Presentation to IndustriALL Global Union World Conference on ICT,Electrical & Electronics

by
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www.icrt.co

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International Campaign for Responsible Technology (ICRT)

www.icrt.co

Mission Statement,

adopted November 16, 2002

- We are an international solidarity network that promotes corporate and government accountability in the global electronics industry. We are united by our concern for the lifecycle impacts of this industry on health, the environment and workers' rights.

CHALLENGING THE CHIP

LABOR RIGHTS AND ENVIRONMENTAL JUSTICE IN THE GLOBAL ELECTRONICS INDUSTRY

Editors: Ted Smith, David A. Sonnenfeld, and David N. Pellow

Foreword by Jim Hightower

Good Electronics Network

http://goodelectronics.org/

The GoodElectronics Network brings together networks, organisations and individuals that are concerned about human rights, including labour rights, and sustainability issues in the global electronics supply chain, including to trade unions, grass roots organisations, campaigning and research organisations, academia, and activists.

Why we are "Challenging the Chip"

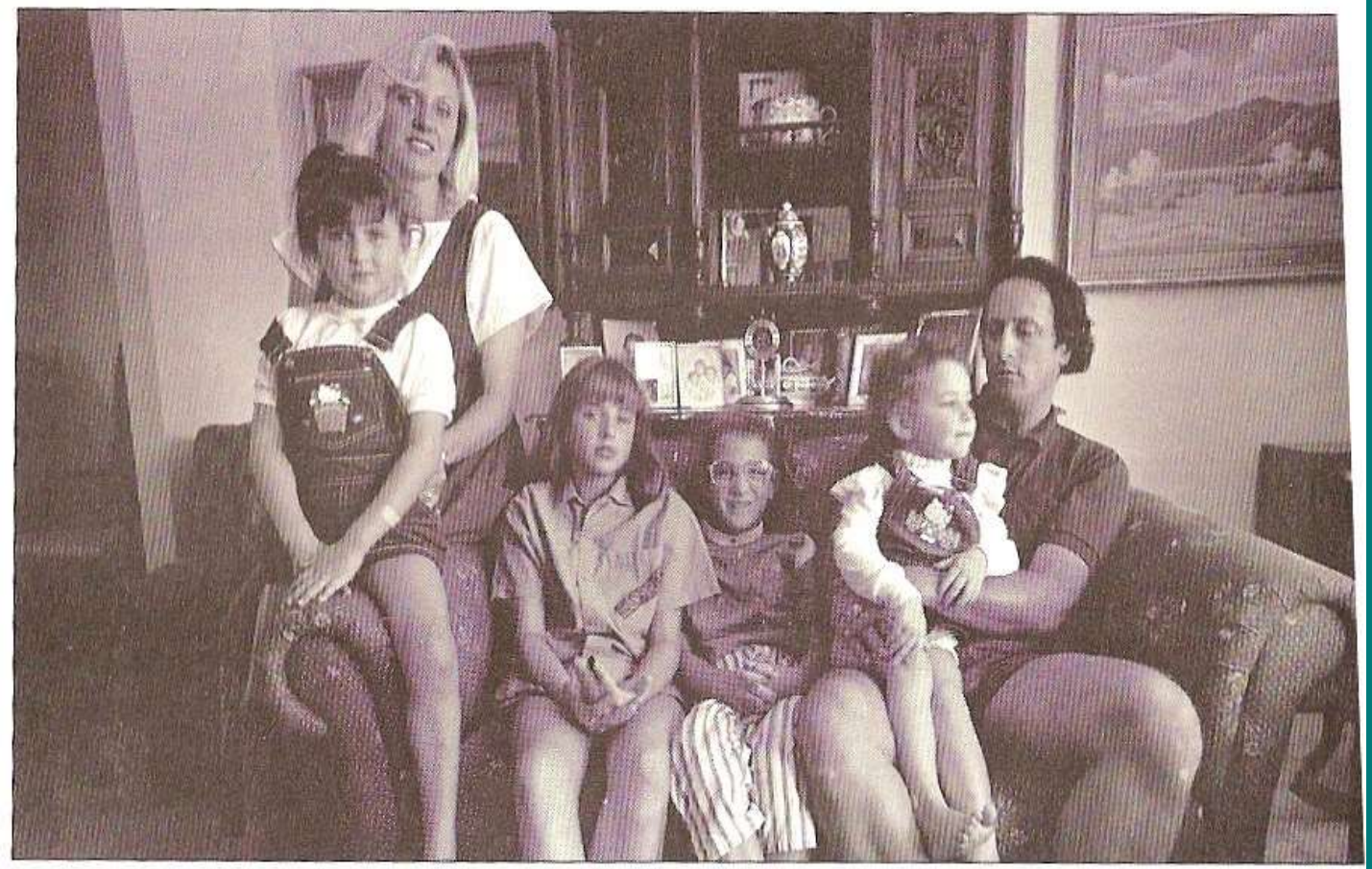
- A short history of toxics in electronics
- Outsourcing has outsourced the hazards
- A growing global movement is emerging
- What is needed to protect electronics workers
- How can IndustriALL and member unions work with

ICRT grew out of organizing efforts that started in 1970s in Silicon Valley

- TCE (a solvent used in electronics production) was shown to be an animal carcinogen in 1979
- Santa Clara Center on Occupational Safety & Health led the fight to ban trichloroethylene (TCE) in the workplace
- California refused to ban it but did reduce the TLV from 50 ppm to 5 ppm
- As a result, the electronics industry then started to phase it out

The wake up call !!

The Fairchild Case (1982) —Groundwater pollution from electronics companies in Silicon Valley poisons families and leads to high rates of miscarriages



The Ross family at home in Silicon Valley, with Juliana on her mother's lap

New York Times –
November 10, 1984

The New York Times/Terrence McCarthy

Sumol Thomas wearing protective clothing to process semiconductor wafers at Advanced Micro Devices Inc.

Worries Over Toxins Grow in Silicon Valley

By DAVID E. SANGER
Special to The New York Times

SUNNYVALE, Calif. — From a distance, Silicon Valley is the envy of every community seeking to lure high-technology industry.

Its myriad electronics companies, 330 in this small suburb of San Jose — in California and elsewhere — is scrambling to counter allegations that the reputation for cleanliness is a myth.

In a wave of legal actions, workers are charging they have suffered a range of health problems, some se-

is clean," said Dr. Joseph LaDou, a professor of medicine at the University of California at San Francisco.

Dr. LaDou, who has studied occupational health issues in the electronics industry for several years, added: "It's simply not true. I would not say we have an epidemic, but some of the

Super Bowl Countdown

GARDEN

Stanford's turf has never been greener

Thursday morning, January 17, 1985

San Jose Mercury News

25 cents

Serving Northern California Since 1851

Morning Final C

High birth defects rate in spill area

Los Paseos residents 'convinced' toxic leak caused birth defects

By Mitchel Benson and Pamela Kramer
Mercury News Staff Writers

Four-year-old Brian Puppo wants to be a pilot.

"But I don't think he can . . . It would be too much of a health risk," said his mother, Susan, as she recalled the long list of health problems that have affected her son since birth and forced him to undergo open-heart surgery four times in his short life.

Susan Puppo and her husband, Rick, told Brian's story over and over again Wednesday after county and state health officials released a study of the Puppos' neighborhood that showed an excess of miscarriages, congenital heart abnormalities and total birth defects in 1980 and 1981.

The officials couldn't say definitely that a chemical leak that contaminated the South San Jose neighborhood's water supply was responsible for the birth defects and miscarriages.

But the Puppos don't care.

The couple is convinced it was that

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Highlights of studies

- About twice as many miscarriages in the Los Paseos neighborhood in 1980-81 as in a nearby control neighborhood that has had no known water contamination.
- About three times as many birth defects in Los Paseos in 1980-81 as in the control neighborhood.
- More than twice as many major heart defects among infants born as a result of pregnancies in 1981 in the area served by the Great Oaks Water Co. as in the rest of Santa Clara County.
- The studies do not indicate the causes.

For the state health department's full summaries of the findings, see Page 6A.

Site near S.J.'s Fairchild plant shows cluster effect, state says

By Susan Yoachum and Mitchel Benson
Staff Writers

A study released by the state Wednesday confirmed that an unusually high number of birth defects and miscarriages occurred in a South San Jose neighborhood near a contaminated drinking-water well.

The study, conducted by the state Department of Health Services and the Santa Clara County Health Department, focused on pregnancies in the Los Paseos neighborhood, near the Fairchild Camera and Instrument Corp. plant, in 1980 and 1981.

A related study by the same agencies that also was released Wednesday showed that the rate of a specific form of birth defect, congenital heart malformation, was higher in the South San Jose area served by the Great Oaks Water Co. than in the rest of Santa Clara County.

The unusually high cluster of miscarriages and birth defects is only the second that state officials have ever con-

Continued on Page 10A

MONDAY, OCTOBER 12, 1992

The New York Times

MISCARRIAGES TIED TO CHIP FACTORIES

I.B.M. Finds a Chemical Risk for Some Women Workers

By JOHN MARKOFF

I.B.M. has warned its workers and other companies that two chemicals widely used in manufacturing semiconductor chips — and in other industries — may significantly increase the risk of miscarriage.

The computer maker acted after a study it commissioned by health researchers at Johns Hopkins University in Baltimore found that among 30 women who worked with the chemicals at two I.B.M. plants and then became pregnant, 10 had miscarriages — a 33.3 percent rate.

Despite the small number of pregnancies affected, the researchers believe there is a significant relationship between contact with the chemicals and women worker's miscarriages.

Used as Solvents

The two chemicals, diethylene glycol dimethl ether and ethylene glycol monethyl ether acetate, are used as solvents in a portion of the chip-making processing that involves etching away some of the material deposited on a silicon wafer.

"The warning is a reflection of our increased understanding of the hazards of these chemicals," said James Cone, an expert in toxic chemicals and an assistant clinical professor at the University of California in San Francisco. "People have touted these as a safe alternative to chlorofluorocarbons and other chemicals, but we're finding out that there may be problems here as well."

Based on the study's findings, a number of other technology companies have issued similar warnings in recent weeks. The chemicals are also used in other industries, like aerospace and printing, where thousands of workers may have come in contact with them.

None of the companies have stopped using the chemicals, but several chip makers have decided to offer alternative jobs to workers concerned about exposure.

"This is a confirmation of what has been known for some time," said Amanda Hawes, director of the Santa Clara Center for Occupational Safety and Health, a community research organization in California's Silicon Valley. "They're acknowledging something that people have had very serious concerns about and have been trying to do something about."

The International Business Machines Corporation commissioned the Johns Hopkins study in 1987 in an attempt to prove that its semiconductor manufacturing operations were safe. It acted after an earlier study by the University of Massachusetts for the Digital Equipment Corporation developed evidence of significant health risks in chip-making operations, an I.B.M. spokesman said.

The spokesman, Jim Ruderman, said the company did not believe there was reason for alarm. "We want to be careful," he said. "We're not trying to be alarmists. There hasn't been a mass panic nor should there be."

Miscarriages and Chip-Making Chemicals Linked

Continued From Page A1

A possible blow for an industry seen as safe to the environment.

I.B.M. issued the warnings last month after it received preliminary data from the study, which is not scheduled to be completed until next year. Because of the nature of the findings, the company also reported them to the Environmental Protection Agency. Although it made no public announcement, I.B.M. acknowledged its actions over the weekend.

A Look at 2 Plants

The study, which looked specifically at potential problems for women, tracked workers at I.B.M. plants in Burlington, Vt., and East Fishkill, N.Y., from 1980 to 1989. It found that the miscarriage rate for workers who worked at the plants but did not come in contact with either of the chip-making chemicals was significantly lower than for women who did. The study showed 62 miscarriages out of 398 pregnancies, or 15.6 percent, among women who did not handle the chemicals, in contrast to the 33.3 percent rate for the women who did.

"The primary motivation for the study was to try to clear the tarnished reputation of semiconductor clean-room health risks for women after the Digital study," Mr. Ruderman of I.B.M. said. "If there are any bright spots here, it's that the rest of the operations in our clean rooms are safe." Semiconductor chips are made in special rooms virtually free of dust and other contaminants that might spoil the manufacturing process.

The new concerns about worker health and safety may prove a potential black eye for a high-technology industry that has long sought to portray itself as clean and with little impact on the environment.

I.B.M. gave information from the study to companies that are members of the Semiconductor Industry Association. Intel, Texas Instruments, A.T.& T., Advanced Micro Devices, Signetics and National Semiconductor have all notified their workers of a potential health risk from exposure to the chemicals in recent weeks, said Thomas Beermann, an association spokesman.

"The findings are of great interest, but because of their preliminary nature and the need to know more, there aren't a lot of alarm bells going off in the industry," he said.

Changes in Production

Several industry executives also said that the Johns Hopkins study was a retrospective one and that many of the production processes have since changed, offering workers more protection from chemicals. Moreover, in some cases new chemicals have replaced ones that have been found to cause health risks.

Sematech, the consortium of chip makers in Austin, Tex., began independently to look for alternatives to the chemicals mentioned in the Johns Hopkins study six months ago because of general concerns about hazardous chemicals. A spokesman for the consortium said yesterday that no alternatives had been found yet.

Although the industry is acting to warn its workers now, workplace health experts said semiconductor makers have been slow in responding to growing evidence that there are demonstrated reproductive and other health effects related to chemicals.

Other Chemical Studies

Ms. Hawes of the Santa Clara Center for Occupational Safety and Health said there were also a variety of concerns about the class of chemicals known as glycol ethers used in consumer products like paints, cleaning agents and antifreeze. Although the effects of these chemicals are not yet clear, she said there were animal studies done as far back as 20 years ago indicating they may pose risks other than to reproductive health.

Health researchers have for some time raised questions about health and safety issues in the semiconductor industry because of the fast pace of technological change. While many chemicals that have been found to be dangerous have been replaced by new manufacturing processes, new manufacturing technologies are introduced so rapidly that it is not always possible to immediately assess their long-term health impact.

Mr. Ruderman of I.B.M. said the company was taking the precaution of notifying its work force despite the fact that there were several weaknesses in the Johns Hopkins study. For example, he said, the study did not measure exactly what level of exposure to the chemicals individual workers experienced or to eliminate the possibility that the miscarriages in the study were caused by other chemicals.

High Tech's Impact

- Semiconductor workers experience illness rates 3 times greater than manufacturing workers in other industries
- In 3 epidemiological studies, women who worked in fabrication rooms were found to have rates of miscarriage of 40% or more above non-manufacturing workers
- Silicon Valley has more EPA Superfund sites than any other area in the USA

IBM Corporate Mortality File

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1626450

- IBM maintained records of 30,000 workers that identified cause of death over 30 years
- Records were analyzed by Dr. Richard Clapp, epidemiologist at Boston Univ.
- Breast cancer deaths in women at IBM were 2.42 times the expected number
- Similar findings for brain cancer, kidney cancer, non-Hodgkins

Chemicals used in Electronics

Chemicals used in Electronics - 2

A new analysis by researchers working with International Campaign for Responsible Technology has found that of the 1109 chemicals known to be used in production, many were identified as very hazardous (many have no hazard data at all…)

- 330 are acutely toxic
- 32 are carcinogens
- 60 are endocrine disruptors
- 41 are germ cell mutagens
- 46 are reproductive toxins

Source: ICRT, ETBC in collaboration with Northwestern University and Greenpeace researchers

So what has changed over the past 3 decades?

- Globalization has led to outsourcing most electronics manufacturing to Asia and Latin America
- the knowledge and visibility of hazards has been outsourced
- Understanding and managing the hazards is much more complicated

During the past few decades, we've experienced the "Largest industrial transition in history"

- 127 new semiconductors fabs built
  - Total exceeds $115 billion
  - $1- 3 billion each
  - 300 mm fabs may double the cost
- 200 mm to 300 mm

Source: SEMI

Summary of Occupational Illness in Korean electronics
(compiled by Dr. Jeong-ok Kong of SHARPS)

		Samsung Electronics					Total
		Semiconductor	LCD	Mobile phone	etc.	Subtotal	
Number of Victims	Total	79	16	3	9	107	149
	Cancer	63	10	2	6	81	114
Number of Deaths	Total	27	7	2	5	41	59
	Cancer	23	6	1	5	35	53

Former RCA employees win decade-long legal battle

http://www.taipeitimes.com/News/front/archives/2015/04/18/2003616192

The RCA Self-Help Association had sought damages of NT$2.7 billion,

Former employees of Radio Corp of America (RCA) burst into tears as a co

With pink banners around their foreheads saying “RCA workers never give

TREATMENT COSTS

The Cost of Birth Defects calculates $8 billion for lifetime care for children born in a single year in the US with major birth defects'

* Waitzman (1992)

Betting on Displays

Apple supplier Foxconn is in talks to make smartphone screens, the most expensive parts in iPhones.

Apple iPhone 6

COST OF SELECTED PARTS	
Display	$45
Memory	15
Communications	37.50
Cameras	11
Processor	20
Mechanical	30
Other	37.60
TOTAL PARTS	**$196.10**
Labor	4
TOTAL	**$200.10**
U.S. RETAIL PRICE	**$649**

Sources: IHS iSuppli (price), Apple (photo)

The Wall Street Journal

Apple iPhone 6 Plus

COST OF SELECTED PARTS	
Display	$52.50
Memory	15
Communications	37.50
Cameras	12.50
Processor	20
Mechanical	35
Other	38.60
TOTAL PARTS	**$211.10**
Labor	4.50
TOTAL	**$215.60**
U.S. RETAIL PRICE	**$749**

Note: Both price breakdowns are based on the 16 GB Sprint model without contract

on.wsj.com/1DJ2SUP

A Challenge to the Global Electronics Industry to Adopt Safer and More Sustainable Products and Practices, and Eliminate Hazardous Chemicals, Exposures and Discharges

(Adopted January 2015 and endorsed by over 200 groups in 40 countries)

The International Campaign for Responsible Technology (ICRT), the Good Electronics Network, and their allies, are challenging electronics brands, manufacturers, and suppliers to proactively reduce and eliminate chemical and physical hazards through the development and adoption of safer alternatives.

Human Rights, Worker Rights and Environmental Protections

The overarching goal is sustainable production that is safe, healthy, environmentally sound, and just.

To achieve that goal, the electronics industry must recognize the following human rights and worker rights:

Human Rights, Worker Rights and Environmental Protections

- Right to safe and healthy workplace. It is the industry's responsibility to ensure effective workplace protections so that workers do not get sick or injured.

- Right to healthy communities and a safe environment, free from harm caused by materials used or disposed throughout the product lifecycle.

Human Rights, Worker Rights and Environmental Protections

- Right to know what hazards are present in the workplace, all chemicals that are there, and what is discharged into the environment.
- Right to an effective remedy when harm has occurred. This includes compensation for workers made sick or injured, and liability for harming the community or the environment.

Action and Changes Needed

Specifically, **we have identified six key areas for change and action for electronics brands, manufacturers and their suppliers:**

1. Be transparent.

Provide full materials disclosure to workers, communities, and the general public, including what chemicals are being used and discharged, and what hazards to the environment and humans (including reproductive hazards) are known to be associated with the chemicals.

Action and Changes Needed

2. **Use safer chemicals.**
Assess hazardous materials used in manufacturing throughout the product lifecycle and replace them with safer alternatives. Where the environmental or human health effects of a substance are unknown, its use shall be avoided; where it is inadequately or incompletely characterized, the precautionary principle shall apply until all relevant hazard testing is available.

Action and Changes Needed

3. **Protect Workers.**

Develop and implement, jointly with affected and other interested workers and their organizations, comprehensive hazard monitoring for all workplaces and workers throughout the product lifecycle. This includes training, capacity building, and industrial monitoring as well as monitoring to measure exposures and health surveillance to identify and prevent diseases. Workers shall be able to negotiate over hazardous working conditions and refuse hazardous work without fear of retaliation.

Action and Changes Needed

4. Guarantee participation.

Respect efforts of workers and communities to participate in the sound management of chemicals and wastes in their workplaces and communities. This includes the development of effective worker health and safety committees and training programs.

Action and Changes Needed

5. **Protect communities and the environment.**

Prevent harm throughout the product lifecycle Conduct effective, transparent, independent monitoring of all discharge streams. Eliminate hazardous discharges to air, waterways, and land.

Action and Changes Needed

6. **Compensate and remediate for harm to people and environment**

by developing and funding mechanisms that ensure that workers (present and former, and their families) or communities harmed by exposure to hazardous chemicals receive emergency relief and just compensation. Develop funding mechanisms to ensure environmental and workplace remediation for as long as is needed to address the harm.

Proposals Submitted to EICC

- Identify list of chemicals of concern throughout supply chain
- Assess company knowledge (and best practices) about the identify of materials of concern used in production throughout the supply chain
- Assess company knowledge of (and best practices for) industrial hygiene monitoring for materials of concern throughout the supply chain
- Assess company knowledge of (and best practices for) Health surveillance and disease prevention
- Assess company knowledge of (and best practices for) environmental discharge monitoring for materials of concern throughout the supply chain

What can IndustriALL DO?

1. Endorse "The Challenge"
2. Circulate "The Challenge" widely
3. Demand that the companies do full materials disclosure and report to workers and residents
4. Demand that the companies do alternatives assessments for hazardous chemicals and report on their results publicly
5. Demand that the companies report on monitoring for worker health and environmental discharges
6. Work with NGOs and unions to develop capacity to provide more technical assistance to support worker health and safety

For Further Information:

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"The Challenge to the electronics industry" is found at:
https://docs.google.com/forms/d/1i7alQ3ruH_FEYIUg_jxm9MW6p2KQnkX6Tgrp5h2QVFI/viewform
it has been translated into 7 languages so far
www.icrt.co;