



Californians hoist placards in 1982 protest against chipmaker that polluted their water

Sounding the Tocsin for Toxins

Chemical pollution tarnishes an industry's clean image

High-technology entrepreneurs like to boast that their business is nonpolluting and environmentally sound. But every industry carries environmental risks, and electronics is no exception. The manufacture of computer chips, for example, requires acid baths (to etch microscopic circuits onto tiny ceramic wafers) and ways of industrial cleaning fluids (to wash away extraneous specks). And where there are powerful chemicals, waste-storage difficulties are not far behind.

Pointing up this problem, a recent California survey showed that 36 of 49 underground storage tanks in the high-tech Silicon Valley were leaking. The seepage contaminated surrounding soil and fouled pockets of ground water beneath such communities as Santa Clara, Mountain View, Sunnyvale and San Jose. The California assembly, following the lead of eight cities in Santa Clara County that have passed ordinances to prevent such spills, has approved a tough toxic-control law. As the measure moves on to the state senate, the mellow industrialists of Silicon Valley, to their acute discomfort, find themselves accused of poisoning their own hot tubs.

"This was once a nice, typical California town," says Lorraine Ross of San Jose, one of 266 plaintiffs in a multi-million-dollar suit against the local plant of the Fairchild Camera & Instrument Corp. She and her neighbors are charging Fairchild with negligent contamination of a public well serving 700 residents. They are also holding the company responsible for seven deaths in the past three years, as well as a number of miscarriages and birth defects. "People here were health conscious," says Ross, who blames the congenital heart ailment of her two-year-old daughter Juliana on toxins from the tainted well. "There were

so many medical problems on our street we joked that maybe we were living on a toxic dump."

The area's problems first surfaced four years ago, when noxious gases from burning chemicals at a series of industrial fires felled both fire fighters and bystanders. There were also reports of workers who suffered adverse reactions to chemicals at microchip firms. One 19-year-old, hired to work around storage tanks at a semiconductor company, began vomiting uncontrollably after less than a week at the job.

The issue came to a head early last year, when Fairchild and Intel Corp., another local chipmaker, reported two major leaks in as many months. At the Fairchild plant in San Jose, workers discovered that a faulty storage tank had discharged some 13,000 gal. of a mildly carcinogenic solvent called TCA into the underground water supply. A few weeks later, Intel announced that a concrete vault had leaked, and that traces of a strong carcinogen, TCE, had turned up in a farmer's well near by. Fairchild has spent \$10 million cleaning up its spill, and the company steadfastly maintains that no link between its leak and any specific maladies has been established.

The problem may not be California's alone. Last February a Motorola plant in Phoenix reported a "significant" TCA spill, and Massachusetts authorities are investigating a site near Route 128 for possible high-tech contamination. Meanwhile, the West Coast chipmakers are busy installing double-walled containers and automatic warning systems that can add \$20,000 to the cost of a \$40,000 tank. "You bet we're out to protect our image," says an Intel spokesman. "But we're also doing this because we should be."

Screen Test

Discounting VDT hazards

Since it was introduced into the American workplace in the 1960s, the video display terminal (VDT) has become an indispensable tool for 10 million clerical workers, typesetters, writers, editors and computer programmers. But as the number of people who regularly use VDTs has increased, so have complaints that long-term exposure to the machines can cause a variety of afflictions, including muscle fatigue, eyestrain, cataracts and miscarriages. Two years ago, a panel of vision experts and psychologists assembled by the National Research Council began a scientific investigation of the effects of VDTs on eyesight.

Last week, in a 273-page report, the twelve-member study group concluded that there is no scientific evidence linking VDTs with eye disease or cataracts. Moreover, the report placed the blame for many ailments associated with VDTs on such environmental factors as poor lighting and stressful office conditions. Summed up Panel Chairman Edward Rinalducci, a professor of psychology at the Georgia Institute of Technology: "Our general conclusion is that eye discomfort, blurred vision and other visual disturbances, muscular aches and stress reported among VDT workers are probably not due to anything inherent in VDT technology."

The panel did not address isolated reports of clusters of abortions, miscarriages and birth defects among women exposed to VDTs, but noted that other research judged VDTs to be an unlikely cause. Because of its findings, the panel opposed any move to set mandatory standards for VDTs and concluded, "It seems likely that with proper design of VDT display characteristics, workplace lighting, work stations and jobs, VDT work need not cause any unique visual problems."

The report's conclusions met with some dissent. Panelist Lawrence Stark, a neurologist at the University of California, while agreeing that VDTs do not cause permanent eye damage, contested the view that they are not responsible for eye fatigue. "The report is a whitewash for the status quo," said Stark. "All the complaints of burning, eyestrain, headache, stinging, watery eyes connected with VDT use are valid claims. Just because you can not measure visual fatigue does not mean it does not exist."

VDT manufacturers have replied that they are indeed concerned about visual fatigue and have made suggestions on how to modify environmental conditions like glare. Until employers agree to institute those changes, however, some VDT users may just have to squint and bear it.