

VIDEO VIEWS

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THE VDT COALITION

Summer 1984

Radiation Shielding

While the controversy rages about whether or not VDTs can cause birth defects, miscarriages and stillbirths, pregnant VDT workers are wondering whether or not they are at risk and if so, what precautions they can take.

At least 11 possible "clusters" of abnormal pregnancy outcomes have been reported in the press. The cause of these problems has not been determined. Suspects include: stress, physical immobility, toxins in the general office environment, low levels of radiation, or mere statistical chance. (See *Video Views* Spring 1984,

What Types of Radiation are Involved in VDTs?

Ionizing—weak or "soft" x-rays from the flow of high speed electrons beamed from the cathode ray tube. Most of these x-rays are absorbed by the VDT screen.

Non-ionizing—1. Ultraviolet radiation: levels from VDTs are low to non-existent. 2. Infrared radiation: levels from VDTs low to nonexistent. 3. Radio frequency (RF) radiation emitted from the flyback transformer near the back of the VDT. 4. Pulsating very low radio frequencies



for a report on this controversy.) Though it is not clear whether there is a problem, what could be causing possible problems, or what might be appropriate solutions, the scientific community is addressing this issue and beginning to release preliminary findings and recommendations. This article summarizes current information on one aspect of the controversy: radiation shielding. While radiation is only one of the possible suspects, some labor, scientific and government groups have advocated metal shielding as a precautionary measure.

(VLF) at 15-125 kHz are generated by the electrical pulses used to move the electron beam. 4. Extremely low frequencies (ELF) from 30-60 Hz are produced from the electrical pulses which move the electron beam to "refresh" the images on the screen.

It is not clear whether the radiation frequencies emitted from VDTs are harmful to people. Most government studies discount the risk posed from x-rays. Current research is focusing attention on the possible effects of non-ionizing radiation.

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California Assembly Kills VDT Bill

The California Assembly defeated AB 3175, the video display terminal safety bill, on June 14, by a vote of 37 to 25. AB 3175 was sponsored by the California Labor Federation and supported by unions and workers throughout California.

The final version of the bill rejected by the legislators contained only a provision relating to pregnant workers and a provision creating a task force to study the health hazards of VDT use. The Assembly also voted down a last minute attempt by the bill's author, Assemblyman Tom Hayden, to include only the task force provision.

Opposition to the bill came from businesses and industry associations such as IBM, Hewlett-Packard, the California Newspaper Publishers Association and the Printing Industries of California. Other opponents included phone and insurance companies, banks, airlines and computer makers. "There was more industry lobbying against this bill than any other measure in the legislature this year," according to Hayden. Industry's major contention was that there is no evidence of any problems related to the use of VDTs. They claim that health problems are merely "comfort" problems.

Supporters of the bill, however, point to reports of health problems documented by researchers including the National Institute of Occupational Safety and Health (NIOSH) and the Harvard Medical School. "I introduced AB 3175 because

of widespread evidence that long hours before a video display terminal cause serious stress problems—even more than among air traffic controllers," Hayden stated.

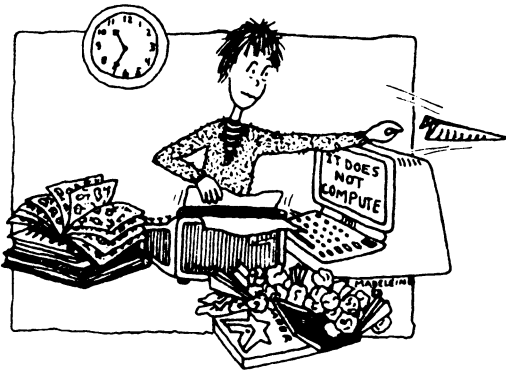
As originally introduced, AB 3175 set minimum standards for video display terminals and required improvements in the workplace to correct health and

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Shielding

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tion. A recent study by the Canadian Center for Occupational Health and Safety (CCOHS) indicates that pulsed radiation is potentially more biologically harmful than continuous waves. Other studies have linked ELF to embryonic changes in laboratory animals. (Hansen, Pafkova 1980, Delgado 1983). A Library of Congress memo of 1984 summarized recent data indicating a subtle interaction between weak electromagnetic fields and biological systems. Though there is as yet no definitive evidence that VDTs emit potentially harmful radiation, the CCOHS, the Quebec Institute of Research and Occupational Health and Safety, and other occupational health groups have, nevertheless, called for shielding against low frequency, non-ionizing radiation.



Types of Shielding—Dr. Frank Rosenthal of New York University Institute for Environmental Medicine has recommended that grounded metal shields be installed inside the VDT around the flyback transformers. David Eisen, Research Director for the Newspaper Guild advised that all plastic-encased VDTs have such metal shields installed.

The Canadian Center for Occupational Health and Safety (CCOHS) recommends external shielding of VDTs. Shielding can be done inexpensively by gluing copper foil to cardboard or plyboard. In their specifications CCOHS suggests making a four-sided box to fit the unit, lined with copper foil, with an opening for the cable and a ground wire soldered to the foil. This ground wire is connected to the

metal screw on the cable plug. Copper screening should be used instead of foil in those areas where ventilation is needed to allow air flow. (For more complete details see references and 2.)

Other types of shielding suggested are:

1. wire mesh fitted inside the plastic case;
2. nickel base acrylic paint applied to the top, sides and back;
3. brass sheeting (.009" thick) fitted over the top, sides and back;
4. steel plate (.04" thick) to cover the same area.

If a printer is on top of the VDT, it can act as an effective shield of the top of the unit. All shields must be grounded.

Bob DiMatteo of the Ontario Public Service Employees Union, recommends that the front of the screen also be shielded with a transparent conductive mesh filter which is grounded to the terminal's main ground. This screen also eliminates static charge.

The shields described above appear to be effective for VLF and RF radiation; it is not clear whether they help reduce ELF radiation or magnetic fields.

Another precautionary measure used by some VDT workers is a lead apron. The usefulness of this device is questionable. Lead only protects against x-rays, and many scientists now feel that x-rays are less likely to be a problem than VLF and ELF radiation. In addition, wearing the hot, heavy apron can place added stress on the body which is not recommended.

It is also difficult to measure the amount of low frequency radiation being emitted from a VDT. Reliable measures are complicated, expensive and hard to come by and thus, reliable field testing is not currently available. However, workers should insist on regular maintenance of their VDTs which will help prevent abnormal radiation leakage.

Regardless of what the cause of possible pregnancy problems might be—radiation, stress, physical immobility, toxins, or a combination—rotating to other types of work and limiting the number of hours worked at the VDT may reduce one's risk. Several unions, including SEIU, District 65 UAW, and the Ontario Public Service Employees Union have won work transfers for pregnant VDT workers. In Norway, VDT users are limited to four hours a day on the terminals. The Institute of Research on Occupational Health and Safety recommends that "pregnant operators be

allowed to stop working on VDTs if they are not adequately shielded and if the length of time required, the work load and organization as well as the layout result in a static position and/or stress." To reduce physical and emotional stress, NIOSH has recommended a fifteen minute rest break after one hour of intensive VDT work and fifteen minutes rest break after two hours of moderate work.

If you are interested in shielding, ask your employer to supply the most appropriate shield. It is also important to check with the VDT manufacturer to ensure that shielding does not invalidate the warranty and that the shields do not interfere with the functioning of the unit. The most effective shielding is that which is done at the point of manufacture. If users begin to voice their interest in radiation shields they may soon be a standard feature of all new VDTs.

For more specific information on shielding see the following references:

1. *The Hazards of VDTs*, (revised ed.), Bob DiMatteo, Ontario Public Service Employees Union, 1984.

2. "VLF—Very Low Frequency Fields Near VDTs and an Example of Their Removal," Karel Marha, Canadian Centre for Occupational Health and Safety, 250 Main Street East Hamilton, Ontario L8N1H6, Document No. 1090n, September 1983.

3. "VDTs: Controversy Around Health and Safety Issues," Christopher Dodge, Science Policy Research Div., Congressional Research Services, Library of Congress, 1-6-84.

4. General information is available from 9 to 5, National Association of Working Women, 1224 Huron Road, Cleveland, Ohio 44115.

Newsletter Committee: Rachel Blau, Doreen Gentry, Cathy Holt, Bob Matthews, Leanna Noble, Jeanne Robinson, Emily Siegal, Laura Stock. Thanks to Cathy Davis, and Diana Roose (9 to 5).

Letters

Dear Video Views,

I'm an unorganized VDT worker who would like to hear what other unorganized VDT workers have done in jobs where organizing a union is not a possibility. I work at a large corporation where I am pretty isolated from other VDT workers. Most of the people I work with never use a VDT.

I do try to talk about health and safety issues with VDT workers I do know. I have sometimes given someone a copy of the VDT Coalition newsletter. So far everyone has liked the newsletter, but that is about all they say.

I've done things to make by own work situation better. I've made a cardboard hood to cut down on glare on the VDT I use the most. I make sure I take breaks and walk around. I have a few exercises I do and a back support pad to put on my chair. I got a typing stand so that I don't have to lay the papers I am working from flat on the table.

I know that even these small things are important for me to be doing, but they do seem very small. What has actually made me feel the most powerful in pushing for change in VDT workplaces is my work in the VDT Coalition. Through the Coalition, I have learned about the small things I can do for myself at work, but I have also been a part of the Coalition's efforts to change things for all VDT workers. I know that even if I can't reach many VDT workers at my job, my work for the Coalition is helping to reach many, many workers all over the state.

WORKPLACE ACTION

Report from SF State Clerical Workers

Clerical workers and CSEA-SEIU Chapter 305 are moving ahead at San Francisco State University (SFSU) to improve working conditions for VDT users on campus. The Chapter began this effort after joining the VDT Coalition a few months ago.

The Chapter first helped with phone lobbying in support of AB 3175, the California VDT safety bill. Next, they organized a VDT Committee which is now drafting a survey to be distributed to workers using VDTs on campus. Committee members include Lily Gee, Edna Lee, Pat Forsyth, E.J. Koch, Ilze

New Resources from the VDT Coalition

The VDT Coalition **Resource Center**, housed in the library at the Labor Occupational Health Program (2515 Channing Way, Berkeley), has grown considerably in the last year. The center is open from 8:30 am – 4:30 pm, Monday through Friday. For special arrangements, call Susan Salisbury or Laura Stock at 415/642-5507.

The Coalition's aim is to bring these resources and information to the people who need them, rather than just keeping them on the shelf.

One of the ways we do this is through offering **worksite training** to groups of VDT workers. Topics include: impact of office automation, VDT health and safety hazards, and recommendations for improving VDT working conditions.

We will be glad to design a workshop to meet your particular needs. A ten-minute slideshow on VDTs, "Tomorrow's Technology, Today's Headache," is also available. Fees are reasonable and negotiable. Contact us if your organization or co-workers would like a workshop.

A **speakers bureau** is being formed, so that more of our members have the chance to share their expertise on VDTs and develop their speaking skills. If you are interested in attending a **speaker training session**, please contact us!

A complete **packet** of articles on hazards, workplace design, pregnancy, radiation research reports, contract language, legislation and surveys, called "VDTs Are Dangerous to Your Health," is also available. To order, send a check for \$5.00, made payable to the U.C. Regents. Perhaps your local library would be willing to purchase a copy? This way, many more people could have access to the information.

We now have a "brochure" announcing what the VDT Coalition does and what we have to offer. Please help us reach more VDT operators by distributing some of these brochures.

Any further ideas about how to bring our resources to the people who need them will be gladly accepted! Please call 415/642-5507.

Goodfield, Fred Arriola, and Carlos Burns. The committee is hoping to combine the results of the VDT survey with a showing on campus of the VDT slideshow, available from the VDT coalition, in order to educate both workers and management.

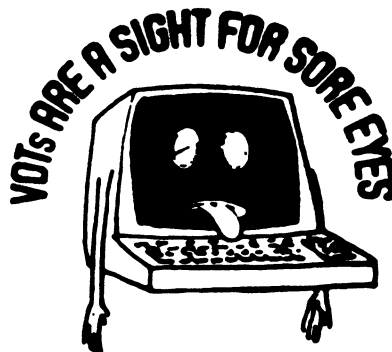
Another effort recently ended in success in the SFSU School of Business. Many of the School of Business clericals working with VDTs started noticing vision problems. After hearing about the VDT Coalition and reading their VDT packet "VDTs Can Be Hazardous to Your Health," clericals approached the staff person in charge of ordering computer supplies and suggested that glare shields, adjustable desks and chairs and noise shields be bought for all computers

in the school. After the staff person had read the VDT packet and obtained the advice of the clerical workers using VDTs, he agreed to order the requested equipment.

What is happening at SFSU is typical—equipment is ordered haphazardly and with no apparent thought to the safety and comfort of workers. Computers are set up wherever there is room (and sometimes where there is not). The success of the clericals at the School of Business demonstrates that by educating themselves and management, VDT workers can influence decisions related to equipment purchase and workplace design.

CSEA-SEIU Chapter 305 is hoping that the results of their survey, combined with the information in the VDT packet will convince the university's purchasing department to buy the necessary equipment for all VDT work stations on campus. The union is also considering including VDT safety language in the contract.

The important lesson to be learned from this is that by working together through our unions, other groups and with our co-workers as a part of the VDT Coalition—we can win!



Berkeley City Council Passes VDT Guidelines

On July 11, 1984 the Berkeley City Council passed the first VDT law enacted by a California local government. The ordinance requires the City of Berkeley to "provide furniture for workers' safety and comfort, compatible with the VDT; and that the equipment have a contrast control for display screens." This law covers all city employees.

The measure was introduced by Veronika Fukson, a five-year City Council member. Fukson became aware of the VDT issue after hearing about the VDT bill introduced this year in the California state legislature by Assemblyman Tom Hayden. "I realized that we could also deal with this issue locally," Fukson said in an interview with *Video Views*. "In fact, it was easier to make an impact on local policy as there was virtually no opposition lobbying."

Berkeley City employees are represented by SEIU 390/400 which is in the process of negotiating VDT contract language. Fukson sees the City Council policy as a reinforcement of the language being negotiated by the union. "I wanted to give the message to workers that you have a right to push the VDT health and safety issue and when you do we will be right behind you." Fukson believes the union will have a major role to play in insuring enforcement of this new VDT policy. "The mechanism for enforcement is unclear. The Berkeley City Manager says he will set up a safety committee of employers and users to begin to review the VDT health and safety issue, but it will be up to the union to see that this really happens."

In other action, the State of Massachusetts Executive Office for Administration and Finance has recently issued VDT purchasing guidelines covering all state agencies. These guidelines require adjustable screens, detachable keyboards, glare reduction features, easily readable key labels, terminals with matte finish and noise shields for printers. The Massachusetts guidelines also require that at least one user be included on an equipment selection board and that vendors offering ergonomic design features be given a sales advantage.

VDT Bill

Continued from page 1

safety problems facing VDT users. These original provisions were similar to recommendations made by NIOSH in 1980. They included proper lighting, glare control measures, employer paid eye examinations, and rest breaks. This form of the bill passed the Labor and Employment Committee of the Assembly. Next, the bill ran into strong opposition in the Ways and Means Committee. In an attempt to save some form of the bill, it was amended drastically. Only the provision requiring that pregnant VDT workers be given temporary alternative work upon request or have their machines shielded against radiation was retained. A new provision creating a 15-member task force to study the health problems caused by VDT use was inserted. This version of the bill passed the Ways and Means Committee but was defeated by the full Assembly.

Tom Rankin, of the California Labor Federation encouraged supporters of VDT legislation not to give up. "Losing once, twice, or even three times, is nothing new to labor advocates. It is not a reason to stop pushing for reform."

After defeating AB 3175, the Assembly referred it back to the Labor and Employment Committee for study. Interim hearings will be held before the new year, but no decision has been made on when or where they will be held. Labor spokespersons are encouraging backers of VDT safety legislation to attend the hearings to demonstrate their support.

Voting for passage of the bill were Democrats Alatorre, Bane, Bates, W. Brown, Campbell, Connelly, Davis, Hannigan, Harris, Hauser, Hayden, Hughes, Isenberg, Johnston, Katz, Killea, Klehs, Margolin, Molina, Moore, Moorhead, O'Connell, Tanner and M. Waters, and Republican Sebastiani.

Voting to defeat the bill were Democrats Areias, Chacon, Clute, Condit, Farr, McAlister, Papan, Peace, Robinson, Vicencia, N. Waters and Young.

Republicans voting "No" were Bader, Baker, Bergeson, Bradley, D. Brown, Felando, Filante, Frazee, Frizzelle, Herger, Hill, Kelley, Konnyu, LaFollette, Leonard, Lewis, McClintock, Mountjoy, Naylor, Nolan, Robers, Seastrand, Statham, Stirling and Wyman.

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