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Morning
Final ...

IBM, 2 chip firms shun health-risk study

By Mitchell Denson
Mercury News Environment Writer

Nearly two years after a bipartisan panel recommended it, the Semiconductor Industry Association announced Thursday that it was finally proceeding with a nationwide study of the health risks faced by chip production workers.

But even as the association announced its \$3.5 million study — a response to an earlier study that found an increased

rate of miscarriages among Massachusetts chip production workers — concerns were raised about how well the study has been put together.

Some of the biggest chip manufacturers, including IBM and the two top U.S. manufacturers — Motorola Inc. and Texas Instruments Inc. — are not among the list of 17 companies in eight states that the association says are participating in the three-year study.

Texas Instruments plans its own monitoring, said spokesman Stan Victor. Also, he said, "most of the females we have in our (chip production) are not of child-bearing age," and therefore not susceptible to reproductive problems.

Motorola officials could not be reached for comment.

In May 1987, IBM said it would conduct
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Study to probe chip work risks

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its own health study.

And though the Cupertino-based association listed Hewlett-Packard Co. as a participant, the company is contributing only money.

Participation concerns

Among other things, said spokeswoman Joan Tharp, H-P officials were concerned that the study would not include the hundreds of workers at Motorola, Texas Instruments and IBM.

"Without their participation, we have some questions about whether it's going to reflect what's going on in the entire chip manufacturing industry," she said. "And even though the study is going to be conducted by an independent research team, it's been developed and funded by the members of the industry that are being studied. . . . H-P would have preferred a study completely independent of the industry."

Association officials defended the study, to be supervised by researchers at the University of California, Davis. They noted the participants, not including H-P, represent 50,000 workers, including 18,000 chip production workers.

The study's principal investigator, Dr. Marc Schenker of the UC-Davis School of

Medicine, insisted that neither he nor UC-Davis would tolerate industry interference in the research. "This is going to be a first-rate study," he said. He added that he would rather have the industry, IBM and other companies doing their own studies simultaneously, "rather than have one monolithic study which was going to be considered the be-all and end-all."

The study is important to the Santa Clara Valley, where the semiconductor industry, with almost 52,200 workers, is one of the largest employers. Industry officials say about half are production workers, and most are women.

The chip-making process is complicated. Workers wearing protective "bunny suits" operate in super clean rooms, using expensive equipment and toxic gases and chemicals to etch microscopic circuits onto silicon wafers.

Powerful solvents are used as cleaners; caustic acids are used to help build intricate layers on the wafers; and poisonous gases are used to alter a chip's electricity-conducting characteristics.

There will be four major components to the UC-Davis study:

✓ A historical study of current and former women chip workers who suffered miscarriages and whose children were born with birth defects.

✓ Current women chip workers and women in non-manufacturing jobs will be followed for a number of months to compare the outcome of their pregnancies.

✓ A general health survey of men and women chip workers, looking for a variety of health effects including infertility among girls, developmental syndromes, central nervous system damage and lung and breathing problems.

✓ A study of working conditions in chip plants. This will include sampling of the air for chemicals and examining the physical demands of production work.

Chosen from 3 finalists

The association selected UC-Davis from three finalists chosen by an independent science advisory panel — the same panel that recommended the study in March 1987. The five-member panel is chaired by Patricia Buffler from the University of Texas.

Several sources familiar with the selection process said the advisory panel ranked UC-Davis third of the three finalists, behind the University of Massachusetts, Lowell and a joint application from the University of Southern California and the University of California, Los Angeles.

Buffler denied Thursday that her panel ranked the three finalists, although "some

could have (inferred) that" because the panel listed strengths and weaknesses of the three. "There were three outstanding investigative teams," she said, "and any one of them can do the work and do it well."

Even so, the director of a local workers' rights group said she was suspicious about why the industry might have chosen a third choice and why there has been no community involvement in the process.

"If what they're doing is all above board and correct, then they would want the community to be involved and know what's going on," said Alicia Orosco, director of the Santa Clara Center for Occupational Safety and Health. "We don't know what they're going to do. I don't know whether it's going to be a good study or not."

The earlier Massachusetts study, conducted at a Digital Equipment plant and reported in 1986, had two key findings: that women production workers suffered twice the miscarriage rate of other women there, and that men and women chip workers reported a higher rate of "general malaise" — headaches, nausea and dizziness.

The study did not attempt to find or explain a cause for the health problems. And industry experts said the study had

17 firms back study

These are the 17 companies either participating or helping pay for the Semiconductor Industry Association's worker health study. They are listed with their corporate headquarters, though that might not be where chip manufacturing takes place:

- Advanced Micro Devices, Sunnyvale
- Allied Signal, Columbia, Md.
- AT&T, New York
- Cherry Semiconductor Corp., E. Greenwich, N.Y.
- Digital Equipment Corp., Maynard, Mass.
- Harris Semiconductor, Melbourne, Fla.
- Hewlett Packard Co., Palo Alto
- Intel Corp., Sunnyvale
- International Rectifier Corp., El Segundo
- LSI Logic Corp., Milpitas
- Micron Technology, Boise, Idaho
- National Semiconductor Corp., Santa Clara
- Northern Telecom Inc., Nashville, Tenn.
- Precision Monolithics, Santa Clara
- Signetics Corp., Sunnyvale
- Sprague Semiconductor, Worcester, Mass.
- VLSI Technology Inc., San Jose

Source: Semiconductor Industry Association

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several shortcomings. But they all agreed it raised enough questions and concern to warrant a follow-up study.