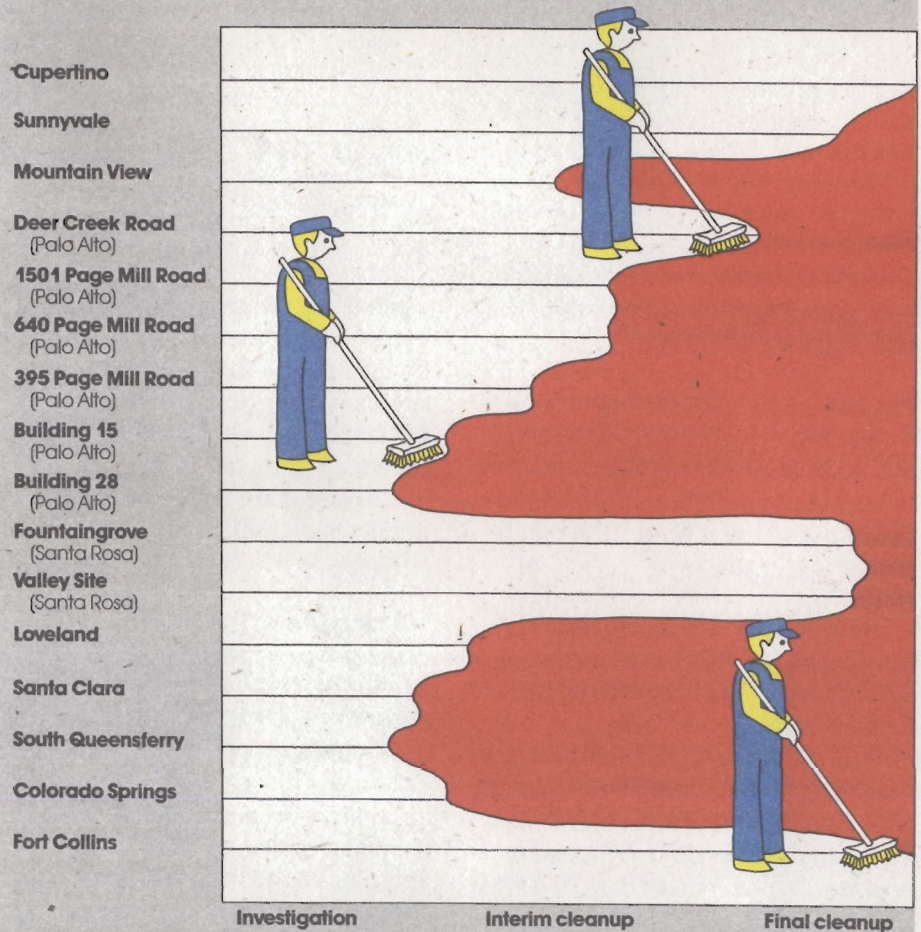
Water plants and grass in the morning to minimize evaporation.

form some of the packing material that sandwiches ready-to-ship HP products.

A companywide survey of CFC use in mid-1989 showed HP's worldwide manufacturing uses alone amounted to some 1.3 million pounds annually. That number may rise over the next year primarily because only CFCs now can satisfy the precision-cleaning demands of surface-mount technology. (As more components are loaded onto printed-circuit assemblies through the surface-mount process, there are more nooks and crannies on the board where oil, dust and other contaminants can accumulate.)

HP already has embarked on a comprehensive program to reduce and eliminate CFCs. The company's timetable is based on a schedule for CFC manufacturers established by the Montreal Protocol on Substances that

Cleaning up our act



Several years ago, local laws required that chemical storage tanks (used by a variety of industries, including electronics manufacturers) be buried underground to minimize fire hazards.

After a number of tanks at other companies leaked, HP began a companywide program to remove or replace all chemical-storage tanks. As HP investigated, however, it found several of the company's tanks also had leaked.

None of HP's leaks to groundwater have contaminated public drinking water supplies. All of these projects are supervised by a local governmental agency, which deter-

mines when HP has achieved "final cleanup." In some cases, it could take as long as 20 years to reach that goal.

This chart illustrates the status of HP's soil and groundwater cleanup projects.

HP's chemical storage tanks are now above ground or partially buried and "double-contained" so that if a leak occurs, a second container surrounding the tank captures the chemicals. Sophisticated monitoring equipment and double-containment make it easy to inspect tanks for leaks, and protect the environment if a leak does occur.

Deplete the Ozone Layer. The agreement, signed by 45 countries in 1987 and now law in the U.S. and many other countries, requires a 50 percent reduction in CFC production by 1998. The protocol is expected to be amended later this year to mandate total elimination of CFCs by the year 2000.

The Corporate Manufacturing Council, a 16-person group responsible for providing leadership and strategic direction to HP's manufacturing functions, recognized the environmental threat posed by CFCs and the ramifications of the protocol's reduction requirements on CFC vendors. The council formed a CFC task force to develop and implement a company-wide program to phase out use of CFCs worldwide.

Hal Edmondson, HP's vice president of manufacturing, named Cliff Bast to

Turn off the water between rinses when shaving, brushing teeth and washing.

head the task force. Cliff serves as strategic planning manager for the Corporate Environmental, Health and Safety department.

The task force includes representatives from nine HP business groups, HP Labs and field operations. HP's CFC use areas—including surface-mount technology, parts cleaning, aerosols, packaging and facilities support—also are represented. The task force is organizing teams to coordinate CFC elimination efforts in the business groups and across application areas.

"The task force has developed a process for monitoring CFC use company-wide and assessing how well HP vendors are reducing CFC use in parts supplied to HP," Cliff says. "We've also

established reduction goals and are implementing a comprehensive reduction plan throughout HP."

Meanwhile, Cliff says, "In typical HP fashion, people are taking actions to reduce CFC emissions and use."

It's clear there will be no single replacement for CFCs, Cliff says. "We will need to test each alternative for

Cars give off 20 pounds of carbon dioxide—a key contributor to the "greenhouse effect"—for every gallon of gas consumed.

its application, and there are serious technical challenges with all of the alternatives. We need to be sure that alternatives do not compromise employee health and safety or HP's product-quality standards."

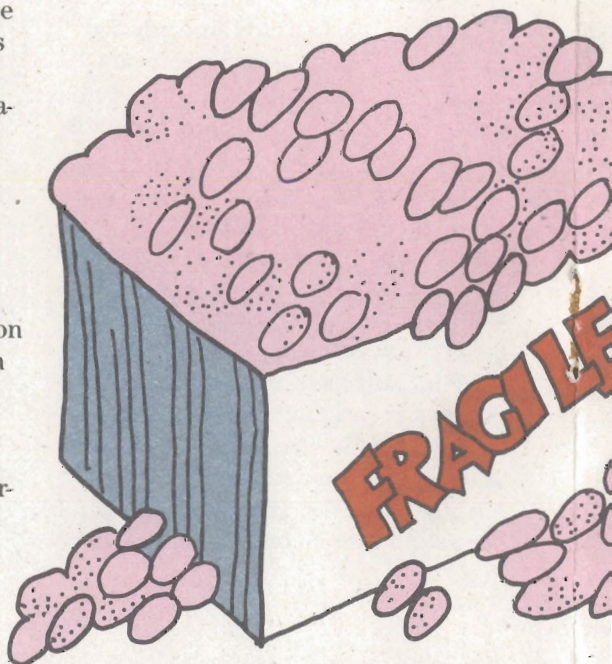
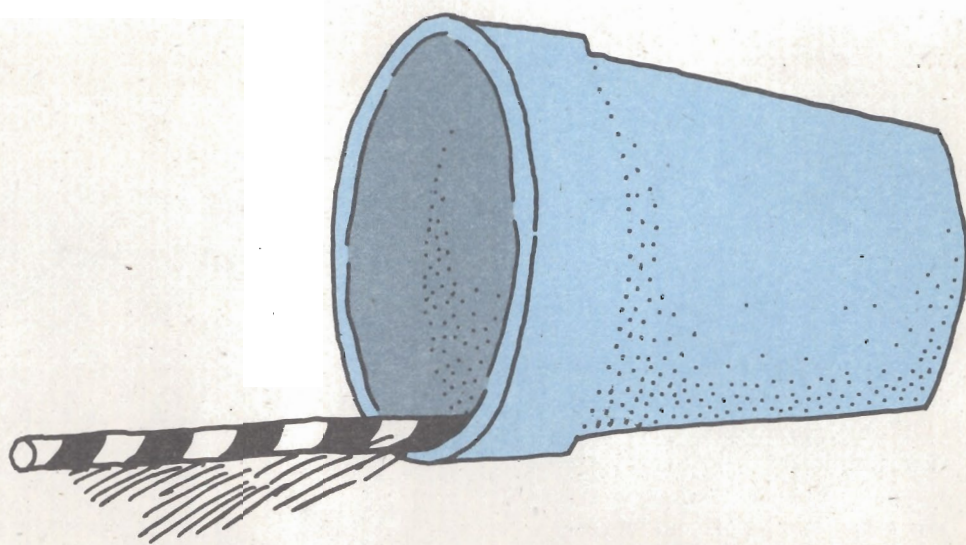
HP's best approach to the CFC problem, Cliff says, is to eliminate CFC use wherever possible, control emissions better where their use is necessary, and work with vendors to test alternative chemicals and processes.

While it could take several years to eliminate CFCs completely, HP is already seeing some impressive reduction results:

- The Microwave Technology Division and Network Measurements Division reduced their CFC use by 25 percent last year by using substances which are less serious ozone depleters and by changing, where possible, to water-

based cleaning methods. Materials Handling Supervisor Ed Bawden, known on site as the "ozone ranger," also serves on the CFC task force as the aerosol team leader. The team has a goal to phase out 90 percent of aerosols within HP by June 30.

- All HP packaging materials will be CFC-free by the end of 1990.
- The Avondale, Pennsylvania, site cut its CFC use by 80 percent in the last six months by replacing CFC-based sprays with carbon dioxide-propelled cans of alcohol solvent and by changing degreasing hardware and processes.
- HP Boise, the largest CFC user in Idaho, has set a goal of eliminating its

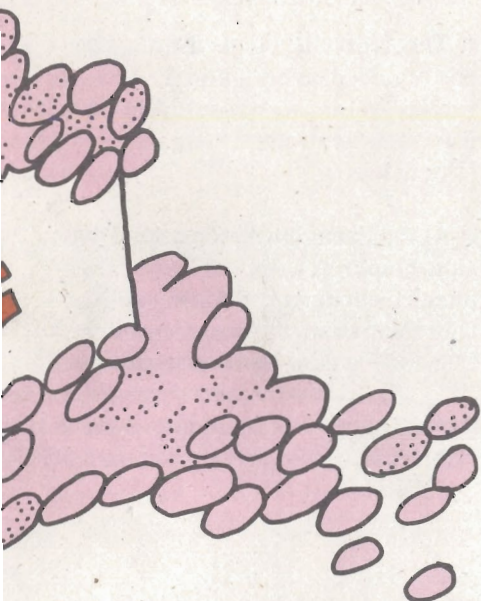


CFC usage completely in four years (80 percent of CFCs were eliminated in the first year). The site has implemented better handling practices to recover and recycle CFCs. It's also created a lab on site specifically to test and evaluate alternative cleaning agents. And it's moving toward water-based cleaning to replace CFCs.

- HP Malaysia has cut CFC use by 40 percent during the last six months by reducing the number of degreasers using CFCs on site, by modifying equipment to minimize CFC emissions and by using non-CFC-based solvents where possible.

- By April, the Direct Marketing Division will begin replacing CFC-based products in the cleaning kits used for disk and tape drives with an alcohol-based solution.

Car tires that are properly inflated, balanced and rotated every 6,000 miles will last longer.



Recycling catches on

Recycling materials other than hazardous wastes can create additional sources of revenue for HP or suppliers, as well as promote good citizenship. Regardless of the motivation, some type of recycling seems to be happening at nearly every HP site.

All of HP's packaging materials are 100 percent recyclable and reusable;

Compact fluorescent light-bulbs use 1/4 to 1/3 of the energy required by an incandescent bulb, and they last longer.

however, many of the foam materials do not yet have recycling alternatives available to consumers. And, says Dave Wells, manager of Corporate Packaging Engineering, "We're working to reduce the amount of materials we use now to pack our products for shipping."

At several HP sites, including those in Canada, all packing boxes are reused as long as possible. Stanford Park Division breaks down boxes and sends the cardboard to a recycler.

Many HP shipping departments have recycling programs in place:

- Lori Ikeda, a process engineer at Support Materials Operation in Roseville, California, developed a system to collect plastic "peanuts" used to pack fragile items for a local vendor who resells them.

- In the San Francisco Bay Area, the wooden pallets that carry and store materials are recycled through a small company. The vendor collects old pallets from many HP divisions, repairs



Recycling Measure

Measure readers have probably noticed this section is printed on recycled paper. This was done for two reasons.

First, everyone, including *Measure*, can make at least a small contribution to solving environmental problems. Second, this is an experiment. The quality of recycled paper is gradually improving, as is printing technology. The *Measure* crew was curious to see how recycled paper would meet the magazine's needs.

In paper alone, this issue costs about 10 percent more than a regular issue. Also, the quality of color reproduction is not up to the standards of most magazines, including *Measure*.

For the time being, *Measure* will continue to use glossy paper. But as recycled paper costs drop and quality increases, readers may find themselves in the not-too-distant-future reading an entire issue of *Measure* printed on recycled paper.

and reconditions them, and resells them—often to HP.

- Loveland Instrument Division's shipping department reduced packaging materials, improved their cushioning and static-free capabilities, and made other changes, saving the division nearly \$350,000 a year.

Most HP sites have a paper recycling program, or are in the process of starting one.

- Last year, three offices in Neely Sales Region—Los Angeles, Fullerton and North Hollywood—recycled 25 tons of white office paper.

- Corporate offices started recycling large-format computer paper in the early 1980s. It began collecting all white paper in 1985. Today, HP is one of Palo Alto's leading recyclers, recovering 120 to 130 tons of paper annually.

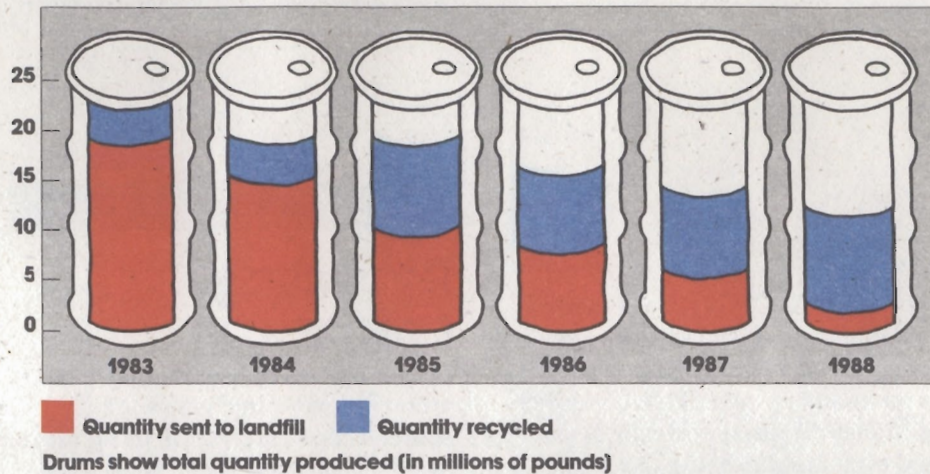
Other HP sites recycle everything from furniture to water to automobile oil:

- When the city of Santa Clara, California, asked HP to reduce water use during last year's drought, facilities engineers developed a process-

Grow a garden in part of your lawn. You'll save water and energy.

cooling loop that recirculates water previously discharged after one use. Now water is used for cooling, then refrigerated, over and over again before it's flushed. Santa Clara site cut its water use by more than 25 percent. The Cupertino, California, site has a similar system in place.

Cutting hazardous waste



- The Fort Collins, Colorado, site "recycles" its used furniture and office supplies, including three-ring binders, by donating them to the local school district.

- Stanford Park Division donates used furniture to non-profit agencies. A recent recipient is the Palo Alto-based international headquarters for Earth Day 1990.

- The Waltham, Massachusetts, site arranged with a local company to collect discarded plastics, including forks and knives from the cafeteria. The company reforms the plastic into flower pots and other household items.

- Cardboard boxes stamped "Cans for Cancer" are scattered throughout the Cupertino site where employees have deposited 4 tons of empty aluminum cans in the past two years. The efforts have generated more than \$6,000, all of which was donated to the American Cancer Society.

- HP Canada recycles oil from the company's fleet vehicles.

A few challenges—such as reusing HP LaserJet printer toner cartridges—lie ahead. While it would be ideal to refill instead of throw away used cartridges, the print quality from a recycled cartridge can't be guaranteed. A team of HP people in Boise is working on the problem.

Cutting back on hazardous waste

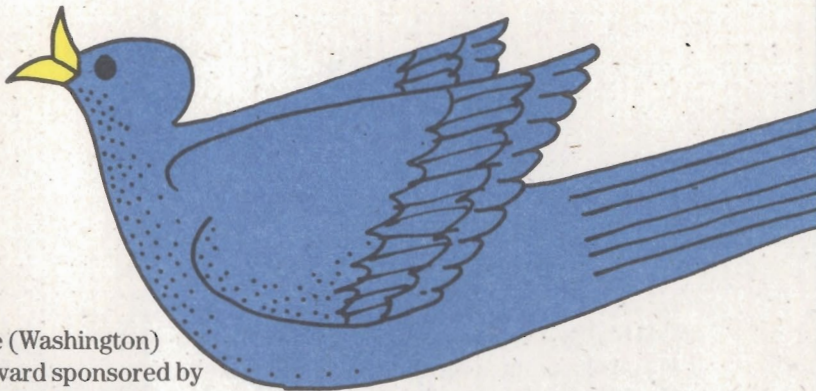
HP today is generating less than half of the hazardous waste it was in 1983. Less HP waste is being dumped in ever-more-scarce landfills. Less waste means that the potential for exposure to the hazardous by-products of our manufacturing processes also is being minimized. Here's how a few sites are helping solve waste-disposal problems:

- The Signal Analysis Division cut generation of hazardous waste by replacing its "bright-dip line" with an enclosed machine to prepare aluminum parts for painting. The site has saved about \$93,000 in waste disposal costs alone, and the enclosed system minimizes the chance of chemical exposure to employees.

- The Avondale, Pennsylvania, site has replaced its bright-dip line with a similar system. As a result, Avondale uses its wastewater treatment system less.

- At the Panacom Automation Division, employees separate metal fragments from machine-cutting fluid and ship them to smelters for recycling. The cutting fluid also is recycled.

- The Components Group in San Jose, California, the State of California, and a vendor are working to reduce sol-



vents and a waste material containing gallium arsenide. New technology could reduce solvent waste by 70 percent and remove 90 percent of the gallium arsenide from one of the plant's waste "streams." The gallium arsenide project will be running by mid-1990. Installation of the first solvent waste reduction equipment is scheduled for 1991.

■ At Böblingen, West Germany, HP people modified the surface-mount board washer line to reduce Freon evaporation by about 75 percent.

■ At the San Jose site, production workers and technicians who handle acids cut hazardous waste simply by

Walk or bicycle, instead of driving your car, once this week.

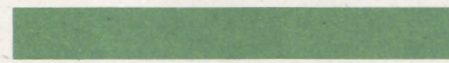
rinsing gloves before discarding them. Once the acid is removed from the gloves, they no longer have to be treated as hazardous waste. And the rinse water is "cleaned" by the site's wastewater treatment system.

Some of HP's waste minimization programs have won awards.

■ HP Boise in December received the Governor's Award for Waste Reduction. More than \$1 million in equipment and other improvements help the site reduce the amount of waste generated and recycle 90 percent of its remaining wastes.

■ The San Jose, California, site and Stanford Park Division have won awards from the California Water Pollution Control Association for the design and operation of their wastewater treatment plants.

■ In 1987, Spokane (Washington) Division won an award sponsored by the county engineer's office for its chemical-spill containment program. The program is a model for similar efforts elsewhere in Spokane County.



It's up in the air

The air we breathe is, generally speaking, cleaner today than it was 20 years ago. Yet the world is still dealing with serious air-quality issues, and HP is no exception.

Beginning in 1986, a U.S. law required large users of certain chemicals to report releases (including air emissions, and water and off-site discharges) of these chemicals from manufacturing facilities. Local, state and federal agencies regulate the releases. The legislation better informs local residents about chemical use in their communities.

According to data compiled under the Superfund Amendments and Reauthorization Act of 1986 (SARA), 16 HP sites released to the air 1.6 million pounds of chemicals listed under the law during 1987.

"This was the first time industry was required to track and report releases

People require oxygen and produce carbon dioxide. Trees require carbon dioxide and produce oxygen. Plant a tree.

of these chemicals," says Larry Holbrook, manager of Corporate Environmental, Health and Safety.

It also was the first time chemical-emissions data were available to the general public. The U.S. Environmental Protection Agency organized the

information on a database available to anyone with a computer and modem. Several environmental groups used the data to create lists of the worst "polluters" in the U.S. In the San Francisco Bay Area, emissions from five facilities caused HP to be included in a "dirty dozen" list of 12 companies reporting the highest chemical emissions in Silicon Valley.

Double-side photocopies. Use the reverse side of paper for notes.

In SARA's second year, measurements at 18 HP sites showed that releases increased 14 percent over those reported in 1988. While HP may have done a better job of estimating annual emissions during the second year, it's likely HP's chemical use (and therefore its emissions) increased.

Dean Morton and other members of HP's Executive Committee have, through Larry's department, asked all HP sites to review site emission sources, look for reduction opportunities and include emissions reductions in site operations plans. Every site will be required to account for changes in emissions and share best practices for lowering emissions when the '89 figures are submitted to Corporate EHS this spring.

HP sites have started to cut emissions, but, Larry says, substantive drops won't be reported until the end of this year.

The Loveland, Colorado, site's air emissions alone accounted for 760,000 pounds at the end of 1988—roughly half of the air emissions reported by

all of HP. "By eliminating two chemicals and changing processes, Loveland will report 80-90 percent fewer emissions when the 1990 numbers are reported next year," says Larry.

While cutting air emissions may be the right thing for HP to do, these efforts won't solve air-pollution problems. In urban areas, it's automobiles,

At the grocery store, ask for paper bags instead of plastic (or, better yet, bring your own bags).

not industry, that contribute about 40 percent of smog problems.

With more cars on the road, traffic congestion—and the pollution that goes with it—will continue to choke roadways and the air unless people seek alternatives to the one-person, one-car mindset.

HP implemented its "On the Move" commute-alternative program in 1988

Turn your thermostat down 5 degrees F and put on a sweater. Set your water heater at 120 degrees F.

to help address traffic and commute issues. Since that time:

- Participation in a San Francisco Bay Area commute-alternative program increased to 24 percent (versus 17 percent before the program began).

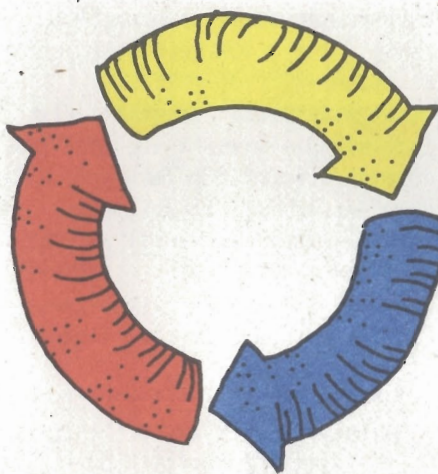
- At HP's Waltham, Massachusetts, site, employees choose from commute alternative programs that are co-sponsored with other local companies.

- In Southern California, HP employees have responded to mandatory regional programs (the first of their kind in the U.S.) by doubling carpool

participation and using company-sponsored shuttles from mass transit stops to HP facilities.

- In Colorado, HP employees are involved with a state clean air campaign focused on reducing wood-smoke (by limiting wood burning in fireplaces), encouraging transportation alternatives and supporting legislation to require automobile emissions testing. —Kevin O'Connor

(Ecology-minded Kevin O'Connor, HP's manager of community relations in Corporate Public Relations, rides to work in a vanpool three days a week. He last wrote for Measure about HP Aviation in the May-June 1988 issue.—Editor)



Earth Day 1990

If Denis Hayes has his way, April 22—Earth Day 1990—will change the world. Denis, chairman of Earth Day 1990, is encouraging events in thousands of communities around the world to draw attention to environmental issues.

HP will be participating in several ways:

- John Young serves on the board of directors of Earth Day 1990. John is encouraging business leaders to communicate with employees and community residents about companies' efforts to support key environmental issues.

- HP has a focused program within its philanthropic budget for research and educational grants to environmental organizations.

- HP has loaned office equipment to the Earth Day 1990 international headquarters in Palo Alto, California.

- Some HP sites will sponsor EHS open houses and "brown bag" sessions to inform employees about entity environmental issues.

Earth Day 1990 is the 20th anniversary of the original Earth Day, an event that influenced U.S. environmental legislation and creation of the U.S. Environmental Protection Agency.

A rocky start, then it was all downhill

The ski conditions may have been a bit rocky, but spirits were high during the first HP European Ski Race/Games at the La Plagne, France, ski resort in January.

More than 160 HP employees from nine countries took part in the frivolity, including three teams from France, two from Switzerland, one each from Italy and Germany and a "rest of the world" team made up of employees from Denmark, England, Finland, Scotland and Sweden.

The Swiss captured both the first and second-place honors, and agreed to host next year's contest according to event organizer Marc Devie.

right

Alfredo Vitale from HP's Turino, Italy, sales office competes in a relay race where entrants slide down a slalom course in a luge and hand the luge to a snowshoe-wearing teammate who sprints back to the starting line.



PHOTOS BY JEAN VOBORIL AND PASCAL CHEBANCE



above

Dietmar and Birgit Becker from Bad Homburg, West Germany, team up for the luge portion of the team relay race.

right

The first and second-place HP teams from Switzerland celebrate their victory and invite participants to next year's ski race and games.





above
Frederic Tordo sheepishly accepts the fifth-place trophy on behalf of the Grenoble, France, "B" team.



above
Jeff Smith from Scotland prepares to represent the "rest of the world" (ROW) contingent in the downhill skiing competition at the La Plagne, France, resort.

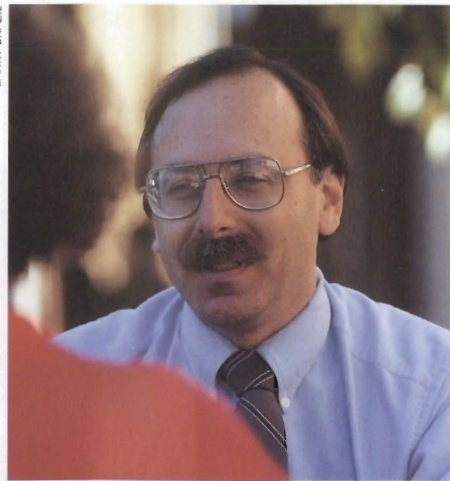


left
A member of the French B ski team streaks down the hill during the slalom event.

Extra

ORDINARY





Joe spends his HP work time as a mild-mannered engineer for CTG.

he smiles and says, "They aren't so different, you know. I've always wanted to know how things work."

Joe had an interest in magic as a child, but didn't really do anything about it until the mid 1970s. Bill Bixby had a television show called "The Magician," and Joe watched religiously. Joe's wife bought him some card tricks for Christmas without knowing what she was starting.

Before long Joe found a magic shop in town. It took him a while to get up the courage to go inside, but he finally

"You can master the mechanics of a trick fairly easily, but that's just the start."

made it. He bought a new trick and met the proprietor, who directed him to a local magic club.

After calling, he cautiously attended a meeting. "I was worried about going into a room full of magicians. I was afraid of what they might think of me. I could come out transformed into a toad or something," Joe says. His fears proved to be groundless. Everyone was friendly and helpful. He joined the group and held several offices, including three years as president.

He continued to buy and learn new illusions, and with practice improved his execution. He frequently performed illusions for his family and friends. If you were a guest in his

home, he wouldn't show you vacation slides, he'd do magic. As he became more adept, he helped some of the club magicians in their acts.

It was at this point he realized he had to improve as a performer. "A good magician is a good performer," he says. "You can master the mechanics of a trick fairly easily, but that's just the start. You have to perform to put the trick over. You must present it in an entertaining way, so people will enjoy it. You need patter, misdirection, gestures and voice projection... acting."

Joe characterized this period as an "early mid-life crisis." He had always had an interest in acting, but lacked the incentive to do anything about it. He considered the prospect of retirement and a rocking chair with lots of time to ruminate and regret never having tried. That thought provided the incentive.

Joe attended adult-education workshops and acting classes. He joined a local community theater in 1976 in which he was active until just a few years ago.

As he combined and polished his acting and magic skills, he began doing shows. By 1979, he created a routine and started performing at children's parties. The parties provide more opportunity simply because there are more of them than adult events. They are, however, very different. They're tough work and require patience.

One might think children are an easier audience for magic than adults. After all, adults are experienced and sophisticated, so children should be easier to fool. "*Au contraire*," says our wizard. "An adult's sophistication and

We know of a mild-mannered reporter who spends his free time in pursuit of truth, justice and the American way. But what does a mild-mannered engineer do?

Joe Oliverio is such an engineer—soft-spoken, accommodating and immersed in his work as a member of the marketing staff in design systems marketing for the Circuit Technology Group in Santa Clara, California.

Joe's so quiet you may have to lean forward in your chair a little to hear everything when he speaks. He smiles and laughs amidst the inevitable office banter, but seldom initiates it.

Joe is a listener.

But somewhere deep in the heart of this amiable engineer lies something no one would ever suspect from his day-to-day demeanor—the soul of a performer. While no one is watching, Joe removes his glasses, slips into a nearby phone booth where his mind and body undergo their metamorphosis and emerges in a magician's tuxedo.

On stage, Joe works the audience like a pro. Gone are the introversion, quietness and reticence. His voice can be clearly heard in the back row. He moves smoothly and professionally from one illusion to another, mystifying his audience. There is a steady stream of dialogue and humor with each illusion and during the transitions. He calls people on stage to participate and they leave giggling—still not knowing how the trick was done.

Knowing how it's done seems to be the key to this apparently contradictory man. When asked to explain his contrasting persona of unassuming engineer and performing magician

There's nothing up magician Joe Oliverio's sleeve—or is there, wonders Schallenberger Grade School student Mandy Ricci.

Extra

ORDINARY PEOPLE

experience work to the magician's advantage. Magic is based on simple scientific principles. You just change it around a little bit and present it in an unexpected way.

"If a magician presents something which adults know proceeds A to B to C, their minds jump from A to C," Joe says. The magician changes B, and C becomes something unexpected. Children don't do that. The world is still wondrous to them. Everything is

...we all, deep down, have a little voice which tells us there's still some mystery in life.

magic. Pulling a rabbit out of a hat doesn't necessarily amaze them. Maybe it's supposed to be that way."

Joe agrees with author Arthur C. Clarke that any sufficiently advanced technology will appear to be magic. Imagine what an adult from 1790 might think of computers, automobiles, moving pictures or even electric lights.

The appeal of magic is universal and cross-cultural. Joe believes we all, deep down, have a little voice which tells us there's still some mystery in life. We see an airplane fly and think we understand it, but do we, really? If we don't really understand it... it's magic. It's much the same as what that person from 1790 might feel. Besides, we want to believe. The audience has a tacit contract with the magician—convince me. And Joe fulfills his contract.

Magic has been with us throughout recorded history. Shamans, sorcerers, wizards and magicians were powerful figures to be feared. It wasn't until the



Schallenberger Grade School student Richard Wimberly casts a suspicious glance as Joe performs another sample of prestidigitation during a recent performance at the school.

mid-1800s that magicians became commonly accepted as entertainers. Jean Houdin (1805-71), a French clock maker, became a professional magician at the age of 40 and promptly revolutionized the art of magic. He wrote the first textbooks which treated magic scientifically. He created ingenious stage mechanisms and combined them with effective presentations to popularize the profession. He was so revered that many years later, an escape artist simply added an "i" to create the stage name Houdini.

Joe's act has come a long way from those early children's parties, although he still does them. He performs frequently in the San Francisco Bay Area at an Italian-American Festival, the Almaden Art and Wine Festival and

private parties, as well as many HP events. He also teaches magic in a program for fourth and fifth graders.

Like all magicians, Joe jealously guards the secrets behind his illusions. The most often-asked question after a show is, "How did you do that?"

In reply, he smiles with a twinkle in his eye and says softly, "It's magic!"

—John Fisher

(When not performing his sleight-of-hand for Measure, John Fisher is a learning products developer in design systems marketing for the Circuit Technology Group in Santa Clara, California. This is his first Measure story. —Editor)

LETTER FROM JOHN YOUNG

President John Young discusses the importance of the environment and work-force balancing.

This issue of *Measure* includes two important topics, ones which will be even more so in the future: the environment, and our efforts to achieve the correct employee staffing and skill levels throughout HP.

Every day we see or hear stories in the media about environmental issues ranging from acid rain and air and water pollution to traffic congestion. It's clear that companies and individuals must join with national and international efforts to help define and solve these problems.

HP has a fine record of achievement in this regard. Our responsibility for protecting and enhancing the environment is spelled out in our corporate objectives. And we demonstrate this responsibility in a number of ways: We build attractive and energy-efficient buildings, we recycle materials wherever possible, we dispose of waste in a responsible manner and we work on commute alternatives.

However, society's expectations are rising. Only in the last few decades has anyone been able to measure pollution levels accurately, thanks in part to advancements in analytical instrumentation developed by HP.

Now that we're better informed about the extent of these problems, the more difficult tasks lie ahead—to analyze the data to be sure the problems are correctly characterized and to help develop solutions that contribute to an improved quality of life within realistic economic constraints.

While there's no shortage of environmental challenges for HP, we have a well-established program I think we can be proud of and a record of initiatives. We don't wait for problems to escalate before we actively grapple with solutions. Many times we've accepted responsibility and taken



Jack Strukel and Theresa Brown from the Northwest Integrated Circuits Division explain their T&C Project to John Young.

action long before it was mandated. You'll see several examples throughout this issue.

I'm confident we can continue to rely on HP people—individuals, small teams and company efforts—to develop effective solutions. The best approach, of course, is to anticipate problems and prevent them. We need to factor environmental considerations into product development, manufacturing, marketing and support. Fixing the problems later is costly for the company and carries an environmental price tag.

Just as we need to manage our natural resources carefully, we also need to exercise good judgment in managing our human resources. That's one of the primary goals of the redeployment program HP has under way in the United States.

Ours has always been a fast-paced business, but the pace of change is accelerating at ever faster rates. Today, companies and employees face the challenge of maintaining that rapid pace. That means that companies and individuals have to adapt faster than ever to new technologies, disciplines and shifts in our business.

Keeping pace may mean any number of changes: embracing lifelong learn-

ing, taking on entirely new responsibilities, transferring to a different department or relocating to another.

Fortunately, because of HP's size, product diversity and financial strength, we can absorb many of the shocks that are reverberating through our industry. We can control hiring and use other work-force balancing tools to redeploy segments of our work force to make sure we have the right number of people where they're needed most.

This constant readjustment isn't a painless process. If your job was in Cupertino, California, and now it's in Roseville, California—or Boise, Idaho—for example, you may be faced with a difficult dilemma of whether or not to make that change.

As difficult as that decision may be, we still believe it's better to offer these kinds of alternatives.

As long as HP is going to be in the fast-paced electronics industry—and that's going to be a long time still—the need to balance our work force is likely to be a constant companion.

HP has a long and envied track record for choosing businesses that provide employment stability and for managing our work force wisely. Our people are multitalented and continue to gain new skills. And these new skills help employees contribute to HP's success for several years.

That partnership between our company and our people is vital to help us succeed in turbulent times.

EXTRA MEASURE

On the road again

Ever get the urge to sell everything that won't fit in a five-foot trunk, hop on a plane and spend a year "away from it all?"

Scott Bischke and Katie Gibson did just that in 1987. The result is Scott's first book, *Two Wheels Around New Zealand: A Bicycle Journey on Friendly Roads*.

Just published by Pruett Publishing Company, the 249-page book chronicles Scott and Katie's 8,000-kilometer travels through New Zealand, a bit of Australia and part of the South Seas.

Katie was an electrical engineer at the Fort Collins (Colorado) Systems Division and Scott was a chemical engineer in Boulder, Colorado, before the couple embarked on their journey, filled with "adventures and follies."

Scott, who spent most of 1988 writing *Two Wheels*, is now a manufacturing process engineer at HP's Inkjet Components Operation in Corvallis, Oregon. Katie is back in school getting a master's degree in computer science.

What's next for the adventuresome twosome? "We're looking into traveling in South America, Southeast Asia or Siberia," Scott says.



Sturdy bicycles and smiles helped sustain Scott Bischke and Katie Gibson during their New Zealand trek.



Our reputation succeeds us

The top executives of U.S. corporations have named HP No. 1 in the computer category for *Fortune* magazine's annual corporate reputations survey.

The nearly 8,000 corporate executives, directors and financial analysts scored 305 major U.S. companies on quality of management; quality of products or services; innovativeness; long-term investment value; financial soundness; ability to

attract, develop and keep talented people; community and environmental responsibility; and use of corporate assets.

HP ranked 20th among the 305 companies and first among computer companies. The top company overall? Merck, the pharmaceutical corporation.

Design For Testability



Workstation



Software



Microchip



Mass storage



BOTTOM LINE

Hewlett-Packard reported a 17 percent increase in net revenue and a 9 percent growth in orders in the first quarter of its 1990 fiscal year ended January 31.

Earnings from operations were \$274 million, down 2 percent from the previous year's first quarter. Net earnings totaled \$173 million, equal to 72 cents per share on some 239 million shares of common stock outstanding—down 10 percent from net earnings of \$193 million or 83 cents per share in the year-ago quarter.

Net revenue was \$3.1 billion, up from \$2.7 billion in the year-ago quarter. First-quarter orders were \$3.3 billion, up from \$3.0 billion the previous year.

CHART CHANGES

In the Peripherals Group, the former Greeley Hardcopy Operation has been elevated to division status under **Doug McCord** as general manager.

The former Microwave Test Accessories Operation and Microwave Technology Divi-

sion are now combined in a single entity which retains the latter name. GM is **John Shanahan**.

In the Workstation Group, the former Corvallis Information Systems Operation has been renamed the Interface Technology Operation.

NEW HATS



Bob Ritchie has been named HP's first director of University Affairs, with initial focus on U.S. universities.

Sandy Chumbley to GM of the Electronic Design Division within the Engineering Applications Group.... **Jim McCabe** to GM, Fort Collins Systems Division.

GETTING TOGETHER

Hewlett-Packard and Sequoia Systems Inc. announced a strategic relationship under which HP has exclusive rights to distribute Sequoia's fault-tolerant computers to the telecom industry. HP will buy 10 percent of the privately held company.

circuit dictionaries.

Measure will print more of Rand's handiwork as space allows.

Rand draws funny conclusions

Rand Kruback sees the world a little differently than many people. When someone says "microchip," he's liable to think of tiny potato chips, rather than miniaturized electronic components.

It's that sense of humor that has made Rand, a senior graphic designer at the Loveland (Colorado) Instrument Division, a popular illustrator and cartoonist. In fact, he has published two books of humorous electronics and integrated-



THE PENINSULA TIMES TRIBUNE/JOE MELENA



The most generous of the generous

With more than \$50 million in contributions during 1988, HP has earned the title of most generous corporation in the U.S.

The award comes from the Public Management Institute (PMI), a publishing and research firm. The \$55 million in contributions was 4.4 percent of HP's net earnings before taxes that year.

About 92 percent of HP's contributions went to schools, primarily new products used for instruction in computer science, engineering, medicine and business.

PMI praised HP's educational support which "demonstrates the enormous impact a socially responsible company can make on improving the quality of life for everyone."

(In 1989, HP gave more than \$70 million.)

When Tom Taylor couldn't find a warehouse to call home he got the idea for a 35-foot-high "warehome."

Home sweet home is a corrugated castle

Tom Taylor has figured out a way to beat the high cost of home ownership in Palo Alto, California.

Tom, a marketing product manager at HP's Finance and Remarketing Division in nearby Mountain View, bought a Palo Alto lot which was zoned for commercial development and built a corrugated, 35-foot-high "warehome."

Tom and his wife, Kath-

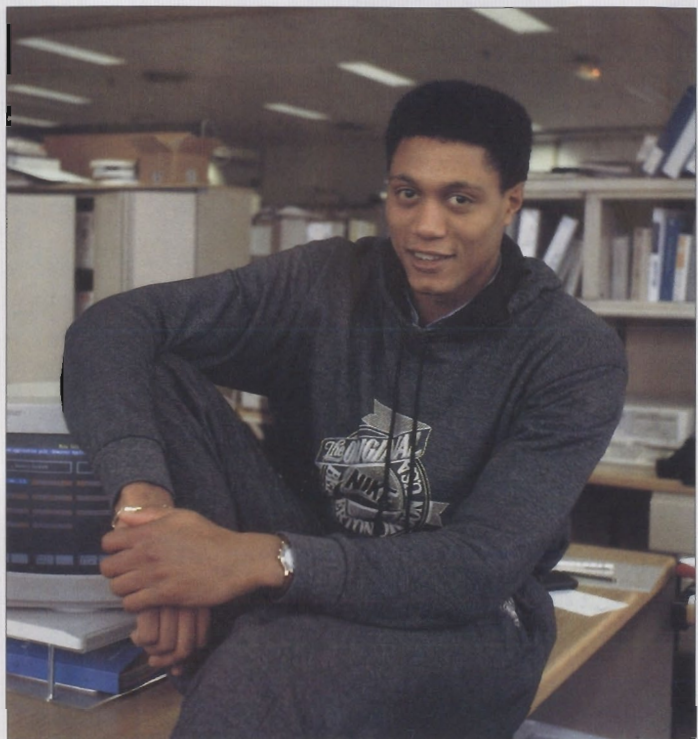
leen, began looking for a warehouse they could convert into a home. When they couldn't find one, they got the idea for the corrugated castle. They broke ground on April Fools' Day, 1989.

"April first has always been a significant date in our lives," Tom told Palo Alto's *Times Tribune* newspaper.

The three-story structure has two bedrooms, 2½ baths and a 450-pound stone fireplace mantel that once was part of a San Francisco street curb.

Because the property is zoned commercial, Tom was able to build a house three times larger than the city would allow under the city's new house-size limits.

The total price of the lot and house is \$350,000—about half the cost of a comparable-sized house in the expensive Palo Alto area.



Sprinter Bruno Marie-Rose from HP France is gearing up for '92.

France's Bruno is in the running

HP employees in France will have an extra reason for cheering for one of their countrymen during the 1992 Olympic Games.

Bruno Marie-Rose, who spends most of his daytime creating an international information data base in HP's Evry office, also is one of France's fastest sprinters.

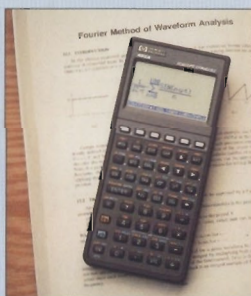
Bruno, who joined HP in 1989, holds the world

indoor record in the 200-meter dash—20:36.

He'll continue training in his spare time for the 1992 Olympic Games in Barcelona, Spain. In the next two years he'll compete in championship competition in Split, Yugoslavia, this year and in Tokyo, Japan, in 1991.

NEW PRODUCTS

The Corvallis Division's new **HP 48SX** is the world's first calculator to interface with personal computers and operates with a two-way infrared interface. Also introduced in January 1990 were two top-end financial calculators which operate in both the common algebraic-entry mode and HP's reverse Polish notation (RPN).



HP PHOTO

HP 48SX

The industry's first **workstations** based on the powerful new 50-MHz version of the Motorola 68030 microprocessor were introduced by the Workstation Group.

The **HP 6652A**, **6653A** and **6654A** are the first models in the New Jersey Division's new generation of HP-IB controlled-system dc power supplies.

Stanford Park Division's new **HP 11758T** digital-radio test system

provides a portable test solution for fixed point-to-point microwave-digital radios.

Six new plotters have replaced products in the San Diego Division's two high-end product families: the **HP 7600** series electrostatic and HP DraftMaster pen plotters. Both are based on HP-GL/2, an advanced graphics language to be used in all future HP plotters.

New from the Scientific Instruments Division is the **HP 1947A** advanced graphic-chromatogram processor, which adds new graphics power to the **HP 3350A** and **3359A** laboratory automation systems.

A major introduction from the Networked Systems Sector brought together 24 new computer systems in the **HP 3000** and **HP 9000** product lines, along with new peripherals and manufacturing software.

The **HP Series 6400 Models 1300H** and **1300S** digital-data-storage-format tape drives from the Computer Peripherals Bristol Division use DAT technology to store large amounts of data on cassettes.

PARTING SHOT

Saving from the ground up

When it comes to buildings, HP's environmental concerns literally begin at the ground floor and go up.

There are a number of ways the company considers efficient use of energy in buildings it designs or upgrades, including:

- Overhauling boilers and adding extra ceiling insulation in older buildings.

- In new construction HP incorporates energy-conscious features such as variable-volume air handling systems (which use outside air for "free cooling" much of the year), insulated glass, and efficient heating, ventilating and air-conditioning systems.

- HP has heavier electrical loads than many companies because of the many computer rooms and terminals, says Jim Pettegrew, engineering manager in Corporate Real Estate. However, he notes, HP often goes to extra lengths



Jo Dee DeVries of Corporate Site Services checks the drip-irrigation system outside the Corporate offices in Palo Alto, California, as part of HP's water-conservation program.

to help curtail energy use by installing solar heating, movable blinds on outside windows (to cut down on air conditioning) and more efficient lighting levels with energy-saving lamps and ballasts.

- Each site facilities team finds ways to make the

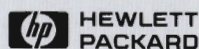
plant run as efficiently as possible, given local needs.

- Since 1975, Clarence Colley of Corporate Real Estate has incorporated the concepts of water reclamation and recycling in the design of all new HP buildings.

- HP plants drought-resistant plants and uses drip irrigation and reclaimed "grey" water to reduce water use in landscaping.

"We have a responsibility to use energy wisely at home and at work," Jim says. "We can all help."

MOVED LATELY? CHANGE OF ADDRESS SHOULD BE REPORTED TO YOUR PERSONNEL DEPARTMENT.



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