
GLOBAL ELECTRONICS INFORMATION NEWSLETTER

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INDUSTRY SHIFT

While most semiconductor firms are having financial problems during the recession, manufacturers of computers, video games, and telecommunications equipment are profiting and expanding. While this reflects, to some degree, marketing trends, there is another fundamental cause, the technological achievements of integrated circuit manufacturers.

As chip-makers squeeze more and more functions on to each chip, they are reducing the growth in demand for those chips. There is no similar trend in the manufacture of equipment. That is, personal computers may require fewer chips, but the rule is still, in general, one computer per user.

Consequently, it is likely that job growth in the manufacture of high technology electronics will be in systems, not components. Since the cost of shipping relatively bulky equipment is substantially greater than the cost of shipping chips of comparable value, the relative costs advantages of assembly in the Far East are minor for equipment-building. For those products, a much greater proportion of assembly will be done in the U.S., or even Mexico and the Caribbean. Reduced shipping costs will in many situations compensate for the higher wages earned by Mexican workers, for instance, as opposed to Malaysians.

WAGES & CONDITIONS

Usually, when we reprint international wage comparisons in this newsletter, the source is from the electronics industry or one of its consultants. Below, however, we publish a small portion of a survey conducted by **Balai: Asian Journal**, a Philippine (Box SM-366, Manila) quarterly, and published in its December, 1981 issue. **Balai** reports on allowances, deductions, the cost of living, and other conditions of Asian electronics workers. The figures here are only the basic wage, before overtime, allowances, and deductions, and should only be used for rough comparison.

Country	Monthly Wage(US\$)
Japan	\$450.00
Taiwan	\$150.00
Hong Kong	\$156.00
Philippines (Manila)	\$59.50
Philippines (other)	\$55.25
Malaysia	\$67.55
Thailand (Bangkok)	\$61.10
Thailand (Central & South)	\$53.04
Thailand (North & N.E.)	\$49.66
Sri Lanka	\$51.30
Pakistan	\$20.00

CHEMICAL REGULATIONS

Following the discovery, earlier this year, of numerous chemical leaks at Silicon Valley electronics plants (see Issue No. 19), the Santa Clara County Fire Chiefs' Association initiated a task force to develop rules to prevent future mishaps. Although the State of California has been tightening controls on hazardous wastes, the chemicals oozing into the Silicon Valley environment have largely been production supplies, not covered by any legislation.

Major electronics firms, stung by the enormous expense of cleaning up toxic spills, and worried about the liabilities associated with leaks, decided to cooperate. Five trade associations (the American Electronics Association, the Peninsula Industrial Business Association, the Electronics Association of California, the Semiconductor Industry Association, and the Santa Clara County Manufacturers' Group) combined their forces to create the Industrial Environment Coordinating Committee. Industry representatives worked closely with the task force on its numerous subcommittees.

The task force is developing a model ordinance, which it hopes will be adopted by Silicon Valley's City Councils. Given the nature of the effort, it is likely that the ordinance, if found acceptable in environmentally conscious Silicon Valley, will be copied in other parts of California and perhaps across the country.

A draft of the model ordinance, made available to the public in July, demonstrates a comprehensive approach to the problem of hazardous industrial materials. It establishes strict requirements for double-walled storage containers in new construction, and it provides for the regular monitoring of older containers which do not meet the new standards. Companies are responsible for the costs of cleaning up any unauthorized chemical discharge. Each firm is required to insure against chemical accidents.

On July 23, the task force held its first and perhaps only public hearing. Although there was little publicity, the Sunnyvale City Council

chambers overflowed with observers. Most of those attending appeared to be from industry, but most of those speaking represented public interest groups such as Citizens for a Better Environment, the United Electrical, Radio, and Machine Workers, and the Santa Clara Center for Occupational Safety and Health.

Public speakers generally endorsed the ordinance, but they attacked its provisions designed to "protect trade secrets." Certain records compiled under the ordinance would not be available to the press or the public, eliminating one of the best mechanisms of enforcement - exposure. Should those provisions remain, it is likely that environmental and labor groups will organize to push for change when City Councils consider the measure.

Of course, it will take more than words on paper to ensure safe chemical use in the electronics industry. Though some companies appear to be willing to spend substantial resources to prevent accidents, many are not. Thus, cities will have to dedicate their own resources to both enforcement and clean-up. The cities of Sunnyvale and Santa Clara appear to have the most comprehensive programs underway. Sunnyvale, reports the **Peninsula Times-Tribune** (June 30, 1982), has budgeted \$300,000 for a toxic-chemical team in its Public Safety department.

CHIPEX RAID

U.S. agents raided the Silicon Valley office of Chipex, a semiconductor firm partially owned by the People's Republic of China (see Issue No. 22), on July 1. Several months ago, customs agents seized integrated circuits from Chipex employees en route to Hong Kong, but the recent raid was directed against the transfer of technology, not products, to a Communist country. The **San Jose Mercury** (July 10, 1982) reports, "The raid at the San Jose office of Chipex is unusual, because it is the first time U.S. officials have attempted to enforce a law regulating the "export" of training and know-how rather than high-technology equipment."

AIR REGULATION

The Bay Area Air Quality Management District staff has proposed regulations which would restrict the release of organic solvent fumes from Silicon Valley factories. The **Peninsula Times-Tribune** (July 15, 1982) cites a District official who says the new regulations would require the installation of carbon filters capable of trapping 90% of a firm's solvent emissions.

Semiconductor industry representatives oppose the plan, saying it would bring too little improvement for too much money. However, the Air Quality District points out that IBM, which makes disc drives in San Jose, recently installed the carbon filters called for by the proposal. IBM's emissions were cut by nearly 100%.

But semiconductor-makers contend that clean-up was easier for IBM because IBM does not make semiconductors. Thus, chip-makers have finally admitted what they concealed for years. Semiconductor manufacture is a dirty business.

"TECHSCAM"

Since the earliest days of transistor production in the Santa Clara Valley, the electronics industry here has been characterized by a high level of industrial espionage and the theft of trade secrets. This tradition burst onto the international scene recently when two major Japanese firms, Hitachi and Mitsubishi Electric, were caught with confidential IBM workbooks.

An American computer company, National Advanced Systems, was reportedly implicated in the scandal. The secret workbooks were copied and circulated at NAS's Silicon Valley offices. "NAS and Hitachi," reports a company brochure, "have implemented a joint study team with responsibility to track IBM product and compatibility announcements." Such cooperation does not indicate anything illegal, but it demonstrates that the two firms

jointly scrutinized developments at IBM. (**San Jose Mercury-News**, August 1, 1982)

NAS, a subsidiary of National Semiconductor, actually markets Hitachi-built mainframe computers in the U.S. This may surprise casual observers of the electronics industry, since National executives have bitterly attacked the semiconductor development and trade practices of Japan's major chip-makers, including Hitachi. But the two companies have had a close working relationship since 1979, when National took over leasing corporation Intel's bankrupt computer operations. Intel handled both National and Hitachi computers.

This pre-occupation with IBM's computer designs does not result from IBM technical superiority, but from its marketing dominance. NAS and all major Japanese computer manufacturers produce "plug-compatible" computers. That is, their machines mimic IBM's architecture, can be linked to the same equipment, and utilize the same software. To succeed, they must develop new computers to match the newest IBM machines, as soon after IBM puts a product onto the market. The "Techscam" affair has nothing to do with competition for leadership in advanced chip or computer design.

G.I. PAIN

U.S. semiconductor firms utilize a variety of techniques to stimulate productivity and company loyalty among their women employees in Asia. Like its competitors, General Instruments Optoelectronics Division publishes a house newsletter at its Kuala Lumpur, Malaysia plant. Among the holiday wishes, recipes, beauty tips, and sports talk, the company sprinkles some dangerous propaganda. In December 1979, GI had the audacity to print a "scientific" article arguing that women can endure worse pain than men, because women must experience the pain of childbirth. It cites an unnamed doctor, "Women are also better than men at carrying on with their job while in pain."

PHILIPPINES LABOR

Labor organizing in the Philippines is going strong. Recently more than 8,000 of the 25,000 workers at the Bataan Export Processing Zone walked off the job. Though the government sometimes pressures employers to make concessions to workers, it has cracked down on union activity. On July 3, President Marcos decreed, under the provisions of a new labor law, strikes in the semiconductor industry to be illegal. (**Far Eastern Economic Review**, July 9, 1982)

Organizing continues, however. **Business Week** (August 9, 1982) cites an executive at the subsidiary of a U.S. semiconductor firm, "There is heavy organizing going on in our plant and everyone else's."

PSC TO MOVE

On September 1, 1982, PSC will move to a more visible, larger location two blocks from its present office. The new address will be 222B View St., Mountain View, CA, 94041. The phone number will remain the same. Anyone who can help pack, move, or unpack PSC's voluminous library should call us at 415/969-1545.

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