

Chemicals, chips and health

EIGHT former employees of Advanced Micro Devices, the Sunnyvale company that is the ninth largest integrated circuit producer in the world, are suing the company. The eight women are demanding millions of dollars in damages for what they claim are work-related injuries stemming from extensive exposure to toxic chemicals and gases used in the fabrication of semiconductors at AMD.

Two weeks ago today, in West, the Mercury News' Sunday magazine, we published an exhaustive investigation into the circumstances behind these lawsuits. The article, written by Edward O. Welles, posed a question that many people have asked: How safe is the booming new high technology industry — the one that gives employment to so many people of the region and that gave Silicon Valley its name?

Until now, news stories about the hazards of the industry have focused primarily on damage to the environment, particularly groundwater, from high tech's toxic wastes.

But what about the work place inside? Are the same toxins polluting the workers? Are there human side effects that may take years to detect, when it will be too late for cures?

Welles' story, while not pretending to provide comprehensive answers to these troubling questions, is a starting point for serious public discussion.

It is the story of eight women who worked at AMD surrounded by myriad toxic chemicals, solvents and gases, and who believe that their years of exposure are the cause of a variety of physical and behavioral disturbances that now afflict them.

One, Nancy Hawkes, who worked for AMD for more than four years, has been diagnosed as suffering from "chemically induced T-cell inadequacy." T cells form a part of the body's immune system.

Others claim to have suffered from personality changes, overweight, depression, pregnancy irregularities, asthma, headaches, systemic poisoning, nausea and other problems they believe were incubated during their work in the fabrication of integrated circuits.

AMD is fighting the suit. The company admits that there is a potential danger in the industry, and that it does use hazardous substances, but insists that it has done everything possible to minimize the human risk.

A company spokesman told us that "AMD spares no expense when it comes to health and safety." He told us that the company has a record of settling workers' compensation cases when the claims are justified, but that no justification existed in any of the eight cases now under litigation.

It will be up to judge and jury to decide whether or not the alleged cellular and behavioral disturbances the plaintiffs claim are related to their past employment at AMD.

But the questions raised by the suits and by Welles' story extend beyond this one company. The court will deal with questions about working conditions at AMD that did or did not exist at specified times in the past. But how safe is the high-tech work place today, not just at AMD, but in the industry as a whole?

That people are concerned is evident from the numerous phone calls our magazine received after publishing the story. Many were from nervous employees, but the president of a major semiconductor company also called to say he felt it was positive that these questions were being raised now in public. The ultimate strength of the industry, he said,

depended on its answers.

We agree.

Part of the reason that the questions still are unanswered is that the industry is still in its adolescence. As AMD spokesman Andrew Rothman told us:

"This is an evolving area. Unlike older industries, like the steel industry, there is a lot that isn't known. This industry is changing all the time. Take the groundwater problem. When our underground tanks were installed in the 1970s, they were state of the art. Then 12 years later, we find they are leaking. Nobody expected that."

One thing Santa Clara Valley has learned from the groundwater cases is that things can be happening that we don't always see. No employee of AMD or any other semiconductor company can afford to wait 12 years to discover a T-cell deficiency.

The awakening of interest in the effects of prolonged chemical exposure in high-tech plants is not confined to Silicon Valley. Just this summer, the case of a worker's death in Massachusetts from inhalation of arsine gas, widely used in the microchip industry, led to similar investigations in that state.

These isolated instances do not go far enough toward providing the kind of statistical evidence we need to establish what cause and effect, if any, exists between chemical exposure and illness. But what these cases can do is spur more research, and more systematic pooling of information. We need, specifically:

- Standardized record-keeping to document employee injuries, with automatic employee access to records.

- An agreement among industry and government agencies on the difference between work-related injury and illness. A federal report just completed points out that AMD, by classifying some cases as injury rather than illness, avoided any legal obligation to report them to the California Department of Industrial Relations.

The Semiconductor Industry Association, on the other hand, faults the CDIR for classifying too many injuries as illness. As West pointed out, a wide discrepancy exists between the relevant statistics for the industry. Those of the SIA show that the semiconductor industry is the nation's third safest industry; those of the CDIR show an illness rate among semiconductor workers in California that is double that for workers in other manufacturing industries.

- Some recognition by the industry that if it doesn't police itself, somebody else will. West points out that though companies have been making chips for a quarter century now, no study ever has been carried out that attempts to evaluate future health risks.

Some guidance for future cases may well be contained in a study of AMD currently being carried out by the National Institute for Occupational Safety and Health — a report that grew out of complaints filed by three of the plaintiffs in the lawsuits.

NIOSH sent out an interim report just last week — after the article in West already had appeared. The interim report stated that final conclusions would have to await further study. It did, however, contain an interim conclusion that deserves to be noted:

"The long-term health effects from repeated short-term exposures are not known. Further evaluation is required . . ."

We agree. And that need certainly extends beyond this one company, to what clearly is an entire industrial frontier.