



COMMUNICATIONS WORKERS OF AMERICA

Occupational Safety and Health Manual

November 2008



On-the-job safety and health protection is a top priority of CWA. The CWA Occupational Safety and Health program includes District safety and health coordinators, hundreds of Local safety and health committees, and thousands of workplace safety and health activists. The CWA Safety and Health Department in Washington, D.C., is committed to providing information, technical assistance, and training to CWA Locals and activists as well as conducting research on safety and health issues experienced by the Union's members.

The CWA Occupational Safety and Health Manual is intended to provide CWA leaders and members a basic understanding of occupational safety and health matters as well as identify resource organizations that can assist in dealing with specific problems. As stated in the 1970 Occupational Safety and Health Act, all workers have a fundamental right to a workplace free from recognized safety and health hazards. The material in this manual will assist CWA Locals to provide important protection and oversight to our members.

Larry Cohen
Executive Vice President



Table of Contents

I. The Local Union Safety and Health Committee

- A. Organizing A Local Union Safety and Health Committee
- B. CWA Local Union Safety and Health Committee Form
- C. Informing the Membership
- D. Duty of Fair Representation

II. Recognition of Safety and Health Hazards

- A. Safety Hazards
- B. Health Hazards
- C. Basic Equipment for Accident Investigations

III. Workers' and Employers' Rights and Responsibilities Under the Occupational Safety and Health Act of 1970

- A. Workers' Rights and Responsibilities
- B. Employers' Responsibilities
- C. Penalties
- D. Employers' Recordkeeping Requirements

IV. State Plans

V. Using the OSHA General Industry and Construction Standards

- A. How to Acquire and Use Them

VI. Tactics and Strategies

- A. Whom Do You Call First?
- B. Access to Medical Records
- C. File a Grievance
- D. File an OSHA Complaint
- E. Elect Party Status with the Occupational Safety
and Health Review Commission (OSHRC)
- F. Utilize the National Labor Relations Board
- G. File a NIOSH Health Hazard Evaluation
- H. File a Discrimination Charge under the Americans
with Disabilities Act (ADA) with the Equal
Employment Opportunity Commission (EEOC)



- I. File a Notice with the Employer Requesting a Leave of Absence under the Family Medical Leave Act (FMLA)
- J. Contact the Environmental Protection Agency (EPA)
- K. Right to Refuse Unsafe Work

VII. “Right to Know”

- A. Introduction
- B. “Right to Know” Resolution Passed at CWA’s 45th Annual Convention, June, 1983
- C. Tactics and Strategies
- D. Preparation of “Right to Know” Legislation

VIII. Computer Workplace Ergonomics

- A. Introduction
- B. Computer Workplace Health Complaints
- C. Computer Design
- D. Workstation Design
- E. Workplace Design
- F. Work Organization
- G. Other Health Concerns
- H. Use of Computer Workplace Checklists and Surveys
- I. Sample Computer Workplace Collective Bargaining Language
- J. Tables
- K. Bibliography

IX. Resources

- A. CWA Occupational Safety and Health Fact Sheets
- B. Occupational Safety and Health Materials Order Form
- C. Recommended List of Publications
- D. Occupational Safety and Health Administration Offices
- E. National Institute for Occupational Safety and Health Offices and Educational Resource Centers
- F. Related Federal Agencies
- G. State Plan Offices
- H. Colleges and Universities
- I. Committees on Occupational Safety and Health
- J. Other Support Organizations

X. Glossary



A. Organizing a Local Union Safety and Health Committee

Ideally, every CWA Local should have an active occupational safety and health committee. This should be a goal of each Local. Indeed, only as a result of the creation and development of such a committee can CWA help ensure a safe and healthful workplace for all members.


If the Local safety and health committee finds that a work hazard exists, it can bring the problem to the attention of the employer. If the employer does not correct the problem, the Local safety and health committee can notify the responsible person or persons designated within the Local. Together these parties and the employer should attempt to resolve the problem. If the employer still refuses to remedy the situation, as a last resort, the Local committee should utilize the existing grievance procedure and/or file a complaint with OSHA.

Utilization of OSHA may bring lengthy bureaucratic delays in solving the problem and frequent legal action. As well, use of OSHA may tend to lessen the Local's effectiveness in the eyes of the members and the employers. Local committees should be developed with the idea that OSHA may not be there to lend adequate assistance. This may be particularly true during Republican/conservative administrations. Thus, where possible, the Local's occupational safety and health committee should work within the existing collective bargaining framework.

FORMING A COMMITTEE

When appointing or electing members to serve on your Local's safety and health committee, look for responsible, sincere, outgoing members who are both willing to learn how to best protect the interests of their fellow workers and display a willingness to make sure that management is living up to its legal responsibilities.

Active Local safety and health committees will increase members' awareness of and enthusiasm for hazard recognition and control. Educational programs might be organized to emphasize safe work practices and procedures. CWA Local safety and health committees should,



where possible, work with the employer to provide a safe and healthful workplace.

Local safety and health committees should meet at least once a month. Emergency meetings should be held as necessary.

Size of the committee should be determined by each Local's situation. Where possible, Local committees should be made up of members from all those employers with which the Union has a contract.


The Local occupational safety and health committee should build an information and resource center. Such a center should contain:

1 A review of past workers' compensation claims, accident reports and histories of employee grievances and arbitrations concerned with occupational safety and health, OSHA complaints, Health Hazard Evaluations from the National Institute for Occupational Safety and Health (NIOSH), and Americans with Disability Act(ADA) claims.

2 An up-to-date recordkeeping system. Such a system should include files, reports and investigations related to safety and health. Much of this information can be obtained from the employer. Employers with more than 10 workers are required by OSHA to maintain a file of accident and illness reports (the OSHA 300 Log). The committees should request such information. In addition, a recordkeeping system should contain OSHA standards, information materials and records of investigations.

3 Pertinent publications from OSHA, NIOSH, OSHRC (Occupational Safety and Health Review Commission), EPA (Environmental Protection Agency), and EEOC (Equal Employment Opportunity Commission). These can be obtained by contacting the particular agency office nearest you. These organizations can supply the committee with a list of publications and put the committee on their mailing list. (See Chapter 9, pages R.7–R.9), for a list of recommended publications.) It is also a good idea to develop a positive relationship with these governmental bodies. This will help in possible future dealings with them.

4 Publications from other unions, colleges and universities, and other supportive organizations. See Chapter 9, pages R.26–R.34, for a list of colleges, universities, and support organizations.)



CWA occupational safety and health committees should ensure that they have an open communication system. This means providing information to other Local committees and all CWA Staff responsible for safety and health including Local officers, CWA Representatives, District Vice Presidents, and the CWA Occupational Safety and Health Department in the CWA National Headquarters.

WHAT THE COMMITTEE SHOULD BE CONCERNED WITH

Any condition which threatens the health or safety of CWA members should be a concern of the Local committee. Possible hazards might include:

Safety Hazards — unguarded machinery, machinery in need of maintenance, inadequate or unmarked emergency exits, poor lighting, electrical hazards and mishandling of explosives or flammable substances.

Health Hazards — fumes and vapors, dust, excessive heat or cold, noise and vibration, spilled chemicals, radiation and physical and psychological stress.

The Local committee may also want to consider other problems such as:

- Is enough time allowed to do each task safely?
- Is excessive overtime work causing fatigue which could contribute to accidents?
- Are workers reluctant to report hazards for fear of punishment or of being transferred to other jobs at lower pay levels?
- Are there large numbers of illnesses or health problems which could be related to exposure to a workplace substance?

Locals may want to establish joint labor/management safety and health committees. Such committees may be successful in minimizing/eliminating workplace hazards. On the other hand, joint committees may be utilized by the employer to manipulate and undermine the Local's efforts. In order that a joint committee structure might be successful, the Local should ensure that the following points exist:

- Both parties must have an equal number of representatives.
- The chairperson of the committee must allow an equal voice to both parties, possibly by rotating chairpersons or co-chairpersons.



- Local members must be paid for time spent participating in committee activities.
- Committees should meet once a month or more frequently, if necessary. Minutes should be recorded and copies given to all committee members.
- Committee members must be able to conduct periodic workplace inspections.
- Management must agree to minimize/eliminate (potentially) hazardous workplace conditions.



B. CWA Local Union Safety and Health Committee Form

COMMUNICATIONS WORKERS OF AMERICA Local _____ Safety and Health Committee

CHAIRPERSON: _____ PHONE# _____ (W)
ADDRESS: _____ (H)
WORK LOCATION: _____ JOB TITLE: _____
E-MAIL: _____

COMMITTEE MEMBERS

NAME: _____ PHONE# _____ (W)
ADDRESS: _____ (H)
WORK LOCATION: _____ JOB TITLE: _____
E-MAIL: _____

NAME: _____ PHONE# _____ (W)
ADDRESS: _____ (H)
WORK LOCATION: _____ JOB TITLE: _____
E-MAIL: _____

NAME: _____ PHONE# _____ (W)
ADDRESS: _____ (H)
WORK LOCATION: _____ JOB TITLE: _____
E-MAIL: _____

NAME: _____ PHONE# _____ (W)
ADDRESS: _____ (H)
WORK LOCATION: _____ JOB TITLE: _____
E-MAIL: _____

NAME: _____ PHONE# _____ (W)
ADDRESS: _____ (H)
WORK LOCATION: _____ JOB TITLE: _____
E-MAIL: _____



C. Informing the Membership

A safety and health committee's effectiveness is heavily dependent upon its degree of membership involvement. In order to get the job done, the committee needs input from Local members on problem areas and support from Local members for the committee's activities.

Providing workplace information on hazards to which CWA members are exposed is crucial for membership involvement. CWA Local committees should develop an effective communications and public relations network to accomplish this end. Such a program might consist of:

- working with Local officers and legislative committee members to identify and develop issues;
- preparing safety and health articles for use in the Local newsletter and other publications;
- making "current news" reports at Local meetings (for assistance, local leaders are encouraged to access CWA's Occupational Safety and Health webpage—www.cwasafetyandhealth.org);
- participating in and providing testimony in public hearings as it relates to occupational safety and health;
- organizing letter writing campaigns directed at local, state and national legislators and at newspaper editorial columns;
- developing positive relations with other unions, central bodies, support groups (universities, committees on occupational safety and health, etc.) and coalition organizations.



D. Duty of Fair Representation


INTRODUCTION

The Occupational Safety and Health Act of 1970 (OSHA) “guarantees workers the right to a safe and healthful workplace.” This legal right should be enjoyed by all workers, union and nonunion, alike. Clearly, trade unions should be insisting that employers meet their obligation under Section 5(a)(i) of the Act—“to furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious harm to his employees.”

Unions have traditionally acted vigorously to ensure that their members enjoy a healthy, hazard-free work setting. However, in recent years, concerns about the scope of the union’s representative duties or potential legal liability have led, in some instances, to questions about the appropriate union role to be played in the workplace safety area. In some cases, unions have been hesitant to negotiate comprehensive occupational safety and health collective bargaining provisions or to develop active educational programs for fear that they will be held accountable for workplace injuries or other safety-related problems that are fundamentally the employer’s responsibility. The purpose of this fact sheet is to explain the basic facts and legal issues concerning union liability and to provide a suggested course of action within the collective bargaining arena.

THE DUTY OF FAIR REPRESENTATION

The duty of fair representation stems from the union’s exclusive role as representative of all employees within the bargaining unit, whether or not they are actually members of the union. It was first recognized by the U.S. Supreme court in *Steele vs. Louisville & Nashville R. Co.*, a 1944 ruling which found that a union breached this duty when it engaged in racial discrimination against certain members of the bargaining unit. Later decisions such as *Vaca vs. Sipes* (1967) expanded upon the scope of the duty, explaining that it applies to a wide range of union activity such as collective bargaining negotiations, contract administration and



grievance handling, but is violated only when the union's conduct towards a bargaining unit employee is "arbitrary, discriminatory, or in bad faith." Supreme Court and federal circuit court rulings continue to protect "negligent" conduct, but require that the challenged action be justified on a legitimate, nondiscriminatory basis. In short, unions enjoy a wide zone of "reasonableness" when engaged in their traditional role as employee representative.

ENSURING A SAFE WORKPLACE

The legal responsibility for creating and maintaining a safe working environment, as set forth in the OSHAct, falls on employers, not unions. However, when OSHA officials inspect an employer's premises to determine whether there have been violations of the statute, union representatives are legally entitled to accompany them, and many frequently do so. Unions are also entitled to request health and safety information from the employer to facilitate full performance of their function as collective bargaining representatives. Whenever the contract contains language addressing workplace safety issues, the employer's obligation to provide data for monitoring purposes may be even clearer. If the employer fails to provide health and safety data upon request, the union can go to the National Labor Relations Board to force it to do so.

Union-sponsored employee health surveys, the establishment of union Health and Safety Committees, and periodic training for union staff and employees all contribute to a safer, healthier workplace for bargaining unit members. Regrettably, however, injuries and accidents still occur and when they do, issues of "fault" and accountability usually arise. In recent years, several legal suits have been brought by union-represented employees, or their survivors, trying to hold their unions liable for injuries, deaths, and/or diseases which occurred or were contracted at the workplace. Most of these lawsuits have focused on the union's negotiation and enforcement of contractual language covering occupational safety and health matters. The plaintiffs, who were suing their unions, alleged that the union had violated its contractual obligation to monitor work site safety and/or had been negligent in conducting workplace inspections or monitoring compliance with safety standards. Generally, as discussed below, the courts have ruled in favor of the union in such cases, finding that federal law imposes upon the union only a duty of good faith representation, not a general duty of due care.




THE APPLICABLE LEGAL STANDARDS

Brough v. United Steelworkers of America (1971) was the first duty of fair representation case to address occupational safety and health issues. A member of the union was injured while operating an allegedly defective machine. He sought damages under a New Hampshire state common law principle that an employer's "safety advisors" are liable for negligent inspections of faulty machinery, arguing that the union's internal safety committee should be included in this category. The federal court ruled in favor of the union, holding that negligent failure to perform a duty *implied* by the contract does not constitute a breach of the duty of fair representation, and rejecting the argument that the union owed a general duty of due care to its members on a matter that was primarily the employer's responsibility.

Bryant vs. International Union, United Mine Workers of America, (1972) expanded upon the standard set in *Brough vs. United Steelworkers of America*. In *Bryant*, the survivors and estates of coal miners killed in a mine explosion filed a suit against the employer and the union for failure to ensure the employer was in compliance with the standards of the Federal Mine Safety Code. The court ruled in favor of the union, finding that the union had not failed to seek corrections of known violations. It also held that the collective bargaining agreement language was discretionary, providing only that the union "may," rather than "must" or "shall," inspect the mine area. Further, the court ruled that no duty of fair representation action could succeed without allegations of discriminatory, arbitrary, or bad faith behavior by the union, once it had actual knowledge of a safety violation.

In *Higley vs. Disston* (1976) an employee sought damages from his union because he was allegedly injured "as a result of the union-employer safety committee's negligent failure to discover and correct the condition leading to his injury." The Superior Court of Washington's favorable decision for the union made two key points: (1) The union was not guilty of discriminatory treatment of its members because it had dealt with the subject of safety inspections in an honest, non-arbitrary and good faith manner. The court emphasized that a union's introduction of safety and health provisions into the contract did not create a corresponding union obligation to make the safety inspections or to generally provide workers with a safe and healthy workplace. (2) The court applied the rationale of *Bryant*, finding that a ruling against the union would be contrary to national labor policy since such action would simply discourage the union from negotiating similar discre-



tionary language in future contracts, or from obtaining even more effective monitoring provisions.

Employers have also tried to hold unions accountable in court for failing to ensure safe working conditions. Those cases have fared no better than lawsuits brought by union members because the key issue concerns the union's accountability to the employees it represents. For example, in *House vs. Mine Safety Appliance Co.* (1976), a mining company sued a United Steelworkers of America local union to recover losses incurred due to a mining disaster, arguing that the union was negligent in policing safety standards. In ruling against the company, the Idaho court held that such a third party action to recover damages could only succeed if it could be demonstrated that union members would have the right to sue the union had they chose to do so. Since negligence was not grounds for holding a union liable for breach of their duty of fair representation obligation, the claim was dismissed.


In a landmark 1990 case, *United Steelworkers vs. Rawson*, the U.S. Supreme Court ruled that even where a union had assumed the duty of joint mine safety inspections under its contract with an employer, it was not liable under state or federal law for hazardous working conditions when employees were killed in a mining accident. The court held that federal labor law takes priority over any state law tort claim against the union for its alleged negligence in conducting joint safety inspections. In reversing the Idaho Supreme Court decision, the Court emphasized that the union's duty to inspect could only be found in the collective bargaining agreement, and that no state law claim existed independent of the contractual language.

The Court in *Rawson* also held that "mere negligence" was insufficient to state a claim for breach of the union's duty of fair representation. In particular, the court stated:

"A labor union ... may assume a responsibility towards employees by accepting a duty of care through a contractual agreement, even if that contractual agreement is a collective bargaining contract to which only the union and the employer are signatories."

Further, the Court stated:

"if an employee claims that a union owes him a more far-reaching duty (other than fair representation), he must be able to




point to language in the collective bargaining agreement specifically indicating an intent to create obligations enforceable against the union by the individual employees.”

Plaintiffs in other cases have argued that unions should be jointly liable for on-the-job injuries based on language in their constitutions indicating the importance of job safety as a union goal. However, the courts have held that these statements of general union policy interests are not binding promises and do not give rise to claims against the union for failure to ensure employee safety at a particular work location. The courts have also rejected arguments that unions should be liable when they fail to take action (such as providing a steward at a particular work site) in a particular circumstance even though they have done so in the past.

These cases clearly establish the principle that, absent some illegal motive such as discrimination or bad faith, unions will not be held legally accountable for safety and health violations at the workplace if they have agreed to discretionary language policing workplace safety. The exception to this general principle occurs when the union has agreed to contractual language that transforms the union’s role on matters of workplace safety into a mandatory or binding obligation.

Two cases illustrate the situation where the courts find that the union has accepted possible accountability for safety compliance. In *Helton vs. Hake* (1978), the widow of an ironworker who was electrocuted while hanging angle irons near a high tension line sued a local of the International Association of Bridge, Structural, and Ornamental Ironworkers, as well as the union steward, arguing that the union had contractually agreed to take over the employer’s safety function. The collective bargaining agreement provided that no work was to be done in the area of high tension lines until the power was shut off or other safety measures were taken, and obligated the union steward to “see that the working rules provisions are complied with.” In addition, the contract also provided that this duty to ensure the safety of the worksite was exclusively the union’s, explicitly stating that the employer was not to be held responsible for the performance of those functions by the steward. In light of such specific language, the Missouri court ruled that the union had chosen

“to go far beyond a mere advisory status or representative capacity in the processing of grievances. Rather, it has taken over



for itself a managerial function, namely, the fully independent right to enforce safety requirements.”


In *Dunbar v. United Steelworkers* (1979), the court refused to dismiss wrongful death claims against the union because the mine inspection contract language used the obligatory term “shall inspect” instead of the discretionary term “may inspect.”

Thus, in the unique circumstance where the union actually assumes an affirmative contractual duty of ensuring a safe workplace, it can potentially be held liable for a breach of the duty of fair representation. However, most union contracts wisely avoid taking on such binding obligations. In addition, courts being asked to determine union liability for workplace accidents or injuries will generally consider OSHA enforcement cases decided by the Occupational Safety and Health Review Commission, as well as the many court decisions which have consistently held that employers cannot legally delegate away their OSHA responsibility of providing workers with a safe and healthful workplace. (Even under common law negligence theory, it is the employer, not the union, which owes a duty of care to employees to guarantee that their workplace is safe.) Thus, only in circumstances where bad faith or discrimination can be shown, or where the union has affirmatively and explicitly agreed to accept responsibility for ensuring safety standards, along with or instead of the employer, it is unlikely that a union will be found liable for the consequences of hazardous or dangerous working conditions.

Until there is a change in the basic legal standards governing duty of fair representation claims, it is likely that the principles discussed above will continue to apply to cases involving health and safety monitoring or compliance activity by unions. In general, however, unions should try to play an active oversight role in the workplace — not undertaking or replacing the employer’s duty of care, but letting the employer (and the employees) know that health and safety are key issues for all concerned. A vocal and active union voice in this area can only increase employee support for and involvement in the union.

Key Standards for Collective Bargaining:

- Negotiate language giving the Union permissive power to exercise control on matters of employee safety and health. For example, the



union “may” (not “shall” or “must”) inspect all workplaces. Use of permissive language such as “may,” rather than obligatory language such as “shall” or “must,” negates any inference that the union is obligated to perform a function that would otherwise be the employer’s and eliminates the argument that any contractual duty of fair representation was created.

- Negotiate protective provisions that clearly emphasize the employer’s responsibility for ensuring a safe and healthful workplace, while maintaining the issue as a subject for bargaining and other union activity. An example of such a protective clause is the duty of care set forth in the OSHAct, Section 5(a)(1) which obligates the employer to “furnish to each of his employees employment and a place of employment free from recognized hazards that are causing or are likely to cause death or serious physical harm.”
- Negotiate contractual language obligating the employer to furnish the union with periodic reports about specific areas of concern, and/or to afford the union periodic inspection opportunities, of either work sites generally or particular locations with known hazardous conditions, and/or of equipment, tools or other means of performing the job that have safety and health implications.
- Negotiate contractual language obligating the employer to train workers about particular hazards or dangerous conditions. Include a role for the union in this training that is advisory and discretionary, but nonetheless keeps the union’s representatives involved in the process.

The union should also take employee complaints about workplace safety very seriously regardless of any defenses it might have to duty of fair representation claims. The grievance process may provide an effective avenue for raising such issues, along with complaints to outside agencies. The more pressure that is placed on an employer to comply with acceptable standards of care and safety, the less danger of accidents or injuries. Ultimately, aggressive expressions of union concern about these issues will benefit every employee, and can also serve as an example for organizing and mobilization in other settings.



A. Safety Hazards

Recognizing safety and health hazards is a primary function of the Local Occupational Safety and Health Committee. There are four basic types of safety hazards accidents. They are:

- falling;
- being struck by or striking against an object;
- getting caught in or between two objects; and
- contact accidents, such as touching extremely hot or cold objects and electricity.


Local committees should be able to identify safety hazards and work to have management correct or abate them. By consulting the employer-kept injury log and workers' compensation reports, committee members can familiarize themselves with the range of hazards encountered by Local members.

Use of the following questions should help the Local committee achieve this end.

SAFETY CONSIDERATIONS

Some questions a safety and health committee may want to ask:

- Are all electrical appliances and equipment properly grounded or double insulated?
- Are all belts, wheels, fans, and other moving parts adequately guarded?
- Is all electrical equipment in good working condition?
- Are all hand tools in good condition?
- Do sharp tools such as scissors, cable sheath knives, and tree trimming equipment have safe storage covers?
- Are trucks and cars in good working condition, e.g., are brakes, lights, seat belts, engines in proper working order? Is vehicle maintenance easily obtainable?
- In areas where chains are used for winter snow, is the driver responsible for putting the chains on? Is there any safety training regarding this procedure?

- 
- Are floor surfaces clean, dry and free of debris and tools?
 - Are you familiar with the correct way to use ladders?
 - Are emergency exits clearly marked and visible?
 - Are there adequate right-of-ways leading to exits?
 - Are stairways accessible and in good condition?
 - Are file cabinets and storage closets arranged so drawers and doors do not open into walkways?
 - Is your office equipped with a step stool or ladder so you can safely reach high objects?
 - Does the lighting in offices provide adequate illumination?
 - Do you know where fire extinguishers are and how to use them?
 - Do you know where fire alarms are and whether they alert the fire department?
 - Are you familiar with basic first aid procedures in case of an emergency?
 - Do you know where to locate the nearest doctor or hospital?

These are some suggested questions. The Local committee may want to make up its own list to deal specifically with its work situations.



B. Health Hazards

Hhealth hazards, i.e., exposure to toxic substances and physical agents, may be more difficult to identify than safety hazards in many instances. It often takes many years from initial exposure to the time when effects become apparent. Therefore, the Local committee should become knowledgeable in health hazard detection techniques.


The best method of recognition is to closely observe the work processes at the job site. Talk to workers at the job site to ascertain whether there are any health hazards. Review the employer's OSHA records to learn of any occupational diseases; in particular, obtain copies of OSHA Form 300 (see chapter 3 for information regarding the OSHA 300 form) and copies of any OSHA inspections. In addition, request copies of any NIOSH industrial hygiene surveys and exposure studies which the employer may have conducted. (If the employer does not have copies of OSHA and NIOSH surveys, request this information from the respective agency. Their addresses are located in Chapter 9.)

Use of the following "health considerations" should assist the Local committee in the identification of health hazards.

HEALTH CONSIDERATIONS

Some questions a safety and health committee may want to ask:

- As part of your job do you visit customers' premises which may contain unknown dangers (e.g., laboratories, foundries, chemical plants, nuclear power plants, etc.)?
- If you feel a customer's workplace is unsafe, will you be provided personal protective equipment if needed? If not, would you request another assignment until the work location can be made safe?
- Are personal protective devices required at your workplace? Are they properly selected and well maintained?
- Do you use tools that vibrate or that require an uncomfortable hand, wrist, arm, shoulder, or body position?
- Is your workplace unnecessarily hot or cold?

- 
- Do you work with chemicals or other hazardous substances? Do you know what they are and their hazardous properties? Do you know what precautions should be taken with them?
 - Is proper ventilation provided in areas where chemicals are used?
 - Are there gases, vapors, and dust in the workplace? Do you know the source?
 - Are there gases and vapors in the area in which you work that may cause narcotic effects, dizziness, nausea, slower reaction time, etc?
 - Are machinery, tools, or equipment excessively noisy?
 - If you use a headset, do you suffer from frequent noise blasts or static which hurts your ears?
 - Have members employed in visually fatiguing jobs involving computer use complained of eye strain?
 - Has anyone ever mentioned suffering skin or upper respiratory reactions after working with plugging compounds containing isocyanates?
 - Employers may be required to give blood lead level tests to workers who come in contact with lead on their jobs. Has anyone been removed from their job because of high blood lead levels?
 - Have workers been complaining of similar health problems? Does there seem to be a pattern of health problems that warrants further investigation?



C. Basic Equipment for Accident Investigations

Local safety and health committees may want to conduct safety and health investigations. A comprehensive investigation may prevent the recurrence of an accident and allow potential hazards to be minimized or eliminated. Use of the materials listed below should prove helpful in performing thorough investigations:

Papers, Publications and Documents

OSHA Standards
Your contract

Safety Equipment

Safety glasses or goggles
Earplugs
Hardhat
Protective clothing

Photography

Camera — Point and shoot or digital
Film — 400 ASA film good in most indoor lighting without flash; color or black/white OK
Photography log — Should indicate photo number, names, comments; don't rely on memory

Notes/Sketching

Clipboard
Paper/pencils
Graph paper
Ruler, protractor, compass

Miscellaneous

Measuring tape
Plastic bags for samples
Recorder equipment
Carrying case/overnight suitcase for equipment






A. Workers' Rights and Responsibilities

The Occupational Safety and Health Act of 1970 was enacted to ensure safe and healthful working conditions for all workers. The Act provides workers and employers with certain rights and responsibilities. For example:

- Employees have a right to employment and a place of employment which are free from recognized hazards that are likely to cause death or serious physical harm.
- Unions have the right to request an inspection of a workplace by filing a written complaint with the OSHA Area Office. Names of persons requesting an OSHA inspection must be kept confidential, if requested. OSHA Area Directors must order an inspection or explain to the Union why they are not doing so. If OSHA conducts an investigation but does not issue a citation, the Union must be provided with an explanation.
- The Union has a right to attend the opening conference before an inspection is conducted. A Union representative must be notified by the OSHA Compliance Officer and given the opportunity to attend the meeting.
- The Union has the right to accompany the OSHA compliance officer during the “walkaround” inspection. The OSHA inspector will determine how many Union representatives can participate in the inspection. During the walkaround, the Union should provide the inspector with as much information as possible.
- The Union representative has a right to participate in the closing conference after the “walkaround” is conducted. The Union should use this opportunity to ask questions about the alleged violations in the Union complaint, violations found by the inspector, length of the abatement period, and the seriousness of the violations, and penalties. During the meeting, Local representatives should take careful notes.
- The Union has the right to be notified of any “imminent danger” found by the OSHA inspector and request an “imminent danger” inspection. “Imminent danger” is a situation that could be reasonably expected to cause death or serious physical harm. Upon finding an “imminent danger,” the OSHA inspector must notify the Local. In



turn, the employer must be asked to correct the hazard immediately or remove exposed workers from danger. If the employer refuses to remove exposed workers from dangers, OSHA can go to court to force compliance. In cases where OSHA refuses to obtain such a court order, CWA Locals may request an order that OSHA take such action.

- The Union has a right to be informed of an employer appeal of an OSHA citation. The company must post the “Notice of Contest.” The union has a right to participate in informal conferences as called for by OSHA as a result of the employer’s appeal.
- Locals have the right to OSHA logs and summaries which must be kept by the employer.
- Unions have the right to be informed by the employer if the company requests a variance from an OSHA Standard. A variance is an exemption from compliance with an OSHA Standard. The Local can file a request with OSHA for a formal hearing related to variance applications.
- Locals have the right to request party status with the Occupational Safety and Health Review Commission in employer contests. By electing party status, the Union has the right to participate in Review Commission proceedings. (See sample letter, Chapter VI, page 6.12.)
- Locals only have the right to contest the abatement date. The “Notice of Contest” may be in letter form. (See sample letter in Chapter VI, page 6.9.)
- The OSHAct stipulates that an employee cannot be fired, demoted, lose seniority or in any way be discriminated against for participating in safety and health activities. If the employer should discriminate against a Union member for such participation, the Local should file a complaint (called an “Eleven C” Complaint) with OSHA no later than 30 days after the employer’s conduct occurred. Be sure to document all facts for use by OSHA.

Unions and workers also have certain occupational safety and health responsibilities i.e., they must adhere to safety and health standards promulgated under the OSHAct. However, workers cannot be penalized for non-compliance.



B. Employers' Responsibilities

The OSHAct of 1970 spells out specific employer responsibilities. For instance:

- Employers must provide workers with a place of employment free from recognized hazards that are causing or are likely to cause death or serious physical harm.
- Employers must comply with occupational safety and health standards, rules, and regulations issued under the OSHAct.
- Companies must maintain OSHA-required records of occupational injuries and illnesses. Annual totals of occupational injuries and illnesses must be posted from February 1 through April 30 of the given year.
- Employers must abate cited violations within the prescribed period.
- Employers must report any fatal accident or one which results in the hospitalization of five or more employees.
- Employers must not discriminate against workers as a result of their safety and health activities.
- Employers must provide regular occupational safety and health training.



C. Penalties

The OSHAct specifies the types of violations and the penalties which may be proposed for an employer's failure to comply with the Act. They are:

De Minimis — A violation that has no direct or immediate relationship to job safety and health. A notice is issued, not a citation.

Penalty — None proposed.

Non-Serious Violation — A violation that has a direct relationship to job safety and health but probably would not cause death or serious physical harm.


Penalty — discretionary; up to \$1,000. (A penalty for a non-serious violation may be adjusted downward by as much as 50% depending on the severity of the hazard, the employer's good faith, history of previous violations, and size of business. The resulting figure is also reduced an additional 50% on the assumption that the employer will correct the violation within the prescribed abatement period. If reinspection shows failure to abate, the same percentage (50%) of reduction is *added* to daily proposed penalties. This may be up to \$1,000 per day beyond the prescribed abatement date).

Serious Violation — A violation where there is substantial probability that death or serious physical harm could result, and the employer knew, or should have known, of the hazard.

Penalty — Mandatory; up to \$1,000. (The penalty may be adjusted downward by as much as 50% based on the gravity of the violations, the employer's good faith, history of previous violations, and size of business).

Imminent Danger — a serious violation in which a danger exists that can be expected to cause death or serious physical harm immediately or before the danger can be eliminated through normal enforcement procedures.

Penalty — Mandatory; up to \$1,000. If the hazard is corrected immediately, OSHA may cite the employer with a serious or willful violation.



(The penalty may be adjusted downward by as much as 50% based on the gravity of the violation, the employer's good faith, history of previous violations, and size of business).

Other violations for which citations and proposed penalties may be issued are as follows:

- Falsifying records, reports, or applications can bring a fine of \$10,000 and 6 months in jail.
- Violations of posting requirements can bring a civil penalty of \$1,000.
- Assaulting a compliance officer or otherwise resisting, opposing, intimidating, or interfering with a compliance officer in the performance of his or her duties is a criminal offense, subject to a fine of not more than \$5,000 and imprisonment for not more than 3 years.
- For any employer who willfully or repeatedly violates the Act, penalties of up to \$1,000 for each such violation will be assessed. If an employer is convicted of a willful violation that has resulted in the death of an employee, the offense is punishable by a fine of not more than \$10,000 or by imprisonment up to 6 months, or both. A second conviction doubles these maximum penalties.



D. Employer's Recordkeeping Requirements

As of January 1, 2002, your employer must complete and maintain the following recordkeeping forms. These forms are:

- **OSHA Form 300** (Log of Work-Related Injuries and Illnesses)
- **OSHA Form 300A** (Summary of Work-Related Injuries and Illnesses)
- **OSHA Form 301** (Injury and Illness Incident Report)

This is a change from the past. Previously, workplace injuries and illnesses were recorded on the OSHA 200 and OSHA 101 forms.

Not all OSHA covered employers are required to complete and maintain these forms. For example, employers with 10 or less employees and employers in industries that are classified as “Low hazard” are not covered by the OSHA recordkeeping requirements.* *All employers* are required to report any workplace fatality and the hospitalization of 3 or more workers.


Some major changes from the previous OSHA Recordkeeping Rule are:

- **Illness Recording** (1904.7). the old rule required all occupational illnesses be recorded. the new rule changed this to “significant injury or illness diagnosed by a physician or other licensed health care professional. These include work-related cancer, chronic irreversible diseases such as silicosis, fractured or cracked bones, and eardrum punctures.

The new rule eliminates the separate categories for “Injuries” and “Illnesses” and sets up seven categories that your employer must check off. these are:

1. Injury
2. Musculoskeletal disorder

*“Low Hazard” include those that are not now targeted for OSHA general schedule inspections and, for a designated three year period, the industry had an injury and illness rate at or below 75% of the comparable private sector average (1904.16).

- 
3. Skin disorder
 4. Respiratory Disorder
 5. Poisoning
 6. Hearing Loss
 7. All Other Illnesses

- **First Aid** (1904.7(b)(5)). Injuries that can be treated by using coverings such as “Band Aids” and gauze pads, “totally” non-rigid forms of support such as elastic bandages and wraps, and using irrigation or a cotton swab to remove splinters or foreign materials from areas other than the eye are considered non-recordable injuries (see *OSHA: Forms for Recording Work-Related Injuries and Illnesses* for a complete list of First aid actions).
- **Musculoskeletal disorders** (MSD’s) and hearing Loss have been legally challenged as categories and there is a one-year stay on recording these categories. Although employers are not required to check the MSD column during the stay; they are required to record all MSD’s.
- **Access to Medical Records** (1904.35). The new rule actually strengthens employee and employer representatives’ access to records. Your employer must inform you as to how you are to report injuries and illnesses. your employer must provide you, your personal representative (designated in writing), and your union representative access to injury and illnesses records. The OSHA 300 Log must be provided by the end of the next business day. The Log must include the names of employees. Note: Departments are no longer noted on the Log.
- **Posting.** The new rule requires employers to post the OSHA 300A Log, the summary of Work-Related Injuries and Illnesses, within the workplace from February 1 – April 30 of the given year.
- **No discrimination** (1904.36). The new rule cites Section 11(c) of the OSHAct. This prohibits your employer from discriminating against you for requesting health & safety information or reporting dangerous working conditions.

An Overview: Recording Work-Related Injuries and Illnesses

The Occupational Safety and Health (OSHA) Act of 1970 requires certain employers to prepare and maintain records of work-related injuries and illnesses. OSHA rules describe when you actually must do this, OSHA's record-keeping regulations describe how to do this, and OSHA's record-keeping regulations describe how to do this.

The Log of Work-Related Injuries and Illnesses (Form 300) is used to classify work-related injuries and illnesses and to use the extent and severity of each case. When an incident occurs, use the Log to record specific details about what happened and how it happened. The Summary is a separate form (Form 300A) that shows the totals for the year in each category. At the end of the year, you also Summary in a specific location so that your employees are aware of the injuries and illnesses occurring in their workplace.

Employers must keep a Log for each establishment or site. If you have more than one establishment, you must keep a separate Log and Summary for each physical location that is expected to be in operation for one year or longer.

Note that your employees have the right to receive their injury and illness records. For more information, see 29 Code of Federal Regulations Part 1904.35, Employee Involvement.

Cases based on the Log of Work-Related Injuries and Illnesses are not necessarily eligible for workers' compensation or other insurance benefits. Listing a case on the Log does not mean that the employer or worker was at fault or that an OSHA standard was violated.

When is an injury or illness considered work-related?

An injury or illness is considered work-related if it was caused or contributed to by work environment caused or contributed to by conditions or significantly aggravated a preexisting condition. Work-relatedness is

presumed for injuries and illnesses resulting from events or exposures occurring in the workplace, unless an exception specifically applies. See 29 CFR Part 1904.10(b)(2) for the exceptions. The work environment includes the establishment and other locations where one or more employees are working or are present as a condition of their employment. See 29 CFR Part 1904.5(b)(7).

Which work-related injuries and illnesses should you record?

Record those work-related injuries and illnesses that result in:

- ▶ death.
 - ▶ loss of consciousness.
 - ▶ days away from work.
 - ▶ restricted work activity or job transfer, or
 - ▶ medical treatment beyond first aid.
- You must also record work-related injuries and illnesses that are significant as defined below or meet any of the additional criteria listed below.

You must record any significant work-related injury or illness that is diagnosed by a physician or other licensed health care professional. You must record any work-related case involving cancer, chronic irreversible disease, a fracture or cracked bone, or a punctured eardrum. See 29 CFR 1904.7.

What do you need to do?

1. Within 7 calendar days after you receive information about a case, decide if the case is recordable under the OSHA recordkeeping requirements.
2. Determine whether the incident is a new case or a recurrence of an existing one.
3. Establish whether the case was work-related.
4. If the case is recordable, decide which form you will fill out as the injury and illness incident report.

You may use OSHA's 301, Injury and Illness Incident Report or an equivalent form. Some state workers' compensation divisions, insurance, or other reports may be acceptable substitutes, as long as they provide the same information as the OSHA 301.

How to work with the Log

1. Identify the employer involved unless it is a privacy concern case as described below.
2. Identify when and where the case occurred.
3. Describe the case, as specifically as you can.
4. Classify the seriousness of the case by recording the most serious outcome associated with the case, with certain exceptions. (Other recordable cases being the less serious and certain OSHA health) being the most serious.
5. Identify whether the case is an injury or illness. If the case is an injury, check the injury category. If the case is an illness, check the appropriate illness category.

What are the additional criteria?

You must record the following conditions when they are work-related:

- ▶ any occupational injury or illness a sharp object that is contaminated with another person's blood or other potentially infectious materials
- ▶ any case requiring an employee to be medically removed under the requirements of an OSHA health standard,
- ▶ tuberculosis infection as requested by a positive skin test or diagnosis by a physician or other licensed health care professional after exposure to a known case of active tuberculosis.

What is medical treatment?

Medical treatment includes managing and caring for a patient for the purpose of controlling disease or disorder. The following are not considered medical treatments and are NOT recordable:

- ▶ visits to a doctor or health care professional solely for observation or counseling.
 - ▶ diagnostic procedures, including administering prescription medications that are used solely for diagnostic purposes and any procedure that can be labeled first aid.
- (See below for more information about first aid.)





What is first aid?

If the incident required only the following types of treatment, consider it first aid. Do NOT record the case if it involves only:

- ▼ using heat/prescription medications as over-the-counter strength;
- ▼ administering tetanus immunization;
- ▼ cleaning, bandaging, or soaking wounds on the skin surface;
- ▼ using wound coverings, such as bandages, band-aids™, gauze pads, etc., or using "steri-strips"™ or butterfly band-aids;
- ▼ using hot or cold therapy;
- ▼ using any orally over-the-counter product, such as ibuprofen, aspirin, acetaminophen, non-steroidal anti-inflammatory drugs, etc.);
- ▼ using temporary immobilization devices while transporting an accident victim (splints, slings, neck collars, or back boards);
- ▼ drilling a fingernail or needle in, to relieve pressure, or draining fluids from blisters;
- ▼ using eye patches;
- ▼ using simple irrigation or a cotton swab to remove foreign bodies not embedded in or adhered to the eye;
- ▼ using antiseptic, first-aid, contact wash or other simple means to remove substances or foreign material from near rather than the eye;
- ▼ using finger guards;
- ▼ using massages;
- ▼ drinking fluids to relieve heat stress.

How do you decide if the case involved restricted work?

Restricted work activity occurs when, as the result of a work-related injury or illness, an employer or health care professional keeps or re-consents keeping, an employee from doing the routine functions of his or her job or from working the full workday that the employer would have been scheduled to work before the injury or illness occurred.

How do you count the number of days of restricted work activity or the number of days away from work?

Count the number of calendar days the employee was on restricted work activity or was away from work as a result of the work-related injury or illness. Do not count the day on which the injury or illness occurred in this number. Days counting days from the day after the incident occurs. If a single injury or illness involved both days away from work and days of restricted work activity, enter the total number of days for each. You may stop counting days of restricted work activity or days away from work once the total of either or the combination of both reaches 180 days.

Under what circumstances should you NOT enter the employee's name on the OSHA Form 300?

- ▼ You must consider the following types of injuries or illnesses as *not* reportable on OSHA Form 300:
 - ▼ an injury or illness to an employee body part or to the reproductive systems.

▼ an injury or illness resulting from a sexual assault.

- ▼ a mental illness.
- ▼ a case of HIV infection, hepatitis or tuberculosis.
- ▼ a neck/back injury or cut from a sharp object that is contaminated with blood or other potentially infectious material (see 29 CFR part 1904-A for definition), and other illnesses, if the employee:
 - independently and voluntarily requests that his or her name not be entered on the log;
 - You must not enter the employer's name on the OSHA 300 Log for these cases. Instead, enter "privacy case" in the space normally used for the employer's name. You must keep a separate confidential log of the case number and employee names for the establishment's privacy concerns so that you can update the case and provide information to the government if asked to do so.
 - If you have a reasonable basis to believe that information describing the privacy concern case may be personally identifiable even though the employer's name has been omitted, you may use discretion in describing the injury or illness on both the OSHA 300 and 301 forms. You must enter enough information to identify the cause of the incident and the general severity of the injury or illness, but you do not need to include details of an illness or private nature.

What if the outcome changes after you record the case?

In the course or extent of an injury or illness changes after you have recorded the case, simply draw a line through the original entry on, if you wish, delete or write-out the original entry. Then write the new entry where it belongs. Remember, you need to record the most serious outcome for each case.

Classifying Injuries

An injury is any wound or damage to the body resulting from an event in the work environment.

Examples: Cut, puncture, laceration, abrasion, fracture, bruise, contusion, clipped teeth, amputation, head bite, electrocution, or a thermal, chemical, electrical, or radiation burn. Sprain and strain injuries to muscles, joints, and connective tissues are classified as injuries unless they result from a slip, trip, fall or other similar accidents.



Classifying Illnesses

Skin diseases or disorders

Skin diseases or disorders are illnesses involving the worker's skin that are caused by work exposure to chemicals, plants, or other substances.

Example: Contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous plants; oil acne; friction blisters; chronic ulcers; inflammation of the lips.

Respiratory conditions

Respiratory conditions are illnesses associated with breathing harmful biological agents, chemicals, dust, gases, vapors, or fumes at work.

Example: Silicosis, asbestrosis, pneumoconiosis, farmer's lung, hypersensitivity pneumonitis, tuberculosis, occupational asthma, nose and throat dysfunction (rhinosinusitis), chronic obstructive pulmonary disease (COPD), hypersensitivity pneumonitis, toxic inhalation injury, such as metal fume fever, chronic obstructive bronchitis, and other pneumoconioses.

Poisoning

Poisoning includes disorders evidenced by abnormal concentrations of toxic substances in blood, other tissues, other bodily fluids, or the breath that are caused by the ingestion or absorption of toxic substances into the body.

Example: Poisoning by lead, mercury, cadmium, arsenic, or other metals; poisoning by carbon monoxide, hydrogen sulfide, or other

gases; poisoning by benzene, borane, carbon tetrachloride, or other organic solvents; poisoning by inhaled sprays, such as parathion or lead acetate; poisoning by other chemicals, such as formaldehyde.

All other illnesses

All other occupational illnesses.

Example: Dizziness, weakness, heat exhaustion, heat stress and other effects of environmental heat; frostbite; flu; and other effects of exposure to low temperatures; decompression sickness; effects of ionizing radiation (leukopenia, x-rays, radium); effects of sensitizing radionuclides (reddish rash, hair-lost); vertigo, seasickness, blast-related pathologies; diseases, such as AIDS, HIV, hepatitis B or hepatitis C, brucellosis, melioidosis or benign tetanus; fibromyalgia; coccal/syphilis/typhus.

When must you post the Summary?

You must post the Summary only once per year. The Log -- by February 1 of the year following the year covered by the form and keep it posted until April 30 of that year.

How long must you keep the Log and Summary on file?

You must keep the Log and Summary for 5 years following the year to which they pertain.

Do you have to send these forms to OSHA at the end of the year?

No. You do not have to send the completed forms to OSHA unless specifically asked to do so.

How can we help you?

If you have a question about how to fill out the Log,

- visit us online at www.osha.gov or
- call your local OSHA office.

Optional

Calculating Injury and Illness Incidence Rates

What is an incidence rate?

An incidence rate is the number of recordable injuries and illnesses occurring among a given number of full-time workers (usually 100 full-time workers) over a given period of time (usually one year). To evaluate your data's injury and illness experience over time or to compare your firm's experience with that of your industry as a whole, you need to compute your incidence rate. Because a specific number of workers and a specific period of time are involved, these rates can help you identify problems in your workplace and/or progress you may have made in preventing work-related injuries and illnesses.

How do you calculate an incidence rate?

You can compute an optional injury and illness incidence rate for all recordable cases or for cases that involved days away from work for your firm quickly and easily. The formulas required that you follow instructions in paragraph (a) below for the total recordable cases or those in paragraph (b) for cases that involved days away from work, and for both rates the instructions in paragraph (c).

(a) To find out the total number of recordable injuries and illnesses that occurred during the year, contact the number of line entries on your OSHA Form 300, or refer to the OSHA Form 300A and use the statistics for columns (4), (8), (9), and (1).

(b) To find out the number of injuries and illnesses that resulted days away from work, contact the number of line entries on your OSHA Form 300 that received a check mark in column (11), or refer to the entry for column (16) on the OSHA Form 300A.

(c) The number of hours of employee activity during the year. Refer to OSHA Form 3003 and optional worksheet to calculate this number.

You can compute the incidence rate for all recordable cases of injuries and illnesses using the following formula:

Total number of injuries and illnesses or number of days away from work ÷ Number of hours worked by all employees × 200,000 hours = Total recordable case rate

(The 200,000 figure in the formula represents the number of hours 100 employees working 40 hours per week, 50 weeks per year would work, and provides the standard base for calculating incidence rates.)

You can compute the incidence rate for recordable cases involving days away from work, days of restricted work activity or job transfer (DART), using the following formula:

Number of entries in column (1) + Number of days away from work ÷ Number of hours worked by all your employees × 200,000 hours = DART incidence rate

You can use the same formula to calculate incidence rates for other variables such as cases involving restricted work activity (column (2) on Form 300A), cases involving job transfers (column (3) on Form 300A), etc. Just substitute the appropriate total for days away from work (300A, Item 16) formula in place of the total number of injuries and illnesses.

What can I compare my incidence rate to?

The Bureau of Labor Statistics (BLS) releases a survey of occupational injuries and illnesses each year and publishes incidence rate data by

various classifications (e.g., by industry, by employer size, etc.). You can compare these published data at www.bls.gov or by calling a BLS Regional Office.

Worksheet

Total number of recordable injuries and illnesses in your establishment

× 200,000 hrs

Hours worked by all your employees

Total number of recordable injuries and illnesses with a checkmark in column (1) or column (11)

× 200,000 hrs

Hours worked by all your employees

Total recordable case incidence rate

DART incidence rate



How to Fill Out the Log

The Log of Work-Related Injuries and Illnesses is used to classify work-related injuries and illnesses and to note the extent and severity of each case. When an incident occurs, use the Log to record specific details about what happened and how it happened.

If your company has more than one establishment or site, you must keep separate records for each physical location that is expected to remain in operation for one year or longer.

We have given you several copies of the Log in this package. If you need more than we provided, you may photocopy and use as many as you need.

The Summary—a separate form—shows the work-related injury and illness totals for the year in each category. At the end of the year, count the number of incidents in each category and transfer the totals from the Log to the Summary. Then your employees will be aware of injuries and illnesses occurring in their workplaces.

You don't post the Log. You post only the Summary at the end of the year.

OSHA's Form 300
Log of Work-Related Injuries and Illnesses

This log is to be maintained by the employer for each establishment where work-related injuries and illnesses occur. It is to be used to record and classify work-related injuries and illnesses that result in lost work time or restricted work or transfer to another job duty. It is not to be used to record and classify work-related injuries and illnesses that result in first aid only, medical treatment, or job transfer for less than one day. It is not to be used to record and classify work-related injuries and illnesses that result in death, permanent and partial disability, or loss of consciousness. It is not to be used to record and classify work-related injuries and illnesses that result in a fatality or a loss of consciousness for more than 14 days. It is not to be used to record and classify work-related injuries and illnesses that result in a fatality or a loss of consciousness for more than 14 days. It is not to be used to record and classify work-related injuries and illnesses that result in a fatality or a loss of consciousness for more than 14 days.

Establishment Information

Name: _____
Address: _____
City: _____ State: _____ Zip: _____
Telephone: _____

Employer Information

Name: _____
Address: _____
City: _____ State: _____ Zip: _____
Telephone: _____

Log of Work-Related Injuries and Illnesses

Date	Employee Name	Job Title	Department	Shift	Time of Day	Location	Description of Injury or Illness	Days Lost		Job Transfer	Medical Treatment	Lost Workdays	Days Lost Due to Restricted Work	Days Lost Due to Transfer to Another Job	Days Lost Due to Death	Days Lost Due to Loss of Consciousness
								Number	Percentage							
1. _____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Summary

Total number of work-related injuries and illnesses recorded: _____

Total number of days lost: _____

Total number of days lost due to restricted work: _____

Total number of days lost due to transfer to another job: _____

Total number of days lost due to death: _____

Total number of days lost due to loss of consciousness: _____

Be as accurate as possible. You will not be told if you make a mistake.

Record the log if the injury or illness progresses and the employee is unable to perform his or her regular job duties for more than one day. Do not put entries on white-out or obliterate entries.

Choose "Days Lost" categories for recording injury days only for recording the total number of days lost. Do not include other categories of illness, such as lost days due to other reasons, such as vacation or sick leave.

Indicate whether the case involves an injury or illness on the right side of the log.

OSHA's Form 300A

Summary of Work-Related Injuries and Illnesses



Year 20

U.S. Department of Labor
Occupational Safety and Health Administration

All establishments covered by Part 1910 must complete this Summary page, even if no work-related injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete and accurate before completing this Summary.

Using the Log, enter the individual counts you made for each category. Then enter the totals below, taking into account the entries for employees of the Log if you have cases, etc. (3)

Employees, former employees, and their representatives having the right to review this OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 300 or its equivalent, say 29 CFR Part 1910.15, a OSHA's recordkeeping rule, for further details on the systems procedures for 29 CFR 1910.15.

Number of Cases			
Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
(a)	(4)	(8)	(6)

Number of Days	
Total number of days of job transfer or restriction	Total number of days away from work
(9)	(6)

Injury and Illness Types	
Total number of . . .	
(1) Injuries	(4) Poisonings
(2) Skin diseases	(5) All other illnesses
(3) Respiratory conditions	

Print this Summary page from February 1 to April 30 of the year following the year covered by the form.

Print the Summary page from February 1 to April 30 of the year following the year covered by the form. For the reporting year, the OSHA Form 300 must be completed and submitted to OSHA by the employer. For the reporting year, the OSHA Form 300 must be completed and submitted to OSHA by the employer. For the reporting year, the OSHA Form 300 must be completed and submitted to OSHA by the employer. For the reporting year, the OSHA Form 300 must be completed and submitted to OSHA by the employer.

Establishment Information

Your establishment name _____

Name _____

City _____ State _____ ZIP _____

Industry/occupation (e.g., manufacturer of metal work tables) _____

Standard Industrial Classification (SIC) if known (e.g., 8511, 9141) _____

Employment Information (If you do not have this figure, or do not know it, list the best of the job or a nearby) _____

Project average number of employees _____

Total hours worked by all employees last year _____

Sign Here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Employer/owner _____

Signature _____

Optional

Worksheet to Help You Fill Out the Summary

At the end of the year, DSHA invites you to enter the average number of employees for the occupation worked by your employees on the summary. If you don't have those figures, you can use the information on this page to calculate the numbers you will need to enter on the Summary page at the end of the year.

How to figure the average number of employees who worked for your establishment during the year:

- 1 Add the total number of employees your establishment paid in all pay periods during the year. Include all employees: full-time, part-time, temporary, seasonal, seasonal, and hourly.
- 2 Count the number of pay periods your establishment had during the year. Be sure to include any pay periods when you had no employees.
- 3 Divide the number of employees by the number of pay periods.
- 4 Round the answer to the next highest whole number. Write the rounded number in the blank marked "Round average number of employees."

For example, Acme Construction figured its average employment this way:

Pay period	Number of employees	Average number of employees
1	30	Number of employees paid = 900
2	0	
3	45	Number of pay periods = 26
4	30	
5	40	900 ÷ 26 = 34.62
6	20	
7	30	34.62 rounds to 35
8	15	
9	40	35 is the final average number of employees
10	20	

How to figure the total hours worked by all employees:

Include hours worked by full-time, part-time, seasonal, and seasonal workers, as well as hours worked by other workers subject to day-in/day-out status by your establishment (e.g., temporary help services workers).

Do not include vacation, sick leave, holidays, or any other non-work time, even if employers were paid for it. If your establishment keeps records of only the hours paid or if you have employees who are not paid by the hour, please estimate the hours that the employees actively worked.

If this number isn't available, you can use this optional worksheet to estimate it.

Optional Worksheet

- 1 Find the number of full-time employees in your establishment for the year: _____
- 2 Multiply by the number of work hours for a full-time employee in a year: _____
This is the number of full-time hours worked.
- 3 Add the number of any overtime hours as well as the hours worked by other employees (part-time, temporary, seasonal): _____
- 4 Round the answer to the next highest whole number. Write the rounded number in the blank marked "Total hours worked by all employees for year." _____



If You Need Help...

If you need help checking whether a state is responsible, or if you have questions about the information and programs, please do contact us. We'll gladly answer any questions you have.

▼ Visit us online at www.osha.gov

▼ Call your OSHA Regional office and ask for the recordkeeping coordinator

or

▼ Call your State Plan office

State Plan States

Alaska - 907 / 269-4957	Oregon - 503 / 376-6578
Arizona - 602 / 542-1792	Puerto Rico - 787 / 754-2172
California - 915 / 703-5104	South Carolina - 803 / 734-9669
*Connecticut - 860 / 565-4590	Tennessee - 615 / 741-2745
Hawaii - 808 / 586-4106	Utah - 801 / 530-6903
Idaho - 317 / 232-2688	Vermont - 802 / 898-2703
Iowa - 515 / 281-3061	Virginia - 804 / 786-6613
Kentucky - 502 / 584-3070	Virgin Islands - 340 / 772-1313
Maryland - 410 / 767-2371	Washington - 360 / 352-6234
Michigan - 517 / 323-1843	Wyoming - 307 / 777-7785
Minnesota - 612 / 294-9050	*Public Sector only
Nevada - 702 / 486-9020	
*New Jersey - 609 / 984-1389	
New Mexico - 505 / 827-4239	
*New York - 518 / 457-3574	
North Carolina - 919 / 877-3573	

Federal Jurisdiction

Region 1 - 617 / 545-9960 Connecticut; Massachusetts; Maine; New Hampshire; Rhode Island	Region 2 - 212 / 237-2378 New York; New Jersey
Region 3 - 215 / 831-1900 DC; Delaware; Pennsylvania; West Virginia	Region 4 - 404 / 542-2500 Alabama; Florida; Georgia; Mississippi
Region 5 - 312 / 353-2220 Illinois; Ohio; Wisconsin	Region 6 - 214 / 757-4731 Arkansas; Louisiana; Oklahoma; Texas
Region 7 - 816 / 426-5861 Kansas; Missouri; Nebraska	Region 8 - 303 / 844-1500 Colorado; Montana; North Dakota; South Dakota
Region 9 - 415 / 875-4310	Region 10 - 206 / 555-5936 Hawaii



Have questions?

If you need help in filling out the Log or Summary, or if you have questions about whether a case is recordable, contact us. We'll be happy to help you. You can:

- ▼ Visit us online at: www.osha.gov
- ▼ Call your regional or state plan office. You'll find the phone number listed inside the cover.





A. State Plans

In many states, occupational safety and health activities are administered by a state agency rather than federal OSHA. As indicated in Section 18(b) of the OSHAct, states may administer an occupational safety and health plan by applying to and receiving approval from federal OSHA. State plans, administered by the labor department or division of labor and industry, must provide workers with at least the same protections afforded in the OSHAct. In addition, state plans must cover state and local employees.

After a state plan is in operation, federal OSHA will continue to monitor and evaluate its effectiveness. CWA Locals located in jurisdictions under state plans should make sure that their members are receiving coverage which is at least as comprehensive as the OSHAct.

If a state plan fails to provide adequate coverage, CWA Locals should file a complaint against the state plan with the federal OSHA Area office (see sample letter, next page). If federal OSHA finds that a state plan fails to meet OSHAct requirements, it can begin proceedings to withdraw the plan and institute federal occupational safety and health coverage.

STATES WITH APPROVED PLANS

Alaska	Minnesota	Virginia
Arizona	Nevada	Washington
California	New Jersey	Wyoming
*Connecticut	New Mexico	
Hawaii	*New York	<i>Also:</i>
Indiana	North Carolina	Puerto Rico
Iowa	Oregon	Virgin Islands
Kentucky	South Carolina	
Maryland	Tennessee	*Enforcement in
Michigan	Utah	public sector only
	Vermont	



COMPLAINT AGAINST STATE PROGRAM ADMINISTRATION

(From:) (Local Number)
(Name and Title of Sender)
(Address)
(Phone, Date)

(To) Assistant Regional Director
U. S. Department of Labor
Occupational Safety and Health Administration
(Address of Regional Director)

Dear (Regional Director's name):
The undersigned, as the duly authorized employee representative,
wishes to file a complaint about State Program Administration. The
Union represents (number of) _____ workers employed by the
(Employer and address).

The basis of the complaint is as follows:

(Set forth the full facts)

The current status of the matter before the State Agency is as follows:

(Set forth the full facts)

The party with whom we have communicated is
(name) _____, title) _____,
(address and phone) _____.
Copies of the correspondence are attached.

Kindly keep me informed of the status of this complaint. In addition,
please forward copies of any correspondence to the following: CWA Oc-
cupational Safety and Health Department, 501 3rd Street, N. W., Wash-
ington, D.C. 20001.

Sincerely,

(Signature)

cc: Vice President
CWA Representative
Safety and Health Department
File



A. How to Acquire and Use Them

OSHA SAFETY AND HEALTH STANDARDS (29 CFR 1910)

**U.S. Department of Labor Occupational Safety
and Health Administration**

OSHA 2206

Revised

The primary resource your committee will need is the OSHA “General Industry Standards” book. Single copies are available free of charge from OSHA area offices. In states operating under state plans, obtain a copy of the occupational safety and health standards from the State Department of Labor or equivalent.


Since many CWA members may perform work that exposes them to construction hazards, CWA Locals should also obtain a copy of the OSHA “Construction Industry” Standards (29 CFR 1926)

INTERPRETING OSHA STANDARDS

The following pages explain how to use the OSHA General Industry Standards. Use of the same principles can be applied when working with other OSHA Standards, such as Construction and Maritime.

There are two types of standards - horizontal and vertical. Most standards are horizontal, that is, they relate to the type of work being done regardless of the industries in which the work takes place. Consequently, horizontal standards are sometimes called “general” standards.

Vertical standards, on the other hand, apply to particular industries. Telecommunications is a vertical standard. It can be found in the General Industry Standards Book under Section 1910.268. If an applicable subpart of the Telecommunications Standard cannot be found, a horizontal standard may apply. Vertical standards should always be ap-



plied first, even if they are not as comprehensive as what may be found in the horizontal standards. For example, 1910.268 (a) (1) defines telecommunications center work as “the installation, operation, maintenance, rearrangement, and removal of communications equipment and other associated equipment in telecommunications centers.”

There are many hazards not covered by OSHA Standards, such as heat and cold stress, inadequate lighting, and workplace design problems. Where no standard applies, use Section 5 (a) (1) of the OSHA Act, the general duty clause, which requires employers to maintain a workplace “free of recognized hazards.”

To locate a particular standard, you will need to be able to decipher the code. An example of a standard is:

29 CFR 1910.268(g) (2) (ii) (b) (1)

29 — The title, which in this case is “Labor” All safety and health standards come from title 29

CFR — Stands for Code of Federal Regulations

1910 — Refers to General Industry Standards

.268 — Indicates the particular section

The remaining numbers and letters identify more specific classifications. An example of the outline form of the standards is presented below:

1910.268 (g) (2) (ii) (b) (1)

1910.268 Telecommunications

(a)

(g) Personal climbing equipment

(1)

(2) Telecommunication lineman’s body belts, safety straps, and lanyards

(i)

(ii) Specific requirements

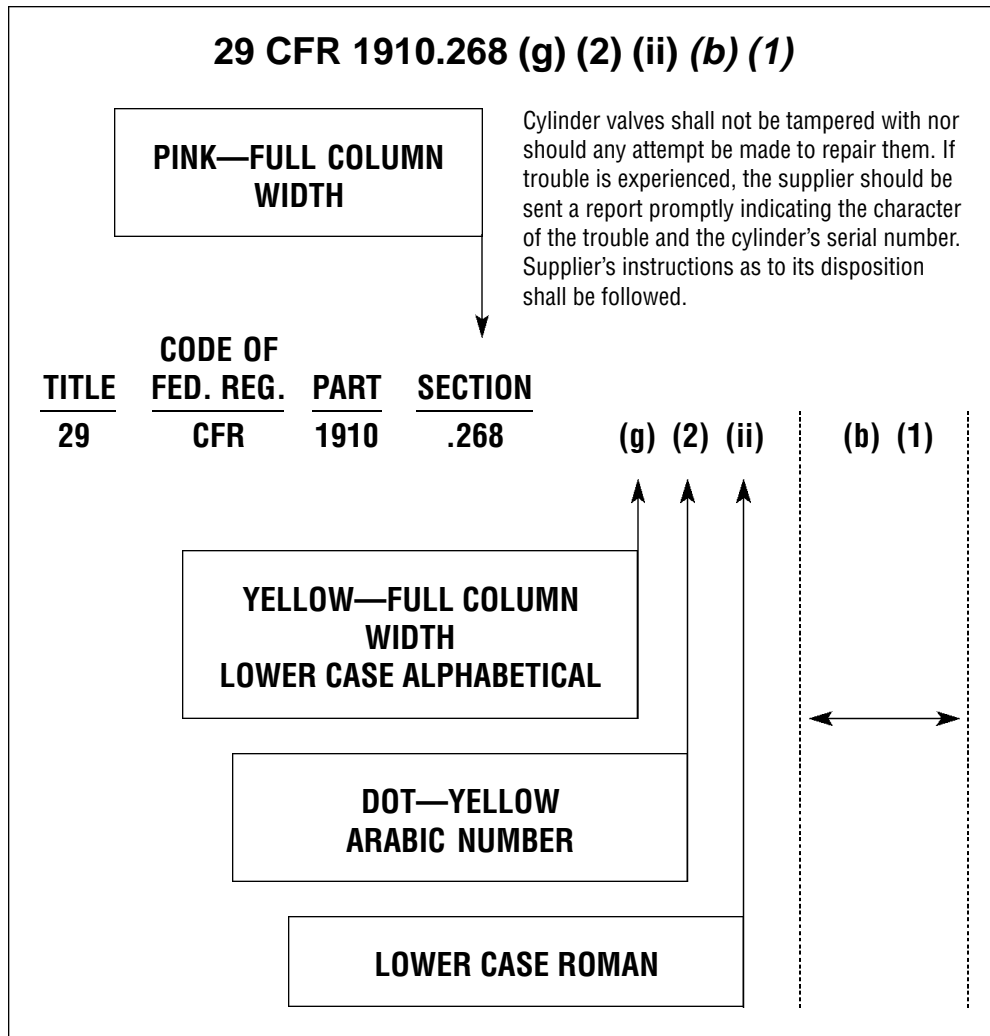
(a)

(b) The cushion part of the body belt shall:

(1) Contain no exposed rivets on the inside

In addition, the General Industry Standards book is divided into subparts. Telecommunications is in Subpart R — Special Industries; others

are Subpart Z — Toxic and Hazardous Substances; Subpart A — General. With all categories, subparts, and sections, it is easy to become confused when locating a standard in the book. Below, you will find an illustrated sample of an easy way to color code your book to make finding paragraphs and subparagraphs easier. Use of yellow and pink markers is recommended. Draw pink lines across the parts (1910.268 Telecommunications). Draw yellow lines across the paragraphs lettered (a), (b), (c), etc. Dot the numbers sections (1), (2), (3), etc. Do not break it down any further. This will enable you to quickly skim the book in search of a specific section.





A. Whom Do You Call First?

After recognizing a hazard, the Local occupational Safety and health committee or committee member should notify management of the situation, indicate all relevant information to management, and request that they correct the problem.

Next, contact the Local President and provide him/her with a detailed explanation of the safety/health hazard, including management's response. In addition, the appropriate CWA Staff should be notified.



B. Access to Medical and Exposure Records

Effective August, 1980, the Occupational Safety and Health Administration issued the Access to Medical Records Standard. The Standard allows workers and under certain conditions, union representatives, the right of access to employer-maintained medical and toxic exposure records. Access must be provided within 15 days of a request without cost to workers.

Medical records include medical histories, physical and other medical examinations, test results, medical opinions and diagnoses, descriptions of treatment and prescriptions, and employee medical complaints. The employer must maintain medical records for the length of employment plus 30 years.

Exposure data includes records of past or present exposure to toxic substances or harmful physical agents, exposure records of other employees with past or present job duties or working conditions related to those of the worker, and Material Safety Data Sheets. Exposure records must be maintained for 30 years.

Union representatives must be provided access to exposure records and analyses based on exposure and medical records (see next page for a sample letter to the employer). However, access to an employee's medical records may be obtained only with written permission of the employee.

Upon hiring, and at least once a year thereafter, employees must be informed of and provided access to all relevant medical and exposure records. Also, employers who go out of business must transfer all medical and exposure records to the successor employer. If there is no successor employer, management must notify workers of their rights of access at least three months before ceasing business and must provide the records to NIOSH.



SAMPLE REQUEST FOR ACCESS TO EXPOSURE DATA

(Date)

(Name of Employer)

(Address of Employer)

Dear Sir:

On behalf of affected members of the Communications Workers of America and its Local _____, we hereby request copies of any and all employee exposure records in the company's possession pertaining to the chemicals listed below.

By "employee exposure records" we mean any of the following kinds of information:

- Environmental monitoring or measuring data, indicating sampling methods, and who conducted the survey,
- Biological monitoring results which directly assess the absorption of any of these substances by the human body and reasons for instituting such monitoring,
- Material Safety Data Sheets, and any other records which reveal the identity of these substances.

We specifically request all records pertaining to:

Sincerely,

Signature)

cc: Vice President

CWA Representative

Safety and Health Department

File



UPDATE ON ACCESS TO MEDICAL AND EXPOSURE RECORDS STANDARD: U.S. COURT OF APPEALS DECISION

On July 3, 1984, the United States Court of Appeals affirmed a National Labor Relations Board (NLRB) order that an employer violated the Taft-Hartley Act by failing to provide a labor union with information concerning the safety and health of its members. The Court ruled that the union must be provided information, upon request, concerning employee safety and health programs, monitoring and testing systems, devices and equipment, and statistical data related to working conditions at a given worksite.

This action follows a similar ruling by the United States Court of Appeals in May, 1984, when the Court upheld previous rulings by the Court (June, 1983) and the NLRB (April, 1984) stating that employers must honor a union's request about chemicals used in a workplace and medical conditions of workers exposed to such substances. The Court indicated that companies must supply unions with requested data on the basis that the unions needed the information to fulfill their collective bargaining responsibilities.

The Court ruled that the NLRB properly decided to leave the issue of trade secrets as a subject for bargaining between labor and management. The decisions did indicate, however, that if labor and management reached agreement allowing for the release of trade secret information, the employer's failure to then provide such data would be considered a violation of federal labor law.



C. File a Grievance

The Local Union may file a grievance if the employer has violated the collective bargaining agreement or refused to correct a safety and health hazard. Use of specific contract language and the Occupational Safety and Health Act is suggested.



D. File an OSHA Complaint

If management has failed to correct or abate a hazard, the Local may wish to file an OSHA complaint. Local committee members should know how to complete and file an OSHA complaint. Although Local Unions may make informal complaints (i.e., telephone calls, handwritten letters) with OSHA, they should file formal complaints by using the OSHA complaint form. A completed complaint form will contain all the information that an OSHA inspector needs to initiate an investigation. Additional copies of OSHA complaint forms are available from OSHA Area offices (as listed in Chapter IX).

If after having conducted its workplace investigation, OSHA issues a citation (or citations) against the employer, the Union may only contest the abatement date set by OSHA. (A sample “Notice of Contest” letter is located on page 6.9.)

Several states operate under federal OSHA coverage while others operate under state OSHA plans (addresses of federal and state plan offices are contained in Chapter IX.) If you have a state plan, you must first contact the state agency. However, if you are dissatisfied with the manner in which the state plan handled the request, file a complaint with the nearest federal OSHA Area office. Indicate specific complaints regarding the state plan. Upon receipt of your request the federal office will decide whether it wants to intervene.

U. S. Department of Labor
Occupational Safety and Health Administration

Notice of Alleged Safety or Health Hazards

For the General Public:

This form is provided for the assistance of any complainant and is not intended to constitute the exclusive means by which a complaint may be registered with the U.S. Department of Labor.

Sec. 102(f) of the Williams-Steiger Occupational Safety and Health Act, 29 U.S.C. 651, provides as follows: Any employee or representative of employees who believe that a violation of a safety or health standard exists that threatens physical harm, or that an imminent danger exists, may request an inspection by giving notice to the Secretary or his authorized representative of such violation or danger. Any such notice shall be reduced to writing, shall set forth with reasonable particularity the grounds for the notice, and shall be signed by the employee or representative of employees, and a copy shall be provided the employer or his agent no later than at the time of inspection, except that, upon request of the person giving such notice, his name and the names of individual employees referred to therein shall not appear in such copy or on any record published, released, or made available pursuant to subsection (g) of this section. If upon receipt of such notification the Secretary determines there are reasonable grounds to believe that such violation or danger exists, he shall make a special inspection in accordance with the provisions of this section as soon as practicable to determine if such violation or danger exists. If the Secretary determines there are no reasonable grounds to believe that a violation or danger exists, he shall notify the employees or representative of the employees in writing of such determination.

NOTE: Section 11(c) of the Act provides explicit protection for employees exercising their rights, including making safety and health complaints.

For Federal Employees:

This report form is provided to assist Federal employees or authorized representatives in registering a report of unsafe or unhealthful working conditions with the U.S. Department of Labor.

The Secretary of Labor may conduct unannounced inspection of agency workplaces when deemed necessary if an agency does not have occupational safety and health committees established in accordance with Subpart F, 29 CFR 1960; or in response to the reports of unsafe or unhealthful working conditions upon request of such agency committees under Sec. 1-3, Executive Order 12196; or in the case of a report of imminent danger when such a committee has not responded to the report as required in Sec. 1-201(b).

INSTRUCTIONS:

Open the form and complete the front page as accurately and completely as possible. Describe each hazard you think exists in as much detail as you can. If the hazards described in your complaint are not all in the same area, please identify where each hazard can be found at the worksite. If there is any particular evidence that supports your suspicion that a hazard exists (for instance, a recent accident or physical symptoms of employees at your site) include the information in your description. If you need more space than is provided on the form, continue on any other sheet of paper.

After you have completed the form, return it to your local OSHA office.

NOTE: It is unlawful to make any false statement, representation or certification in any document filed pursuant to the Occupational Safety and Health Act of 1970. Violators can be punished by a fine of not more than \$10,000, or by imprisonment of not more than six months, or by both. (Section 17(g))

Public reporting burden for this collection of information is estimated to vary from 15 to 25 minutes per response with an average of 17 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of IRM Policy, Department of Labor, Room N-3101, 200 Constitution Avenue, N.W., Wash., D.C. 20210; and to the Office of Management and Budget, Paperwork Reduction Project (4218-0064), Wash., D.C. 20503.

DO NOT SEND THE COMPLETED FORM TO EITHER OF THESE OFFICES



SAMPLE CONTEST OF ABATEMENT DATE LETTER

(“NOTICE OF CONTEST”)

(Date)

Area Director

U. S. Department of Labor

Occupational Safety and Health Administration

Address of Area Office)

Dear (Area Director’s Name):

We have been authorized by the employee representative, Local (number of Local) of the Communications Workers Of America, AFL-CIO, to file this notice of contest of the OSHA citation(s) issued on (date or dates) against the employer, (Name of employer). The abatement date(s) is/are unreasonable.

In addition, because of the danger to which employees are exposed we seek an expedited proceeding in this case. Such urgency is necessary to minimize irreversible damage to the health of the employees. Therefore, we seek a hearing and ruling on our contest as soon as possible.

Sincerely,

(Signature)

cc: Vice President

CWA Representative

Safety and Health Department

File



E. Elect Party Status with OSHRC

The Occupational Safety and Health Review Commission is an independent agency which hears employee and employer appeals of OSHA citations. There are two levels to the Review Commission. The first consists of some 44 Administrative Law Judges who serve as hearing officers in appeal cases. The judge then writes a decision. If either the Union or management is dissatisfied with the decision, it can appeal the ruling to the three-member panel (second level) of the Review Commission.

Once an OSHA citation is received, an employer has 15 working days to contest the citation or proposed penalty. The worker or Union representative has the same period of time to contest the abatement date only. (Employees or their representatives may not contest the citation or penalty.) The abatement period may be contested even if the employer does not contest the citation.

Once a notice has been received by the Commission, the employer must notify the employee and/or Union that a Notice of Contest has been filed. The affected employees must be notified that they may decide whether to elect party status.

Locals should elect party status so that they may be able to participate in Review Commission proceedings. (A sample letter is included on page 6.12.) When party status is elected, certain rights are assured. They are:

- the right to receive copies of all documents filed in the case;
- the right to request information from the employer as part of the investigatory process;
- the right to participate in conferences and settlement negotiations between OSHA and the employer;
- the right to present witnesses and evidence at the hearing;
- the right to cross-examine company witnesses;
- the right to make oral and written arguments;
- the right to request that the three-member Review Commission review the Administrative Law Judge's decision;



- the right to appeal the Commission's decision to the U.S. Court of Appeals.



SAMPLE REQUEST FOR PARTY STATUS LETTER

(Date)

Executive Secretary
Occupational Safety and Health Review Commission
One Lafayette Centre
1120 20th Street, N.W.
Washington, D.C. 20036

Re: _____
(Case Name)
OSHRC Docket No. _____

Dear Sir:

On behalf of the affected employees, we wish to elect party status on OSHRC Docket No. _____, {Case Name}. The Communications Workers of America, AFL-CIO, and its Local _____ are the authorized bargaining agent for the employees.

We request that copies of all documents be sent to us that have been filed in this case as we wish to participate in the hearing.

Sincerely,

(Signature)

cc: Vice President
CWA Representative
Safety and Health Department
File



F. Utilize the National Labor Relations Board

CWA Local Unions may file an unfair labor practice charge with the National Labor Relations Board (NLRB) if the company refuses to bargain in good faith or refuses to provide safety and health information necessary for bargaining. In order to file an unfair labor practice, CWA personnel should contact the NLRB Headquarters at 1099 4th Street, N.W., Washington, D.C. 20570, Telephone: (202) 273-1790.



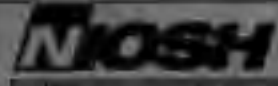
G. File a NIOSH Health Hazard Evaluation

CWA Local committees might also want to request that the National Institute for Occupational Safety and Health (NIOSH) conduct a Health Hazard Evaluation if they are unable to obtain information about hazardous substances from the company, from the results of an OSHA inspection, or from their own investigations. (A sample Health Hazard Evaluation (HHE) form is contained on page 6.15-6.19. Additional copies are available from your NIOSH Regional office.)

NIOSH may also be able to supply specific data on toxic substances from its resource centers. (A list of the NIOSH Headquarters, research offices, and educational resource centers is located in Chapter IX.)



CDC Home | CDC News | CDC Health Topics A-Z



National Institute for Occupational Safety and Health

- Resources**
 - Publications
 - Tools, Forms
 - Congress
- Research & Service**
 - OSHA
 - Hazardous Waste
 - Ergonomics
 - Safety
 - Environmental
 - Prevention
 - Health
 - Surveillance
 - Safety Activities
- News**
 - News Releases
 - Upcoming Conferences
 - Press Releases
 - Federal Register Notices
 - Current Highlights
- General Information**
 - About NIOSH
 - Employment & Training
 - Directory
 - Open Web Site
 - Site Map
- Contact Us

Search
Enter Keyword

Search

Advanced Search

Request for Health Hazard Evaluation

Form Approved OMB No. 0920-0102 Expires Oct 31, 2001

To request a health hazard evaluation

ESTABLISHMENT WHERE POSSIBLE HAZARD EXISTS

Company Name:

Address:

What product or service is provided at this workplace?

Specify the particular worksite, such as building or department, where the possible hazard exists:

How many people are exposed?

Duration of exposure (hours/day)?

What are the occupations of the exposed employees?

What is the process/task?

To your knowledge, has NIOSH, OSHA, MSHA, or any other government agency previously evaluated this workplace?

Yes No

Is a similar request currently being filed with, or is the problem under investigation by any other local, state, or federal agency?

Yes No

If either of the two preceding questions is answered yes, give the name and location of each agency.

What is the name of the company official who is responsible for employee health and safety?

Title

Phone

DESCRIPTION OF THE POSSIBLE HAZARD OR PROBLEM

Please list all substances, agents, or work conditions which you believe may contribute to the possible health hazard. (Include chemical name, trade name, manufacturer or other identifying information, as appropriate.)



In what physical form(s) do(es) the substance(s) exist? Please specify either dust, gas, liquid, mist, or other.

How are the affected employees exposed (route of exposure)? Please specify breathing, skin contact, swallowing, or other.

What health problem(s) do employees have as a result of these exposures?

Use the space below to supply any additional relevant information.

Requestor's name (Your signature may be requested to process this HHE request.)

Address:

E-mail Address: *(Required)*

Business phone

Home phone

Best time of day to call:

Indicate yes to only one of the following:

- I am an employer representative
- I am an authorized representative of, or an officer of the union or other organization representing the employees for collective bargaining purposes.
- I am a current employee of the employer, and an authorized representative of two or more other current employees in the workplace where the exposures are found.
- I am one of three or fewer employees in the workplace where the substance, hazard, or health problem exists.
- None of the above.

If you selected (2) above, please give the name and address of this organization:

If you selected (3) above, please give the names and phone numbers of the two authorizing employees. (Their signatures may be requested)

Do you want your name to be kept confidential?

I do not want my name revealed to the employer.

My name may be revealed to the employer.



What are the occupations of the exposed employees?

What is the process/task?

To your knowledge, has NIOSH, OSHA, MSHA, or any other government agency previously evaluated this workplace?

Yes No

Is a similar request currently being filed with, or is the problem under investigation by any other local, state, or federal agency?

Yes No

If either of the two preceding questions is answered yes, give the name and location of each agency.

What is the name of the company official who is responsible for employee health and safety?

Title

Phone

DESCRIPTION OF THE POSSIBLE HAZARD OR PROBLEM

Please list all substances, agents, or work conditions which you believe may contribute to the possible health hazard. (Include chemical name, trade name, manufacturer or other identifying information, as appropriate.)



H. File a Discrimination Charge Under the Americans With Disabilities Act (ADA) With the Equal Employment Opportunity Commission (EEOC)

The Americans with Disabilities Act (ADA), enacted in 1990, prohibits employment discrimination against qualified individuals with disabilities.

The ADA consists of four sections or titles. Title I, the employment provisions of the Act, stipulates coverage of private employers, state and local governments, employment agencies, as well as labor unions and joint labor-management committees. Employers with 15 or more employees are covered by the ADA.


- Under the ADA, a qualified individual is one who meets the skill, experience, education, and other job-related requirements of a position held or desired, and who with or without reasonable accommodation, can perform the essential functions of a job.

The ADA defines a worker with a disability as one who:

- has a physical or mental impairment that substantially limits one or more of his/her major life activities. Major life activities include walking, seeing, hearing, working or performing manual tasks such as reaching, standing, or lifting.
- has a record of such an impairment; For example, conditions that people mistakenly perceive as limiting, such as the use of a hearing aid, facial scar, or disfigurement.

The ADA requires all medical information specific to workers with disabilities be kept confidential. Such a prohibition could exclude CWA leaders and members from participating in the decision-making processes.

Reasonable accommodation is any change in the work environment or



in the way things are usually done that enables a qualified individual with a disability to perform the essential functions of the job.

Examples of a reasonable accommodation include:

- acquiring or modifying equipment or devices;
- adjusting or modifying examinations, training materials, or policies;
- restructuring jobs;
- modifying work schedules;
- making facilities accessible by installing ramps, adjusting work surface heights, and providing modified toilet facilities;
- providing readers or sign language interpreters; and
- as a last resort, reassigning the affected worker to a vacant position.


The ADA does not require employers to provide an accommodation if doing so will impose or cause undue hardship. Undue hardship is defined as an action that is “excessively costly, extensive, substantial, or disruptive, or that would fundamentally alter the nature or operation of the business.”

Factors to be considered in determining undue hardship include the nature and cost of the accommodation, the size and financial resources of the employer, the type of the employer’s operation, and the impact on the conduct of business (i.e., the disruption of productivity, conflict with the collective bargaining agreement, and the rights of other workers).

Another important element of the ADA is the definition of essential functions of a job. The Act defines this term as the primary duties of the position required of and performed by all employees. The determination of whether a duty or function is essential to the job is whether the position would fundamentally change if that duty was eliminated.

Identification of essential functions of the job can be made by considering written job descriptions, amount of time spent performing the function, the terms of the collective bargaining agreement, work experience or the degree of expertise required, and the nature of the work operation and the employer’s organizational structure.

In order that a reasonable accommodation be provided, the worker with the disability must make a request for accommodation to the employer. After the employer is notified that a reasonable accommo-



dation is necessary, the process should begin promptly. The employer may not force a worker to accept an accommodation if he/she does not want one. CWA leaders and the disabled worker should be fully involved in the accommodation process.

The Federal EEOC has responsibility for enforcing compliance with Title I of the ADA. A worker who believes he/she has been discriminated against in (his/her) employment should be encouraged to file a charge with the nearest EEOC Office.


As noted, ADA consists of four sections or titles. In addition to Title I,

- Title II prohibits discrimination based on disability by State and Local governments in service, transportation, and programs. Title II is administered and enforced by the U.S. Departments of Justice and Transportation.
- Title III requires accessibility of public accommodations and services for individuals with disabilities. Title III is administered and enforced by the U.S. Departments of Justice and Transportation.
- Title IV requires communication companies to provide relay services to the hearing and speech impaired. Title IV is administered and enforced by the Federal Communications Commission.

Several agencies provide technical advice and services for workers with disabilities and illnesses. Three useful sources are:

- The Job Accommodation Network which provides information and suggested accommodations. The toll-free number is 1-800-526-7234.
- EEOC's Technical Assistance Manual which can be ordered by calling 1-800-669-EEOC. The manual contains a resource directory of groups and agencies with information about disabilities. EEOC can also answer questions about the ADA.
- The U.S. Department of Justice, Civil Rights Division, ADA office which provides information, materials, and technical assistance on the ADA. The toll-free number is 1-800-514-0301.

In addition, CWA leaders and members should obtain a copy of the Union's publication "ADA: What You Need to Know." Single or multiple copies may be ordered through the CWA Occupational Safety and Health Department, 501 3rd Street, N.W., Washington, D.C. 20001, Telephone: (202)434-1160, Fax: (202)434-1467 or our Website: www.cwasafetyandhealth.org.



I. File a Notice with the Employer Requesting a Leave of Absence Under the Family and Medical Leave Act

The Family and Medical Leave Act (FMLA) of 1993 allows eligible workers to take up to 12 weeks of unpaid leave within a 12-month period. Spouses working for the same employer are jointly entitled to a combined total of 12 weeks of family leave.

ELIGIBLE REASONS FOR LEAVE

FMLA leave may be taken for:

- the birth and care of the worker's child or placement for adoption or foster care;
- the care of a family member with a serious health condition; or
- the worker's own serious health condition.


As noted, FMLA provides workers with unpaid leave. However, unless CWA has reached agreement on this issue through the collective bargaining process, FMLA allows the worker to choose or the employer to require that the worker take accrued paid leave rather than unpaid FMLA leave. If the employer requires that paid leave be substituted for FMLA leave, that decision must be made at the time the worker provides notice of the leave or before the leave begins. The only exception to this rule would be in those circumstances where the employer does not have the information to determine if the leave is covered by FMLA. The employer may designate paid leave based only upon information provided by the worker.

If neither the employee nor the employer decides to substitute paid leave for unpaid FMLA leave, the employee continues to be entitled to all paid leave accrued.

EMPLOYER COVERAGE

Employers covered by the FMLA include:

- public agencies like Federal, State, and Local agencies (including schools);

- 
- private sector employers with 50 or more employees on each working day for at least 20 weeks in the current or previous year.

ELIGIBILITY

To be eligible for FMLA benefits, an employee must have:

- 12 months of service at the time leave begins. Service does not have to be consecutive or continuous.
- worked at least 1,250 hours within the 12 months immediately preceding the initiation of the leave.
- worked at a location where there are at least 50 employees of the same employer within 75 miles.

MAINTENANCE OF HEALTH CARE BENEFITS

The employer must continue to cover the worker under its group health care plan while the employee is on FMLA leave.

During the leave period, the employer and employee must continue to pay the same share of the health care premium as they paid prior to taking leave. However, the employer may terminate the worker's health care benefits when notified of the employee's intent not to return to work.

An employee on FMLA leave is not entitled to other employment benefits such as life or disability insurance unless the contractual agreement or State or Local law requires it. However, if the employer typically provides such benefits during unpaid leaves, it must do so for FMLA leave as well.

JOB RESTORATION

When an employee returns to work from FMLA leave, he/she must be returned to the original or previous job or to an equivalent job with equivalent pay, benefits, and have substantially similar duties, responsibilities, conditions, privileges, and status. In addition, the position must be at the same or geographically proximate work location, with the same or equivalent work schedule, and with the same opportunity for bonuses and profit sharing.



EMPLOYEE NOTICE

Workers who plan to use FMLA must provide a 30-day advance notice of the need to take leave if the need for such leave is foreseeable. If the need for leave cannot be determined in advance, notice must be given as soon as practical.

Employers may also require workers to provide appropriate medical certification, second or third medical opinions at the employer's expense and periodic recertification, as well as periodic reports during the leave regarding the worker's status and intent to return to work.

Where a worker believes he/she has been discriminated against by the employer, a complaint should be filed with the U.S. Department of Labor-Wage and Hour Division. Complaints must be filed within two years of the violation.

Employees may also file a civil lawsuit against the employer.

Enforcement of FMLA rights through the collective bargaining agreement can occur only where a specific provision has been negotiated that allows this.


EMPLOYER RESPONSIBILITIES

It is the employer's responsibility to designate leave as qualifying FMLA leave. A worker who wants to take FMLA leave must give the employer adequate information to make such determination.

In carrying out its responsibilities, the employer may not:

- deny leave to an eligible employee;
- refuse to provide health benefits during leave;
- refuse to reinstate a worker to the same or equivalent position when the leave ends;
- discriminate against a worker for using FMLA rights or because of his/her involvement in an FMLA-related activity; and
- avoid its FMLA obligations.

Employers must inform employees of their FMLA rights and responsibilities. Employers must post a notice approved by the U.S. Department of Labor which explains the FMLA rights and responsibilities.



For additional information, contact the nearest office of the U.S. Department of Labor-Wage and Hour Division.

Also, CWA leaders should obtain a copy of the Union's publication "The Family and Medical Leave Act: What You Need to Know." Single or multiple copies may be ordered from the CWA Occupational Safety and Health Department, 501 3rd Street, N.W., Washington, D.C. 20001, Telephone: (202)434-1160; Fax: (202)434-1467; Website: www.cwasafetyandhealth.org.



J. Contact the Environmental Protection Agency

Another federal agency with which you should be familiar is the Environmental Protection Agency (EPA). EPA has jurisdiction over environmental pollutants, such as toxic wastes and dumps, pesticides, and air contaminants. Consequently, their functions often overlap with those of OSHA and NIOSH. EPA's national headquarters office is: 1200 Pennsylvania Avenue, N.W., Washington, DC 20460, Phone: (202) 564-4700.



K. Right to Refuse Unsafe Work


Thousands of workers die or are injured because of on-the-job accidents each year. Many more are exposed to unhealthy conditions that cause serious illnesses years later.

When does a worker have the right to refuse dangerous work?

On February 26, 1980, the United States Supreme Court issued a landmark ruling which more clearly defined a worker's right to refuse work where an employee(s) has (have) reasonable apprehension that death or serious injury might occur as a result of performing the work. The unanimous decision came in a 1974 case against Whirlpool Corporation in Ohio in which two workers refused to crawl out on a screen from which a co-worker had fallen to his death only nine days earlier. A Cincinnati appeals court ruled in favor of the worker's rights in "Whirlpool" and the Supreme Court affirmed that decision. (At the time the Supreme Court took the Whirlpool case, there were two other appeals court decisions which had gone the other way. These cases were heard by courts in New Orleans in 1977 and Denver in 1978.)

The two workers in the "Whirlpool" case were told to go out on a screen 20 feet above the floor to retrieve small appliance parts which had fallen from a conveyor belt system above. The screen was in place to protect workers in the plant from falling parts. The retrieval assignment had resulted in other workers falling partially or completely through the screen. Claiming that the screen was unsafe, two employees refused to carry out the assignment. Whirlpool supervisors sent the workers home for the day and withheld about six hours pay.

The Court, in its decision, emphasized that the OSHA Act provides a worker with the right to choose not to perform an assigned task due to reasonable apprehension of death or serious injury coupled with a reasonable belief that no less drastic alternative is available. Further, the Court held that a worker who utilizes this OSHA protection may not be discriminated against for such action.



However, the Court also indicated that an employee who refused work based on the regulation runs the risk of discharge or reprimand in the event a court subsequently finds that he/she acted unreasonably or in bad faith.

As noted, the employer docked the two workers about six hours pay in the “Whirlpool” case. The Supreme Court ruled that the OSHA Act does not require an employer to pay a worker who refuses to perform an assigned task in the face of imminent danger. Rather, the Act simply provides that in such cases the employer may not discriminate against the involved worker(s). Thus, the Court has left this issue to be decided by labor and management through collective bargaining. Members of unions that do not negotiate the necessary protective language in their contracts should not expect to be paid for the refusal to work period. This will be true even where an employer is found guilty of violating the OSHA Act.

In light of the Supreme Court’s decision, what should CWA members who are faced with an imminent danger situation do?


The Supreme Court has said that a worker may refuse unsafe work where he/she has refused the job in good faith. Good faith may be interpreted as an honest belief that the job was unsafe and unusually and objectively dangerous.

Good faith can be demonstrated by the manner by which you refuse unsafe work:

- Explain the hazard to the supervisor and your steward.
- Offer to do other, safe work until the hazard is corrected.
- Give management a chance to respond before doing anything else.
- If the condition is not corrected, call OSHA and request an “imminent danger” inspection.
- Do not walk off the job. If management will not fix the hazard, force them to take the next step. Make sure you have expressed your reasons for refusing the job and your willingness to do other work, clearly and in the presence of your steward or other workers.

If you are fired or disciplined:

- file a grievance immediately;
- file an unfair labor practice charge with the NLRB immediately or not later than 180 days; and

- 
- file a Section 11C discrimination complaint with OSHA immediately or not later than 180 days.

The bottom line is to stay cool. Do not let management provoke you into rash actions which could hurt your case later.

Proving that your job was “abnormally and objectively dangerous” is a matter of documentation.

- Was the job one you had never done before? Or, had the conditions of the job changed recently? Did you protest the job before?
- Did other workers protest the job before? Did others refuse to do the job?
- Was the company in violation of OSHA, state or local health and safety regulations?
- Many chemicals and conditions are clearly dangerous but are not covered by any standards. Have workers been injured or made sick doing your job? Just what chemicals were you working with?

If any CWA member refuses unsafe work, he/she should notify the Local Union President, the appropriate CWA Representative and the CWA Occupational Safety and Health Department.




A. Introduction

Most workers have or are provided with little information about substances or chemicals they work with or the hazards of exposure to these agents. Containers and packages are usually poorly labeled, identifying the product only by trade name or codes. Comprehensive hazard and toxicity information is rarely provided. With this in mind, the CWA Occupational Safety and Health Department has prepared “right to know” educational materials to assist Locals in their activities to ensure that employers with which the union has a contractual relationship are providing CWA members with safe and healthful workplaces.

For some 30 years the Labor Movement has been fighting for tough federal standards that guarantee workers the “right to know” what they’re working with and the effects of exposure. That fight for strong, uniform federal protections has been long, difficult, and frustrating. Unions did win part of the “right to know” fight in 1980 when a final regulation guaranteeing workers and unions access to exposure and medical records was promulgated by OSHA. And in January, 1981, under Dr. Eula Bingham, OSHA proposed the other piece of the federal “right to know” package — a standard that would have required the labeling of containers with chemical names and hazard information.

However, the Reagan Administration’s OSHA ordered the withdrawal of the Hazard Identification/Labeling Standard proposed during the Carter Administration and replaced it with a watered-down Hazard Communication Standard on chemical substances. OSHA’s Final Rule on Hazard Communication was issued November, 1983. The Standard was scheduled to become effective November, 1985. As proposed, only employers and employees in the manufacturing sector were to be covered. All other industrial sectors (e.g., telecommunications, construction, service trades, etc.) fell outside the Standard’s scope. The Standard also contained broad trade secret protections for manufacturers and allowed them to withhold chemical identities for most chemicals they declared to be trade secrets. In addition, the OSHA Rule contained language that was intended to preempt all state and municipal “right to know” laws.

The AFL-CIO and several affiliated unions filed suit against OSHA contesting the legality of the Standard. The Third Circuit of the U.S. Court of



Appeals ruled in labor's favor ordering OSHA to expand the Standard to include all non-manufacturing employers unless the agency could prove that it was not feasible to do so. The court also ruled that OSHA must limit the kind of information which could be claimed as a trade secret.

OSHA moved very slowly in implementing the court-ordered changes. Therefore, in 1987, the unions returned to court in an attempt to have OSHA obey the court order. Later that year, the court demanded OSHA take immediate action to expand the Standard. During the latter part of 1987, OSHA did issue a new Standard covering all workers under the agency's jurisdiction.

USING YOUR RIGHT TO KNOW

Review of OSHA's Hazard Communication Standard (29 CFR 1910.1200)


The OSHA Hazard Communication Standard or Right to Know Standard requires chemical manufacturers, suppliers, and importers to evaluate all the chemicals they produce or distribute to provide hazard information to employers who purchase the chemical products.

Employers are then responsible for providing hazard information to their employees. The purpose of the Standard is to ensure that workers are informed about the hazards of chemicals and the precautions that are necessary to protect against accidents and disease.

Information on hazardous chemicals is to be provided in four ways. First, every employer covered by the Hazard Communication Standard must prepare a **WRITTEN PLAN**, which explains the employer's entire right to know program. Second, all containers of hazardous chemicals must carry a **LABEL** which provides basic hazard information. Third, each hazardous product must be accompanied by a **MATERIAL SAFETY DATA SHEET (MSDS)** which will provide more detailed information on ingredients, health effects, and special handling procedures. Fourth, employers must provide **INFORMATION AND TRAINING** to all employees who may be exposed to chemicals on the job.

EMPLOYERS COVERED

The Hazard Communication Standard (HCS) went into effect in several phases. As of November 25, 1985, all chemical manufacturers,



suppliers, and importers were required to label containers of hazardous chemicals and provide MSDSs for chemicals shipped to employers covered by the standard at that time. As of May 25, 1986, all employers who manufactured a product (autos, steel, machinery, clothing, chemicals, paper, etc.) were required to be in full compliance with the new law. A written plan had to be completed, all containers had to be labeled, MSDSs had to be available for hazardous products, and all workers had to receive training on the chemicals in their place of employment.

When the Standard was first adopted, employers in non-manufacturing (communications, health care, construction, transportation, etc.) were not covered by the law. However, as a result of a lawsuit filed by several unions, in 1985, OSHA was ordered to expand coverage to include employers in non-manufacturing. Facing the threat of a contempt-of-court charge, Department of Labor Secretary William Brock finally issued an expanded final rule on August 24, 1987. Chemical manufacturers, suppliers, and importers were to label containers and provide MSDSs to employers in the non-manufacturing sector by September 23, 1987. All employers under the jurisdiction of Federal OSHA were to be in compliance by May, 1988. (This excluded miners, state and municipal employees, and a few others.) In some states, non-manufacturing employers and the public sector had already been covered under state OSHA Hazard Communication Standards or state right to know laws.


CHEMICALS COVERED

The Hazard Communication Standard requires chemical manufacturers, importers, and suppliers to evaluate all chemicals they produce or distribute to determine if the chemicals are hazardous. Chemicals, which are determined to pose a hazard, are then subject to the information requirements of the Standard.

The OSHA Standard defines chemical hazards as those chemicals which pose a physical safety or health hazard.

Physical hazards covered by the Standard include those chemicals that are flammable, explosive, unstable, or reactive. The Standard gives definitions for all the kinds of physical hazards which are covered.

The health hazards that are covered by the Standard are those chemicals for which there is at least one positive study showing that an



adverse health effect may occur in exposed employees. Both acute (short-term) and chronic (long-term) health effects are covered. If a chemical appears on any one of the following four lists it is automatically considered a health hazard:

- OSHA Standards on Toxic and Hazardous Substances, 29CFR Part 1910, Subpart Z;
- American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents;
- National Toxicology Program (NTP) Annual Report on Carcinogens; and
- International Agency for Research on Cancer (IARC) Monographs.


These chemicals must be labeled and accompanied by MSDSs and workers must receive training on the hazards.

For all other chemicals not on these lists, chemical manufacturers, suppliers and importers must conduct an evaluation to determine whether or not they are hazardous. The Standard states that whoever supplies the chemical must conduct a thorough hazard evaluation, examining all relevant hazard information. Any employer who uses chemicals can rely on the evaluation done by the chemical supplier.

The Hazard Communication Standard sets forth definitions and criteria for determining whether a chemical poses a health hazard. Acute (short-term) and chronic (long-term) health effects are covered. The major categories of health hazards specifically covered under the standard include:

- Carcinogens
- Corrosives
- Highly toxic chemicals
- Irritants
- Sensitizers
- Chemicals with adverse effects on target organs including the liver, kidneys, nervous system, blood, lungs, reproductive system, skin, or eyes.

Any scientific evidence, which indicates that a substance causes an adverse health effect in humans or animals, must be reported on the material safety data sheet. Animal studies must be reported because scien-



tific evidence suggests that chemicals, which harm animals, may harm human beings as well. This scientific evidence must be reported even if the chemical manufacturer or supplier does not agree with the results. This is to prevent chemical companies from refusing to report health effect information that has been discovered by other sources. OSHA will make the final decision as to whether or not the chemical company has provided complete and accurate information.

Most substances used in the workplace are mixtures of different chemicals. The law uses a special approach in handling mixtures. If a mixture has been tested as a whole, the results must be used to establish the hazards. If a mixture has not been tested, the chemical manufacturer or supplier must consider the mixture to have the same hazards of those ingredients, which comprise one percent or more of the mixture. If a mixture contains any suspect cancer-causing agents at or above 0.1 percent, the mixture must be considered a cancer hazard.


The Standard has adopted a very broad definition of hazardous substance. In fact, OSHA estimates that approximately 575,000 chemical products could be considered hazardous under the Standard's definition. The Standard does not apply to hazardous waste, tobacco products, articles, or food, drugs, and cosmetics used by employees.

WRITTEN HAZARD COMMUNICATION PLAN

Each employer must prepare a written plan, which explains how that employer will meet the requirements of the new law. The plan must contain such items as a description of the labeling systems used, procedures to update label information, an explanation of how MSDSs are to be maintained and made available to workers, designation of persons responsible for training, and the type of training that will be provided.

In addition, the written plan must include the following: (1) a list of the hazardous products known to be present in the workplace; (2) the methods the employer will use to inform workers about the hazards of non-routine tasks; (3) the method the employer will use to inform workers about the hazards in pipes or piping systems; and (4) the procedures the employer will use for sharing hazard information with on-site contractors.

The last item is especially important because workers may be exposed to chemicals which are under the control of another employer. No matter where the chemicals come from, your employer is responsible for



providing hazard information to you. In the case of outside contractors, provisions to obtain information on chemicals should be included in the employer's contracting arrangements.

The written plan must be made available upon request to workers and union representatives. The union should examine the plan to make sure that it contains all the necessary information and that the employer is performing all the steps outlined in the plan.

LABELS


Each container of hazardous chemicals must carry a label. Chemical suppliers are responsible for labeling containers before they are shipped, and employers/users must make sure that all incoming containers are labeled and that labels are not removed or defaced. Containers include bags, barrels, boxes, cans, cylinders, drums, tank trucks, and other vessels which contain a hazardous chemical. All containers received after November 25, 1985, had to carry an appropriate label, and the labeling requirements now apply to containers that were received before that date.

Labels on containers shipped from chemical manufacturers must provide three different kinds of information. First, labels must contain the **identity** of the product, which may be the chemical name, brand name, trade name, code name or code number. The identity used on the label must also appear on the MSDS for that product and on the chemical list to permit cross-referencing.

Second, the label must carry an **appropriate hazard warning**. This includes information on physical hazards, such as the potential for fires and explosions, and health hazards, including acute and chronic health effects, as well as specific organs of the body which may be harmed. It is important to note that the label probably will not carry complete hazard information. For this reason, you must consult the MSDS to see if more information is available.

Third, the **name and address of the supplier** must be included on the label. Containers used in-plant that are not shipped out of the facility, however, do not need to include chemical supplier information.

There are several exceptions to the labeling provisions: (1) the employer may use signs, placards, process sheets, operating instructions, or other



written material instead of labels for stationary process containers (like reaction vessels) and for piping systems; (2) portable containers do not have to be labeled as long as the chemicals are taken from labeled containers and the portable container is only for the immediate use of the worker who makes the transfer; and (3) products that are labeled according to existing federal laws, such as pesticides, herbicides, and consumer products, do not have to carry a different right to know label.

MATERIAL SAFETY DATA SHEETS (MSDS)

A Material Safety Data Sheet (MSDS) must be provided for each hazardous product used in the workplace. The chemical manufacturer or supplier must provide the MSDS at the time of or prior to the first shipment. The employer may have to create its own MSDS if chemicals are being mixed or reacted within the workplace. (Most importantly, an employer who uses a hazardous product without first obtaining the proper MSDS and label is violating the law.)

The MSDS may be kept in any form, as long as the following information is provided: identity of hazardous ingredients; chemical characteristics; physical hazards (fires, explosions, reactivity); health effects (acute and chronic); permissible exposure limits; cancer-causing ingredients; precautions for safe handling; measures to control exposures; emergency and first aid procedures, and the name, address, and phone number of the supplier (See Attachment I for more information on how to read an MSDS.)

No blank spaces are permitted on the MSDS, but the preparer may indicate that information is unknown or not applicable. The MSDS must be in English, and it must be updated as new information is obtained from the supplier.

The MSDSs must be readily accessible during each shift to employees when they are in their work area(s). Readily accessible in the work area means that a worker who asks for the MSDS should get it the same day without having to leave the work station. Union representatives also have access to MSDSs.

Under OSHA's regulation on Access to Exposure and Medical Records (29 CFR 1910.20), the employer must also provide copies of MSDSs to workers and union representatives. Under this regulation, one copy of any MSDS must be provided within 15 days after a request has been made.



EMPLOYEE INFORMATION AND TRAINING

Employers must provide workers with information and training on hazardous chemicals at the time of initial assignment, whenever a new hazard is introduced, or when the hazards change. The initial training had to be completed by May 25, 1986, for employers in manufacturing. Workers must receive training before they are assigned to handle hazardous chemicals or the employer is violating the law.

The training requirements are extremely flexible. The law does not require that any specific amount of time be devoted to training, nor does it indicate who should do the training or how it should be done.

The law does require that the training be done on the employer's time and that it cover the following subjects:


(1) the requirements of the Hazard Communication Standard; (2) the methods and observations used to detect the presence of hazardous chemicals; (3) the physical hazards and health hazards of chemicals in the workplace; (4) how to find and use written information, such as labels and Material Safety Data Sheets; and (5) the measures necessary to protect against harmful exposures, such as ventilation, work practices, emergency procedures, and personal protective equipment.

Giving a worker an MSDS to read does not meet the training requirements of the law. The training can be done by any method, as long as it covers all subjects mentioned above. The training should include an opportunity for workers to ask questions.

TRADE SECRETS

A trade secret is any information that a manufacturer may want to keep confidential in order to protect business interests. Under the Hazard Communication Standard, a chemical manufacturer may claim as trade secrets the chemical ingredients of a particular product, as long as the MSDS indicates that this information is being withheld. Several other restrictions also apply.

First, the chemical manufacturer cannot claim hazardous ingredients as trade secret if those ingredients can be easily discovered by chemical analysis.



Second, information on chemical characteristics, health effects, safe handling procedures, and protective measures must be included on the MSDS and cannot be claimed as trade secrets. However, a problem is created because without complete information you cannot determine if all other hazard information is accurate. For this reason, the Standard requires that hazardous chemical ingredients claimed as trade secrets must be revealed in certain circumstances, as outlined below.

In medical emergencies involving chemical exposure, the chemical manufacturer or supplier must provide specific chemical identity of hazardous ingredients to a treating physician or nurse, regardless of a written statement of need or an agreement to keep ingredient information confidential. If the information is not provided, the OSHA Area Director must contact the manufacturer and request that the information is provided immediately. Failure to disclose the information may result in the issuance of a citation by OSHA.

In non-emergency situations, hazardous ingredients must be disclosed to health professionals, exposed workers, and union representatives provided: (1) the request must be made in writing; (2) the request must describe why the information is needed; and (3) the person requesting the chemical ingredient information agrees in writing to keep the information confidential.

A chemical manufacturer or supplier may deny a request in non-emergency situations, but the denial must be in writing and must be provided within 30 days. A refusal by a manufacturer or supplier can be referred to OSHA for a final decision.

Although workers and union representatives can request hazardous chemical ingredient information in order to evaluate hazards, a better approach is to have the employer demand that suppliers list all ingredients on the MSDS, regardless of trade secret claims, as a condition of purchase. Employers need to know what the hazardous ingredients are in order to monitor the air and provide adequate protection, so the demand is reasonable and necessary.

Small employers would obviously have a more difficult time convincing any one chemical supplier to provide ingredient information claimed as trade secret. In this case, the union could ask the employer to shop around for a supplier who will be more cooperative.



ACCESS TO INFORMATION

Under the Hazard Communication Standard (1910.1200), the employer is required to make certain information available to workers and union representatives. This information includes the written hazard communication program and the accompanying list of hazardous products, as well as Material Safety Data Sheets (MSDSs).


In addition to making this information available to review, the employer also has to provide a copy to the union or worker upon request. The right to obtain a copy of this information is provided in a regulation adopted by OSHA in 1980, the **Access to Employee Exposure and Medical Records Regulation** (29 CFR 1910.20). Unions also have a separate right of access to health and safety information under the National Labor Relations Act.

OSHA's Access to Employee Exposure and Medical Records Regulation (29 CFR 1910.20)

In 1980, OSHA adopted a regulation, the Access to Employee Exposure and Medical Records Regulation, that gives workers and unions the right to obtain a broad range of employer health and safety data. According to the Access Standard, an exposure record includes workplace air sampling and measuring results; biological monitoring results that indicate the level of a chemical in the blood, urine, breath, hair, fingernails, etc.; Material Safety Data Sheets; and in the absence of any of these, any other record which reveals the identity of a toxic substance.

- Current employees and former employees have a right to receive any of their own exposure records.
- The union also has a right to an exposure record for any of its members, without the members' approval.
- The employer must retain copies of these exposure records for 30 years. MSDSs do not have to be retained for 30 years, as long as the employer keeps some record of the chemical identity, where it was used, and when it was used. The list of hazardous chemicals could be used to record this information providing the employer keeps it for 30 years. The 30-year requirement is important because many chemicals do not cause health problems until many years into the future.

For the purposes of the Access Standard, medical records include medical and employment questionnaires or histories; the results of medical



examinations and lab tests, including X-rays; medical opinions, diagnoses, progress notes, and recommendations; descriptions of treatment and prescriptions; and employee medical complaints.

- Current and former employees can request a copy of their own medical records.
- When requesting medical records for its members, the union must first obtain a written authorization from each member for which it seeks information. A sample authorization letter is provided in the Access Standard.
- The employer must retain copies of employee medical records for the duration of employment plus 30 years.
- Medical records include those records, which are maintained on a contractual basis with an off-site physician or clinic.


Both exposure and medical records can be helpful to the union in a number of different ways. This information can be used to document workers' compensation claims, to demonstrate the need for improved ventilation, to establish patterns of diseases which are being caused by workplace exposures, to prepare complaints for OSHA inspections, and to file health and safety grievances, to name just a few.

RIGHTS OF ACCESS

Employers must provide these records in the following manner:

- Once a worker or union representative requests a copy of a record, the employer must provide access no later than 15 days after the request is made.
- The employer must provide a copy of an exposure or medical record in one of the following ways: (1) provide a copy without cost; (2) make the necessary copying facilities available without cost; or (3) loan the record for a reasonable time to enable a copy to be made.
- If a record has been previously provided, the employer may charge reasonable administrative costs for providing extra copies.

When requesting any of these records, the union should put the request in writing and send it return receipt requested. If the employer refuses to provide the record within 15 days, the union can then document that the employer received the request. Violations of this regulation can



be grieved, or the union can file a complaint with OSHA or the appropriate state enforcement agency.

Using these rights to information is important because it will help the union and workers to become familiar with the hazards of workplace chemicals. With this information the union can press the employer to improve unsafe or unhealthful working conditions.

UNION ACCESS UNDER THE NATIONAL LABOR RELATIONS ACT


In addition to the OSHA Hazard Communication Standard and Access to Employee Exposure and Medical Records Standard, unions also have a right of access to employer health and safety data under the National Labor Relations Act.

On June 30, 1983, a U.S. Appeals Court upheld a ruling by the National Labor Relations Board that an employer must comply with union requests for health and safety information. The NLRB ruling (Nos. 82-1419, 82-1420) was first heard April, 1982, in response to three cases brought by the Oil, Chemical and Atomic Workers International¹ Union and the International Chemical Workers Union against three major chemical companies. The unions had sought to gather information on workplace hazards faced by their members in these plants after a discovery in 1977 that a majority of workers in a pesticide manufacturing plant became sterile. Their requests had been refused.

The NLRB ruled that a company's refusal to turn over the relevant health and safety data constitutes a violation of the Union's rights under the National Labor Relations Act. Section 8(a)(5) of the Act compels employers to bargain "in respect to rates of pay, wages, hours of employment or other conditions of employment." Representation of health and safety interests is part of the union's mandate to represent its members regarding "conditions of employment." Denying relevant health and safety data is an example of an action, which prevents the union from representing the interests of its members.

The type of information requested by the unions in these cases included:

- A list of generic names of all chemicals used in the plant;

- 
- The results of clinical and laboratory studies of any employee conducted by the employer, including the results of toxicological investigations;
 - A list of contaminants monitored by the employer; and
 - Data relating to noise levels, radiation sources, and heat.

There are some limitations, however, in the kinds of information that the company must turn over to the union. For chemicals claimed trade secret by the companies, the company is not automatically required to turn over the information, but must bargain with the unions, over the conditions under which trade secret information is released. The Board's ruling also did not address the conditions under which a union can gain access to the medical records of individual workers.


COLLECTIVE BARGAINING AND RIGHT TO KNOW

The Hazard Communication Standard and the Access Standard provide some important rights, which workers and unions can use to gain access to information on chemical hazards. However, the Hazard Communication Standard has some serious loopholes, which may prevent you from obtaining all the information you need. Even some of the state laws, that are stronger than the OSHA standard, do not go far enough.

For this reason, at least some unions have negotiated contract language, which improves upon existing right to know provisions. Achieving improved contract language will obviously not come easy. First, the union has to educate the membership about the hazards of workplace chemicals and the need for better access to information. A special effort should be made to influence the bargaining agenda. Second, the union needs to set its own priorities and go after the kind of language that addresses particular problems within the workplace. Clauses that are taken entirely from other contracts may not resolve your problems.

The grievance procedure can be an effective tool for establishing bargaining demands. If members are not satisfied with the employers' right to know program, the union should encourage the filing of grievances as a way to demonstrate this dissatisfaction. The grievances can then be used at the bargaining table to document the problem.

Although it is difficult to recommend specific language, there are some problem areas in the Hazard Communication Standard, that could



stand some improvements. General recommendations are provided under the categories mentioned below.

GENERAL

- The employer will not purchase substances without an adequate MSDS and label. The union will be able to review labels, MSDSs and other documentation prior to the purchase of materials.
- The employer will request that suppliers provide all ingredients with identifiable chemical names and percentage composition on a non-confidential basis on the MSDS.
- Basic toxicology references will be checked to confirm that health warnings on supplier-provided materials are adequate.
- Potential hazards of materials will be jointly evaluated by the local health and safety committee during in-plant surveys.
- Workers will not be assigned to handle hazardous chemicals unless the proper labels and MSDSs are available.

LABELS

- The employer agrees to discontinue labeling which uses a numerical rating system and will demand that chemical suppliers provide hazard warnings on labels, which include specific information on health effects, and target organs affected.
- The employer will pressure chemical suppliers to provide labels, which include the chemical names of ingredients.
- Portable containers will be labeled with all names of hazardous ingredients and appropriate hazard warnings.

MATERIAL SAFETY DATA SHEETS

- A complete list of chemical ingredients, not just hazardous ingredients, and hazard data will be available to the union and workers.
- The employer will provide a copy of an MSDS to workers on request within the shift it is requested.
- The MSDSs for each department will be kept in the work area, rather than in a central location, such as the personnel office.
- Products, that do not have a proper MSDS, will be impounded until the chemical supplier provides complete and accurate information.



INFORMATION AND TRAINING


- The employer will appoint a named person to monitor new hazards and job changes to ensure that workers will be trained before they are assigned to perform any job involving chemical exposures.
- Where outside vendors or trainers will be employed in the program, they will be jointly evaluated. The employer will consider trainers recommended by the union.
- Training materials will be jointly reviewed and selected by the employer and union.
- Class size for right to know training programs will be limited to 15-20 workers.
- All training sessions will be scheduled at the beginning of shifts.
- Every worker will receive at least 4 hours of training, and each session will be long enough to permit workers to ask questions.
- Training will be provided on any new chemicals, which are brought into the workplace, regardless of whether workers have received training on similar hazards.

MAKING YOUR RIGHT TO KNOW WORK

The Hazard Communication Standard and state right to know laws provide CWA leaders and members with access to information about hazardous chemicals. These laws do not require employers to control or reduce exposures in order to protect workers' health. However, once you gain access to this information, you can use it to ensure that workers are being adequately protected.

HERE'S WHAT YOU CAN DO

- **Monitor Your Employer** through your union to make sure that right to know laws are being followed.
- **Ask Your Employer for a Copy of the Written Plan and Inventory of Hazardous Chemicals** required by the Hazard Communication Standard. Check to see if the plan is complete and the employer is doing everything outlined in the plan.
- **Review Existing Labels** to make sure that complete information is provided and that all containers are labeled.
- **Evaluate Material Safety Data Sheets** for accuracy and completion. Compare MSDSs with information provided in "How to Read an



MSDS.” If MSDSs are missing or incomplete, ask the employer to request this information immediately from the chemical supplier.

- **Find the Control Measures** listed on every MSDS. Is the employer following them? Ask the employer to reduce exposures by substituting less hazardous chemicals and by improving ventilation. Request protective equipment which is recommended, but only as a secondary means of protection.
- **Evaluate Training Programs** to determine if all workers are familiar with chemical hazards and know how to control exposure.
- **Inform Fellow Workers** about their rights under the law. Tell them how to get answers to questions about chemical hazards.
- **Utilize Contract Negotiations** to win better conditions and more rights for your health and safety committee.

STATE AND LOCAL ACTIVITY

Because the federal government had been slow to act on the “right to know,” unions, community groups, environmentalists, and other organizations turned to state and local governments for regulation/legislation that required disclosure of information about chemicals and toxic substances used in the workplace and polluting the environment. The development of state and community coalitions has helped to better ensure that workers are provided safe and healthful working conditions.

“Right to know” laws also allow consumers to gather data to take action preventing environmental problems from occurring and to more adequately address existing health problems; help public health workers to diagnose and treat health problems; and aid public officials in locating environmental pollution and enforcing workplace statutes.

“Right to know” measures have been passed in numerous states (see Table I for a list of these states.) In addition, many local jurisdictions have enacted “right to know” statutes. A partial list includes Cincinnati, Ohio; Santa Monica and Vallejo, California; and Philadelphia, Pennsylvania. CWA leaders have played important roles in these successful campaigns. Attempts to develop “right to know” laws are contemplated or underway in many additional states and municipalities.

Although each of the “right to know” laws vary, there are several common requirements. For example, within the workplace, employers must post notification of the workers’ “right to know” about toxic substances



used in their work environment; employers must provide employees with training and/or educational materials regarding the hazardous substances they work with; and employers are prohibited from punishing or discriminating against workers who exercise their rights to request data about toxic substances.

In most cases, employers are opposed to the enactment of state and local “right to know” statutes. Rather than having to adhere to one federal law, employers have to follow different state and local statutes with varying requirements. Chemical manufacturers requested that federal OSHA include a provision in the Hazard Communication Standard that would preempt state and local laws. However, the court ruled that the OSHA Standard would only preempt state and local regulations if: 1) the OSHA Standard is stronger than state or local provision; or 2) state laws are in direct conflict with provisions of the federal standard. Furthermore, because the OSHA regulation does not cover all industries or the public sector, it could not preempt all state activity.



B. “Right to Know” Resolution

Passed at CWA’s 45th Annual Convention, June, 1983

Delegates at CWA’s 45th Annual Convention June, 1983, passed the following “right to know” resolution. The resolution should be used by CWA Locals in their “right to know” activities:

“For more than 10 years the labor movement has been fighting for tough federal standards that guarantee workers the “right to know” what they are working with and the effects of exposure in their workplaces. That fight for strong, uniform federal protections has been long, difficult, and frustrating.

Unions did win part of the “right to know” fight in 1980 when a final regulation guaranteeing workers and unions access to exposure and medical records was promulgated by OSHA. And in January, 1981, under Dr. Eula Bingham, OSHA proposed the other piece of the federal “right to know” package - a standard that would have required the labeling of containers with chemical names and hazard information.

But since 1981, under the Reagan Administration’s unrelenting assault on OSHA, the agency has done an about-face on the workers’ “right to know.” The Hazard Identification proposal would leave it up to the chemical manufacturers to define and determine hazards. In addition, the proposal to amend the Access to Employee Exposure and Medical Records Rule would reduce the number of chemicals covered by over 90% and eliminate protection for more than 10 million workers.

In March, 1982, OSHA proposed a weakened Hazard Communication Standard on chemical substances. The proposal gives manufacturers almost complete discretion to define and determine what substances constitute a hazard. Information must only be provided if the manufacturer determines the substance poses a hazard. The proposal also contains broad trade secret protections for manufacturers, and allows them to withhold chemical identities for most chemicals they deem to be trade secrets. Only employers and employees in the manufacturing sector are covered, all other industrial sectors (e.g., telecommunications, construction, service trades, etc.) fall outside the standard’s scope. It is expected that a final standard will not be issued until late 1983.



Because the federal government has been slow to act on the “right to know,” Unions, community and environmental groups, and other organizations have turned to state and local governments for regulation/legislation that requires disclosure information about chemicals and toxic substances used in the workplace.

The development of state and community coalitions has helped to better ensure that workers are provided safe and healthful working conditions. In addition, the activity associated with “right to know” campaigns has increased labor’s political power.

RESOLVED: That this 45th Annual Convention of the Communications Workers of America continues to favor the promulgation by OSHA of a strong, uniform federal standard granting workers the “right to know.”

RESOLVED: That in lieu of a strong, federal standard, we encourage the Union’s District and Local leaders and members to become involved and actively participate in the initiation and successful completion of “right to know” laws in their states and communities.

Such laws to embody some of the following basic principles:

- 1** Employers must post within the workplace notification of the workers’ “right to know” about toxic substances used in their work environment;
- 2** Employers must provide employees with training and/or educational materials regarding the hazardous substances they work with; and
- 3** Employers are prohibited from punishing or discriminating against workers who exercise their rights to request data about toxic substances.



C. Tactics and Strategies

Before developing a “right to know” campaign, there are several background factors which must be investigated, such as: what industries are located in the defined area; what types of toxic chemicals and physical agents are used, manufactured, or stored by these employers; what are unions doing to deal with these problems; are there any known toxic waste dump sites; are there geographical areas where air pollution is an identified problem; are worker and consumer cancer death rates higher than comparative national, state, and local rates; what laws are currently in existence that address workplace and environmental health problems; what state-wide and community organizations are attempting to control workplace and environmental health problems. Obtaining information regarding the above variables is crucial to necessary organizing and awareness-building activities.

In formulating and participating in “right to know” campaigns, CWA leaders and members should work with District Staff and Local personnel, other labor unions, community and environmental groups, and other organizations. Such an approach is crucial to developing a broad base of labor and community support for “right to know” activities. In addition, early contact with sympathetic legislators should be established. This will help such legislators become more aware of both the grass roots support for “right to know” and the occupational safety and health issues related to drafting “right to know” legislation. In turn, sympathetic legislators should be asked to sponsor “right to know” legislation.

Utilizing the media will be an important factor in the success or failure of “right to know” efforts. Being in the news reinforces supporters’ activities. Media events might include use of newspapers, magazine stories and op-ed pages, radio and television talk shows, and coverage of rallies and legislative hearings. Meetings should be held regularly with media representatives keeping them informed of new developments. However, before contacting reporters, clarify goals, develop substantive points and rebuttals, and groom a spokesperson or persons to communicate with media personnel and coordinate all media work.

As with any political campaign, people and monetary resources must be developed. Member organizations will be required to devote neces-



sary staff time and finances. “Right to know” activities might also include fund-raising such as sales of bumper stickers and buttons at meetings, rallies, and legislative hearings. Canvassing neighborhoods for consumer contributions, collecting signatures on petitions and recruiting volunteers might also be conducted.



D. Preparation of “Right to Know” Legislation

The following pages contain suggested topics that should be addressed in “right to know” statutes. Where possible, it is recommended that CWA personnel work with legislative staff when drafting legislation.


These include:

1 The scope or coverage of the initiative. This provision should be as broad as possible. For example, language should apply to all toxic or hazardous substances that are manufactured, used or stored by an employer. This provision should be as broad as possible. Particular attention should be paid to toxic substances that cause cancer and reproductive hazards. The National Institute for Occupational Safety and Health Registry of Toxic Effects of Chemical Substances (RTECS) is a good start.

2 Labeling of toxic and hazardous substances. Such language should mandate clear labeling of all containers of toxics with the specific chemical name of a substance rather than a trade name. In instances where containers are not labeled, employers must maintain an up-to-date Material Safety Data Sheet for each particular substance within the work area. Labeling of toxic or hazardous substances should not be considered a disclosure of trade secret information.

3 Posting or notification requirements. Every employer that manufactures, uses, or stores toxic or hazardous substances in the workplace should post a notice informing workers that they and/or their union representatives have a right to information concerning the toxic or hazardous substances located in the workplace, a description of the toxic or hazardous effects of the substances, and the conditions under which these effects may be produced.


4 Training and education. Each employer should have a worker training and education program to make employees aware of the toxic and hazardous substances to which they are exposed. Such information should include the nature of the hazards, appropriate work practices, protective measures, and emergency procedures.



In addition, all employers using or storing toxic or hazardous substances in the workplace should maintain and, upon request, make available to all employees and their union representative a Material Safety Data Sheet for each such substance. Such data should also be provided to the public agency in charge of administering the law. The employer should retain Material Safety Data Sheets for at least one year after the toxic or hazardous substance was last manufactured, used, or stored in the workplace. Information set forth in the Material Safety Data Sheet should include:

- The chemical name, trade name, common name, and any other commonly used name of the toxic or hazardous substance;
- Physical and chemical characteristics;
- The physical hazards including the potential for fire, explosion and reactivity;
- The routes of exposure such as inhalation, ingestion, or absorption;
- The symptoms of short-term (acute) and long-term (chronic) effects of exposure to toxic or hazardous substances used in the workplace;
- The OSHA Permissible Exposure Limit (PEL) or ACGIH recommended Threshold Limit Value (TLV);
- Whether the chemical is listed as a carcinogen by the National Toxicology Program or International Agency for Research on Cancer or by OSHA;
- Precautions for safe handling and use;
- Generally applicable control measures including appropriate engineering controls and personal protective equipment;
- Emergency and first aid procedures;
- Date of preparation of the MSDS; and
- Name, address and telephone number of the chemical manufacturer.

The MSDS does not have to be in any particular format, but all the information must appear somewhere. OSHA has prepared a non-mandatory form, which employers can use to fulfill the MSDS requirement. A copy of the MSDS form and a fact sheet that explains each section of the MSDS form follows. It is important to mention that the old MSDS form once used by OSHA (Form 20) is no longer acceptable, unless new information is added.



5 Time requirements. The employers must provide requested data within a reasonable period of time. If the information is not provided, employees may not be required to work with the toxic or hazardous substances until the information is provided.

Any exposure measurement taken to monitor employee exposure to toxic or hazardous substances in the workplace must be made available for examination and copying to any affected employee, former employee, or designated union representative. In addition, involved employees must be allowed to observe any monitoring or measuring of worker exposure to workplace toxic or hazardous substances.


No employer should discharge, discipline, or discriminate against a worker for exercising his/her rights, making any claim or filing any complaint, testifying or otherwise using the protections spelled out in the “right to know” statute. Such applicable protections should also be provided to consumers.

6 Falsification of information. If any employer or its representative fails to comply with the provisions of this statute by knowingly and intentionally misrepresenting, falsifying, concealing, destroying, or failing to retain information necessary to comply with the statutes, they should be liable under the provisions of (legal code number or ordinance.)

7 Complaint procedure for employees and consumers. Workers and consumers should be ensured some mechanism of remedy against: the employer for actions of discharge/discipline, or discrimination. Provisions should allow employees and consumers to initiate action in any appropriate court of law to enforce any responsibility noted in the statute.

8 Penalties. “Right to know” statutes should include provisions for adequate monetary penalties for lack of compliance.

9 Trade secrets. Any employer may withhold the chemical name of a toxic or hazardous substance from the label and the Material Safety Data Sheet provided that: the substance is a trade secret by showing that it is a catalyst unknown to competitors; the substance is not a suspected or recognized carcinogen, mutagen, teratogen, or cause of significant irreversible damage to humans; withheld information is provided on a confidential basis to a treating physician who states in writing that a patient’s health problem may be related to exposure to a toxic or hazardous substance. The employer may condition disclosure



of information upon acceptance of a confidentiality agreement by the requesting party.

10 Transportation of toxic substances. Provisions should include disclosure information regarding shipments within and through particular geographical areas. Bars should be placed upon transporting toxics in such a manner as to limit hours of transport and/or restrict shipment routes.

11 The enforcement agency. State or local agencies must either be created to enforce the law or appropriate existing environmental, occupational, and health enforcement agencies must be identified and given enforcement responsibilities. The use of existing agency personnel and resources may be an important method of reducing administrative costs.

12 Enforcement. Provisions to enforce “right to know” should require periodic inspections of all industrial facilities to ensure the proper labeling and reporting of toxic substances. The enforcement agency should be authorized to make unannounced plant visits.

The enforcement agency should also have the authority to levy fines without need of court action against violators of “right to know.” Such fines should be mandatory. The amount of the fines should be based on the number of violations imposed on the particular employer. Provisions should also be made for injunctive action through a court to require compliance of any employers. Use of such a provision can result in the imposition of civil sanctions, including large fines and possible imprisonment, against non-complying employers.

“Right to know” laws should require employers to obtain permits to store or handle toxics, and, in effect, empower the licensing agent to revoke or suspend a permit whenever the employer violates the permit conditions. Permit suspension or revocation forces the employer to comply with “right to know” obligations in order to remain in business.

Citizen lawsuit provisions should be included in “right to know” legislation. Such provisions enable any concerned citizen to institute a court action to enforce the “right to know” law against an employer. The citizen lawsuit provision should authorize the court to award attorney and witness fees to the plaintiff.



Table 1
STATES WITH EXISTING
“RIGHT TO KNOW” LAWS

Alaska	Massachusetts	North Dakota
California	Michigan	Oregon
Connecticut	Minnesota	Pennsylvania
Delaware	Missouri	Rhode Island
Florida	Montana	Tennessee
Illinois	New Hampshire	Texas
Iowa	New Jersey	Vermont
Louisiana	New York	Washington
Maine	North Carolina	West Virginia
Maryland		



Attachment I

HOW TO READ AN MSDS

SECTION I: PRODUCT IDENTITY


This section identifies the product and manufacturer. The name of the product, which appears in this section, must be the same as the one on the container label and the list of hazardous products. The manufacturer's name, address, and emergency phone number are also listed. Finally, the date of preparation must be indicated. This is important because MSDSs prepared before November 25, 1985 should be examined carefully. This was the date when the new MSDS requirements went into effect, so MSDSs prepared before then may not be in full compliance with the law.

SECTION II: HAZARDOUS INGREDIENTS

This is a very important section of the MSDS. Any chemical ingredient known to have hazardous properties must be listed in this section. Next to each hazardous ingredient, the MSDS preparer must list the OSHA Permissible Exposure Limit (PEL), which is the amount to which a worker can be legally exposed. The PEL may be listed in parts per million (ppm) or in milligrams per cubic meter (mg/m³). Legal limits have been set for only 500 substances, so the ingredient may not have an OSHA PEL.

The MSDS preparer must also list the Threshold Limit Value (TLV), as established by the American Conference of Industrial Hygienists. These are similar to the PEL's, but often times may be lower. Although these are not legal limits, an employer who is interested in protecting worker health should obviously follow the lowest limit.

Another organization, which recommends exposure limits, is the National Institute for Occupational Safety and Health (NIOSH). The NIOSH limits tend to be the lowest, and should be listed if one has been set. The manufacturer may also list its own recommended limit. In general, the lower the exposure limit (PEL or TLV), the more hazardous the substance is. You may see the notation "skin" after a PEL or TLV. This



indicates that the chemical can be easily absorbed into the body through skin contact.

Percentages of ingredients may be listed but are not required by the law. This is unfortunate because without percentage information, it is difficult to determine if all ingredients have been listed. It is also more difficult to evaluate the hazards of the chemical without percentages. For this reason, the employer should demand percentage information from the chemical supplier.


Finally, trade secret claims have to be identified on the MSDS for any hazardous ingredients, which are being withheld. This is usually indicated by the phrase “Proprietary Information,” “Confidential,” or something similar.

SECTION III: PHYSICAL/CHEMICAL CHARACTERISTICS

This section tells you whether the material is a powder, paste, liquid, aerosol, etc. under conditions used in your plant. The description listed here should match the appearance of the material you are using.

There are several important terms used in this section. The **Boiling Point** is the temperature at which the substance will rapidly change from a liquid to a gas. The boiling point is a good indication of the ease with which the material will evaporate and give off vapors. If the product is a mixture, the temperature at which a substance boils may be presented as a range.

The Vapor Pressure tells how readily something evaporates, making it airborne and available to be inhaled. Liquid materials that evaporate easily are considered volatile liquids. This means that air concentrations can build up quickly even though the substance is in a liquid form. Liquids with high vapor pressures may be especially hazardous if you are working with them in an enclosed or confined area. Vapor pressures are measured in units of millimeters of mercury (mmHG), similar to atmospheric pressure on barometers. The higher the vapor pressure, the faster the substance will evaporate. For example, 1,1,1 trichloroethane has a vapor pressure of 100mm at 10 degrees (C), whereas methylene chloride has a vapor pressure of 350mm at 20 degrees(C). This means that methylene chloride will evaporate much quicker than 1,1,1 trichloroethane.



The **Vapor Density** is the relative weight of a vapor or gas compared with an equal volume of air. A vapor density of less than one means that the substance will tend to rise in air; a vapor density greater than one means that it will fall. Substances with higher vapor densities will concentrate in the bottom of tanks.

The **Appearance and Odor** may help you to identify what you are working with. Remember that the odor or smell may be a poor measure of the concentration of the substance in the air. While the nose can detect the presence of some chemicals, substances can reach hazardous levels with no noticeable odor. Also you may lose your ability to smell a particular substance over a period of time.

SECTION IV: FIRE AND EXPLOSION HAZARD DATA


This section provides information on how to prevent and fight fires and explosions. A number of different terms are used.

The **Flash Point** is the lowest temperature at which a liquid will give enough flammable vapors to be ignited. The flash point may be expressed as a range of temperatures for mixtures. Liquids with flash points below 100 degrees (F) are called flammable. Liquids with flash points between 100 and 200 degrees (F) are called combustible. A flash point that is near or below room temperature (73 degrees F) indicates that the material is especially dangerous because explosive vapors can form without additional heating.

The **Flammable or Explosive Limit** refers to the range of vapor concentrations that will burn or explode if a source of ignition is present. LEL stands for lower explosive limit and UEL for upper explosive limit. Air concentrations that fall between LEL and UEL can lead to fires and explosions.

This section will also list the type of fire extinguisher, which should be used, and whether special protective equipment is needed for fighting fires. This is one area where the MSDS may be inadequate, since the combinations of products used in a workplace may produce unexpected hazards to emergency firefighters.

Under some state right to know laws and the Federal Community Right to Know law, firefighters have the right to review workplace chemical



inventories and MSDSs and to inspect the workplace in order to plan for and prevent fires and explosions.

SECTION V: REACTIVITY DATA

This section provides information on conditions that could cause the product to react dangerously, to decompose, and release dangerous materials. A complete MSDS will tell you whether the substance is likely to break down or react with other substances, what conditions are likely to cause the substance to change its composition, and what new hazards might result. This can be very valuable information if a substance makes contact with heated surfaces or when chemicals are mixed together. This information usually pertains to immediate reactions. Information on the long-term health effects of chemical mixtures is generally not adequate.

SECTION VI: HEALTH HAZARD DATA

This section should list any of the harmful effects, which may be caused by the chemicals listed in the Hazardous Ingredients section. The health hazards may be acute hazards (short-term) or chronic hazards (long-term).

The word acute can be used to describe both an exposure and an effect. An acute exposure usually means exposed at a relatively high level over a relatively short period of time. An acute effect occurs immediately following an exposure. Acute effects are often serious but temporary responses to exposures that can be reversed if the exposure is not repeated. Chronic exposure means a relatively low level of exposure, which occurs over a relatively long period of time. Chronic health effect usually describes a health condition that has gradually developed and is difficult to reverse. Often there are no noticeable signs or symptoms in the early stages. Sometimes the illness may take many years to appear. There may be a long period of time between the last exposure and the onset of the disease. When the disease is finally noticed, it is often difficult to recover the function that is lost. In some cases, further worsening of the disease can be prevented. In others, such as some occupational cancers, the disease may be terminal.



Some chemicals have both acute and chronic health effects, depending on the way in which the dose is experienced over time. Health hazards may include problems with skin, eyes, breathing, allergies, cancer, reproduction, or damage to the internal organs/ such as the liver or kidneys.

In addition to listing the health hazards, the MSDS must also include the routes of entry or how the substance enters the body; the signs and symptoms of exposure; medical conditions aggravated by exposures; and emergency and first aid procedures. Most current MSDSs do not report all of the information required by the new regulation.



The safety and health effects of computer workplaces are of great concern to CWA members. In part, this development has occurred as the result of the ever-increasing number of CWA members utilizing computers. During the latter 1970's, a few thousand members operated computers; whereas, at present, more than 450,000 CWA-represented workers use computers to perform their jobs. In the future, the number of the Union's members working with computers will continue to grow at an ever-increasing rate.

With this in mind, the "CWA Computer Workplace Manual", has been developed to assist the Union's leaders in identifying and resolving the sources of member computer safety and health concerns. Specifically, the publication targets essential elements of the design of work or the ergonomics of computer workplaces. I believe that effective use of this training material will help CWA Locals provide an essential service for CWA members.

Larry Cohen
Executive Vice President



A. Introduction

During the 1960's, 1970's, 1980's, 1990's, and now into the 21st century, the communications industry has been characterized by the development of modern, new technological devices. This new technology has been implemented by management to increase productivity and decrease labor costs.


Changing technology has had a tremendous impact upon workers. In some instances, new technology has improved member working conditions, but, in others, new technology has produced several detrimental effects. One particular device – the computer – has, in part, resulted in increased worker productivity and efficiency, but often with a corresponding development of occupational safety and health problems.

The National Institute for Occupational Safety and Health (NIOSH) estimates that, at present, there are more than 70 million computer operators in the United States. In the future, these figures are anticipated to increase.

Since the latter 1970's, the number of CWA members utilizing computer's has increased from a few thousand to more than 450,000. In the coming years, the number of Union members working with computer's will continue to grow at an ever-increasing rate.

For more than three decades, the Union's Safety and Health Department has been actively identifying member computer workplace concerns, providing CWA leaders with up-to-date information for collective bargaining, educating CWA personnel about the safety and health hazards associated with the use of computers, working with employers with whom the Union has a contractual relationship to eliminate/minimize reported health symptoms, and advocating and sponsoring scientific studies specific to computer workplaces. Since some of this work has directly involved CWA members as study participants, the Union has both developed an increased awareness of member computer working conditions and obtained valuable information regarding ergonomic design and redesign.

In January, 1980, the Occupational Safety and Health Department prepared the CWA Occupational Safety and Health Fact Sheet #5, "Visual



Display Terminal/Cathode Ray Tube Operators and the Workplace” (now entitled “Computer Workplace Operators and the Workplace”). Over 350,000 copies of this fact sheet have been disseminated to the Union’s leaders and members. The *CWA Computer Workplace Manual* is intended to be a comprehensive and expanded update of the fact sheet.

The Manual has been developed as a tool which can be used to help CWA leaders identify and resolve the sources of member computer workplace safety and health complaints, thereby improving member working conditions. Included are subjects such as computer, workstation, workplace, and work organization design, evaluation of computer worker concerns, dealing with management, information resources, and a glossary of computer workplace terminology. While the Manual deals with monochromatic (one-color) computers, most of the information applies to color displays as well. As with many other safety and health activities, discussion and resolution with management may effectively occur within safety and health and cooperative functions.



B. Computer Workplace Health Complaints

Various health symptoms have been associated with the use of computers. Worker complaints may be categorized as visual, musculoskeletal, and job stress-related.


Visual and ocular problems are most frequently reported by computer operators. Ocular complaints include eye discomfort, eyestrain, burning, itching, irritation, and aching. Other less frequent visual symptoms include blurred vision, double vision, color fringes, and reported deterioration of visual acuity. In addition, many workers indicate the occurrence of headaches.

The incidence of visual complaints is dependent upon the type of computer work (data input, data output, and dialogue) and the particular visual demands associated with the work and the work environment. Many scientific studies have indicated that computer workers suffer from a high incidence of visual disturbances. Data suggests that some types of computer work produce greater levels of visual complaints than in traditional offices or visually demanding inside work. For example, workers employed as computer telephone operators reported increased visual problems as computer operations were increased or intensified.

Numerous studies have indicated that different types of visual discomfort may produce varied effects. For example, severe optical discomforts (eye irritation, soreness, and tiredness) may not go away within a short period of time following work and may even be present at the start of the next day's shift. Health effects related to visual performance (e.g., blurred vision) may have a recovery period of 15-20 minutes or more.

Researchers note that the majority of computer operators around the age of 40 will require glasses. This usually occurs as a result of a natural deterioration of a person's eyesight. In this case, the lens of the eye loses its capability of focusing at close distances – farsightedness.

Postural or musculoskeletal problems are common to many sedentary jobs. Operator complaints are most often related to the neck, shoulders, back, and wrists. Complaints mentioned less often involve the arms,



hands, and legs. Researchers indicate musculoskeletal symptoms are more frequently reported by computer operators than workers in traditional office jobs.

According to scientific and medical information, serious musculoskeletal health symptoms are most often associated with computer jobs requiring constrained working positions for an entire work shift. In a seated position, the computer operator is subject to continuous stress on almost all postural muscles. The amount of the stress is dependent upon the position of various parts of the operator's body. Holding the head to the side or forward may lead to neck and shoulder fatigue and pain. Other neck and shoulder complaints result from the use or position of the operator's arms. For example, elevation of the arms will add to neck and shoulder strain. Prolonged, constrained postures required by the job will make this condition worse. Over the long-term, continued wear and tear may result in a gradual deterioration of joint tissues.

During the last several years, CWA has identified repetitive motion musculoskeletal illnesses involving the hands and wrists, arms and shoulders, and neck and back occurring at catastrophic levels. These health problems are caused by excessive repetition or repetitive motion, excessive force, poor posture, and poor work organization. All of these factors must be addressed to effectively reduce musculoskeletal complaints.

Job stress as reported by computer operators is often described in terms of psychological and physical strains such as frustration, anxiety, irritability, anger, depression, stomach or gastrointestinal disturbances, muscle and psychological tension. As is true with visual and musculoskeletal health complaints, the primary cause of job stress is lack of consideration of the relationships between the worker and the work environment. Some of the factors which can contribute to job stress include excessive job demands and work pace, machine pacing, lack of participation in the implementation of computers, and lack of job control.



C. Computer Design

In large part, a discussion on computer design might also be thought of as a discussion on ergonomics. Ergonomics, or human factors, as it is commonly referred to in the United States, is the study of the relationship between human beings and the work process and environment. Simply put, ergonomics means fitting the workplace to the needs and characteristics of workers rather than having employees adapt to meet the design of workplace tools and equipment. A discussion of the ergonomics of computer workplaces should include consideration of the design of computers, workstations, workplaces, and work organization. This method is often referred to as a systems, or holistic, approach.

Ideally, computer design controls should be placed into the equipment during the manufacturing process. Manufacture and use of ergonomically designed computers will result in lower long-term costs, increased productivity, and decreased worker health symptoms.

The computer is made up of a television-like screen that displays information and a keyboard used to enter data into or to take data from the computer-based system. In addition, the computer may be equipped with a mouse or related input device equipment.

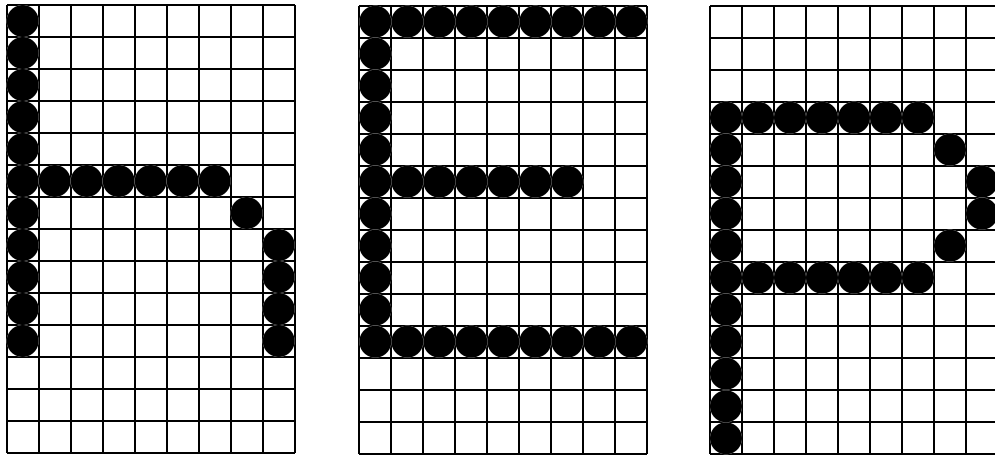
The computer screen is a large vacuum tube, called a cathode ray tube (CRT). The inner front surface of the tube is coated with a substance called phosphor. When struck by electrons emitted by the CRT, the phosphor glows, thereby providing formation of screen characters. The CRT emits a thin beam of electrons that move across the screen in a horizontal direction. After each horizontal sweep, the beam moves downward and sweeps horizontally across the screen again. The beam continues this operation until it sweeps across the bottom line of the screen. Then this sweeping process is repeated.

Screen characters are made up of dots that are “excited” by the electron beam raster on the screen phosphor. Screen characters continue to glow for a short period of time after the electron beam has moved on and must be continuously renewed (usually at a rate of 60 Hertz, Hz, or cycles per second.) The characters are comprised of illuminated



spots in a matrix. Specific characters are formed by turning selected dots on and leaving the rest off. Typical matrix sizes are 9 inches x 11 inches or larger. Since the greater number of dots produces clearer, more easily read characters, 9 x 11 or larger sizes are recommended.


CRT CHARACTERS FORMED IN A 9 X 11 DOT MATRIX



Character legibility is also determined by the type of font (size and style of letters) utilized. At present, there is no standardization of fonts among computer manufacturers. Therefore, concerned CWA members should have input into selecting the most legible font.

Screen characters must be “refreshed” to remain visible. The character should be “refreshed” frequently enough to prevent the human eye from noticing the variation in the amount of light emitted by the characters. The most commonly used computer refresh rate is 60 Hertz (Hz) or cycles per second. Most operators will not be able to detect character flicker or flashing of the screen characters at 60 Hz. However, some operators may notice a small amount of flicker at 60 Hz. For these workers, the flicker effect can promote visual discomfort.

Most computers utilize white, green, or amber phosphors, thereby producing character color. At present, very little data exists regarding preference of one phosphor color over another. However, researchers do suggest that as a result of the accommodation properties of the eyes, bright blues and reds should not be used on the same screen.



Another area for which there is sparse scientific information is the use of positive (light characters on a dark background) or negative (reversed, dark characters on a light background) screen characters and background. Although positive video is more commonly utilized, negative displays reflect less glare.

Other computer design factors include the reflectance quality of the screen, adjustability of screen angle, contrast and brightness controls, screen and character size, and appearance of the equipment.

Computer screens should be equipped with anti-reflection coatings. Such coatings may be sprayed on the inside surface of the screen during the manufacturing process. Anti-reflection coatings cause a change in the way light is reflected from the screen, reducing the luminance of reflected images without degrading the character image.

In the case of existing poorly designed computers, there are several methods of reducing screen reflectance or glare. A variety of screen filters or surface treatments are available to minimize screen reflections. The list includes neutral density, micromesh, and polarizing filters. Surface treatments include etching and quarter-wave or thin-film coating. (See Table I for a comparison of these devices.) Since all of these retrofit methods have specific advantages and disadvantages, they should be used only after other steps have been taken to eliminate glare. Careful analysis of workstation and workplace features is necessary to determine the best means of retrofitting computer equipment. For this reason, expert personnel should be consulted before glare reduction treatments are purchased and implemented.

Computers should be equipped with adjustable angle (tiltable), contrast, and brightness controls. Availability of these adjustments will allow operators to position the computer to fit their particular physical characteristics. Ideally, operators should view the screen at an angle of 10 to 30 degrees below horizontal. For machines not so equipped, adjustable stands should be provided.

Computers should also be equipped with brightness and contrast controls. Such controls will allow the operator to adjust the screen to his/her liking, thereby reducing one cause of visual discomfort. Controls should be placed in a location that is convenient to the operator, preferably on the front of the machine. Also, computer equipment should have a non-reflective matte finish.



To allow for flexibility in positioning computer equipment, computers should have separate screen and keyboard units and electrical cords that are long enough to allow freedom of arrangement. Operators can then position both the screen and keyboard for optimal convenience and comfort. Such flexibility will help to reduce visual and musculoskeletal health symptoms associated with full-time use of one-piece screen and keyboard computers.

Keyboards should be thin and the angle should be designed to be between five and 15 degrees measured from the horizontal (e.g., table) and preferably adjustable. Key surfaces should be concave for finger comfort and have a matte finish to reduce reflections (e.g., gray, beige, or similar color). Ideally, keyboards should be placed on an adjustable surface that allows the keyboard to be positioned in a slightly downward sloping angle. Such placement will allow the operators to keep his/her hands and wrists in a neutral (straight) position and, thus, avoiding hand and wrist flexion.

The mouse unit should be detachable and moveable so that it can be positioned to best suit the posture and work requirements of the individual operator. The mouse should be designed to fit comfortably into the hand and positioned with the click buttons level with the keyboard. The mouse should be located at the same height and angle as the keyboard and situated next to the keyboard. Also, the work surface upon which the mouse is used should be large enough to allow for the proper and intended operation.

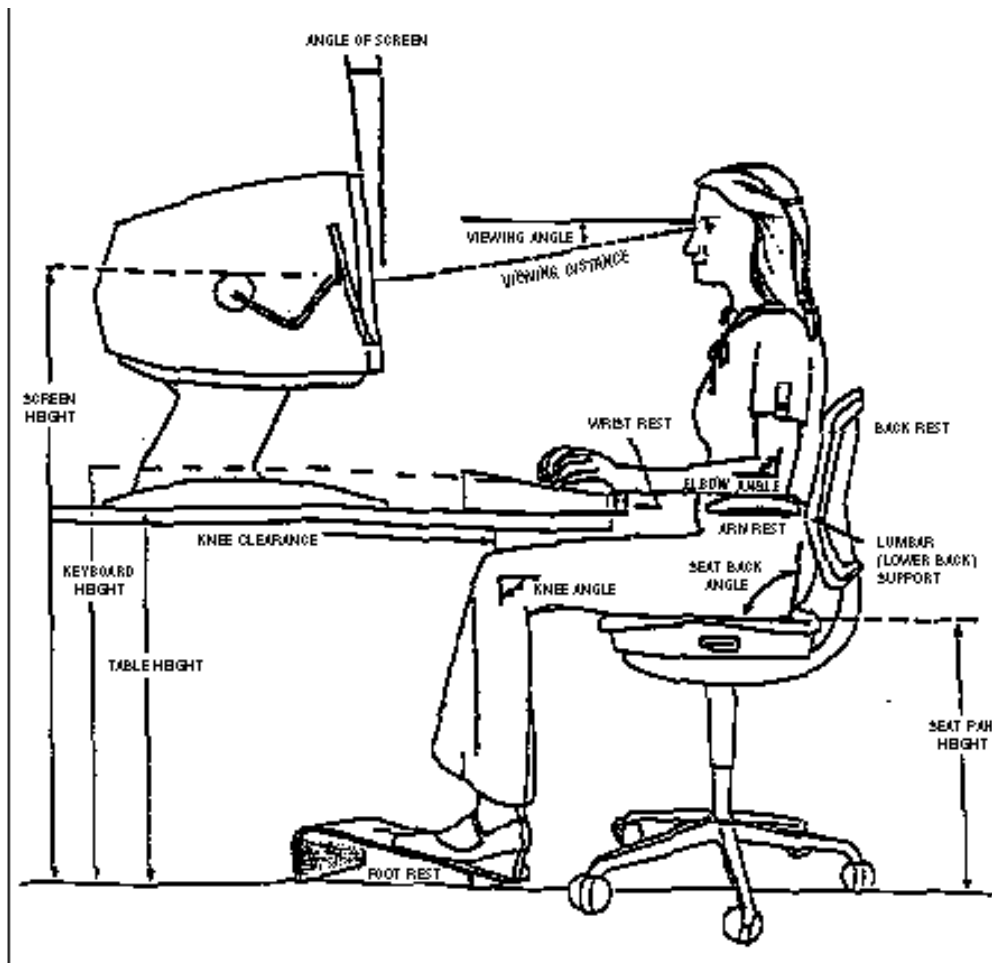
When using the mouse, it should be held loosely with the wrist in a neutral position and operated by moving the entire arm and shoulder. Also a light touch should be used when clicking the mouse buttons.

Of utmost importance, employers should establish an annual schedule for computer maintenance. Scientific data clearly demonstrates that poorly maintained computers may produce distorted screen characters and promote worker health symptoms. Adoption of an annual maintenance schedule will compensate for aging and maintain good computer contrast, focus, and distortion-free images.

Due to the causal relationship between computers and eye discomfort and, possibly, permanent visual deterioration of visual acuity, concerned CWA members should be provided eye examinations upon commencement of employment or assignment of work upon computers

and annually thereafter. Such examinations should be conducted by an ophthalmologist or optometrist and should include, in addition to routine optical testing, refractions, acuity, and accommodation testing, tests for color vision function, and examination of the cornea and the lens for opacity and the retina for detachment. The American Optometric Association has recommended specific procedures for such eye exams. These are included in Table II.

COMPUTER AND WORKSTATION DESIGN VARIABLES






D. Workstation Design

Variables important to workstation design include the computer table, chair, document holder, lighting, footrest, and wrist and arm rests.

Computer tables or desks should be vertically adjustable to allow for operator adjustment of the screen and keyboard. Tables or desks should be of sufficient size to allow the computer and other tasks to be performed without excessive twisting, turning, or stretching of the trunk, shoulders, neck, or arms. Proper design should allow for different arrangements of computers as the task requires. The surface of the table should be large enough to allow for all necessary equipment and work materials. Computer tables should have a non-reflective matte surface. Ideally, table tops should be as thin as possible to allow room for the workers' thighs and knees. There should also be adequate space under the table to allow workers to vary the position of their legs. Researchers suggest table tops should not exceed one-inch thickness. Tables should also have rounded corners to prevent injury. Care should be taken in the selection of adjustable equipment to assure that there are no pinch points, protruding handles, or parts that may cause operator injury. Secondary work surfaces such as a separate keyboard/mouse surface or document holder may be required to store, layout, read, and/or write on documents or materials.

Depending upon the design of the computer, it may be necessary to provide some means of adjusting the height of the screen, keyboard and mouse. While adjustable tables that provide this option are available, in some cases the need may be satisfied by providing stands for the displays. Also, articulating, adjustable keyboard/mouse work surfaces might be provided. Adjustable screen heights become more important when different workers must share the same workplace such as in directory assistance.

Poor chair design can be one of the most significant causes of musculoskeletal stresses and strains. Proper chair and backrest height as well as support to the lumbar region of the back are critical factors contributing to worker musculoskeletal complaints. Many computer operators are exposed to unreasonable musculoskeletal loads due to poorly designed computer chairs.



Continued and prolonged exposure to a static loading of muscles may lead to an irritation of joints, tendons, and muscles causing a substantial amount of pain. In many cases, researchers report that these stresses and strains carry over beyond the work hours.

Proper chair design involves consideration of the backrest, the seat pan, and the material covering the seat. Adjustability of computer chairs to fit the physical characteristics of workers is essential in helping minimize or delay the onset of muscle fatigue. Researchers indicate that computer operators who use non-adjustable chairs develop poor work postures and report increased levels of musculoskeletal health symptoms.

The backrest of the computer chair should provide for support of the lower, middle, and upper portions of the back. The backrest should provide proper support for the back and allow for adequate relaxing of muscle tension while the operator temporarily leans back in the chair. Backrests should be independent from the main portion of the seat and allow for tension and tilt (forwards and backwards) angle adjustments. To increase stability, chairs with at least five casters are recommended.

The seat surface should be 16-18 inches deep and 15-17 inches wide. The seat should also be moderately contoured with the front edge well-rounded to avoid pressure on the underside of the thighs. The ability to adjust the slant of the seat surface forward or backward either by a shifting of the body or by means of a specific control can be an added comfort feature. Controls should be easy to use or they may not be used at all. Seats should be covered with materials that allow air circulation.

Another important chair design feature is armrests. Well-designed cushioned armrests can provide appropriate support for the arms.

Document holders should be provided at computer workstations involving data input or where hard copy is used. A document holder allows the operator to position and view material without straining his/her eyes or neck, shoulder, and back muscles. Ideally, the document holder should be adjustable both in angle and height to allow for repositioning of work or use by a different operator.

Due to the nature of the computer itself, computer work environments require less illumination than traditional office settings. When workplace illumination is decreased and operators must work with hard copy, supplementary or task lighting should be provided. Such lighting



should be adjustable and fitted with glare control equipment. The need for task lighting is extremely important for operators working with hard copy.

Adjustable footrests should be provided if workers cannot adjust their chairs low enough so that their feet rest firmly on the floor. Footrests should be tiltable to 10 to 30 degrees against horizontal. To avoid strain and pressure on the hand, wrist, and arm muscles, tendons, and nerves, wrist and arm rests should be provided to requesting employees. Ideally, wrist rests should not be used while keying, but rather while resting. In addition, palm rests may be necessary when using certain terminals.

Due to the static loading of postural muscles associated with prolonged constrained sitting postures, standing workstations should be made available for periodic employee use.



E. Workplace Design

All too often, computer equipment is installed in traditional offices with little or no redesign of the workplace. In many cases, CWA members have witnessed the implementation of computers in their work environment without proper consideration of ergonomic factors. Variables important to proper computer workplace or work environment design include illumination, temperature, humidity, and noise.

The proper amount of workplace illumination is essential for computer work to be performed without visual discomfort and fatigue. Too much light can cause glare or veiling reflections which, in turn, make screen characters difficult to read; whereas, too little light overtaxes the eyes as the operator strains to read other materials. In general, researchers suggest that computer workplace illumination levels should be much lower than in traditional offices. Most experts recommend illumination levels between 300 – 700 lux as compared to traditional office levels of 1000 lux. Task lighting should be utilized for hard copy work.

High levels of illumination contribute to direct and reflected glare. Direct glare comes from workplace lighting or light from windows. Reflected glare occurs as a result of light bouncing off smooth, glossy surfaces such as walls, floors, and furniture forming veiling reflections on the computer. Glare reduces screen contrast and increases the amount of visual effort utilized to make out screen characters. Glare can best be controlled by eliminating or modifying the source.

Light levels may be too high because of the brightness of existing light fixtures and/or light from windows. In the case of existing workplace lighting, fluorescent dimmers or luminaire covers may be installed. Such steps will allow for the reduction of the amount of light dispersion and reduce glare and reflections. In some cases, indirect lighting may provide a more desirable method of illumination. This type of lighting produces an adequate level of illumination and eliminates the harsh brilliance and glare of ordinary fluorescent lighting. Before indirect lighting is installed, a lighting expert should be consulted to ensure proper design.

Although not preferred, workplace illumination may also be reduced by turning off certain lights. However, such a “desperate step” may re-



sult in insufficient illumination for hard copy and may increase the glare originating from normally-lit portions of the work environment. Another “desperate step” would be to reduce by one-half the number of fluorescent lights in a given fixture. White warm-tone tubes should be used in fluorescent fixtures.

High illumination levels may also be caused by natural light coming through windows. Light from windows may be reduced with the installation and use of curtains, blinds, or shields.

The proper placement of computer screens is also an important means of eliminating glare and reflections. Screens should be positioned perpendicular to windows. In turn, operators, line of sight should be parallel to windows and light fixtures. In cases where computer equipment cannot be properly positioned to reduce/eliminate glare, room dividers, partitions, or screens may be placed behind the computer screen to reduce glare.

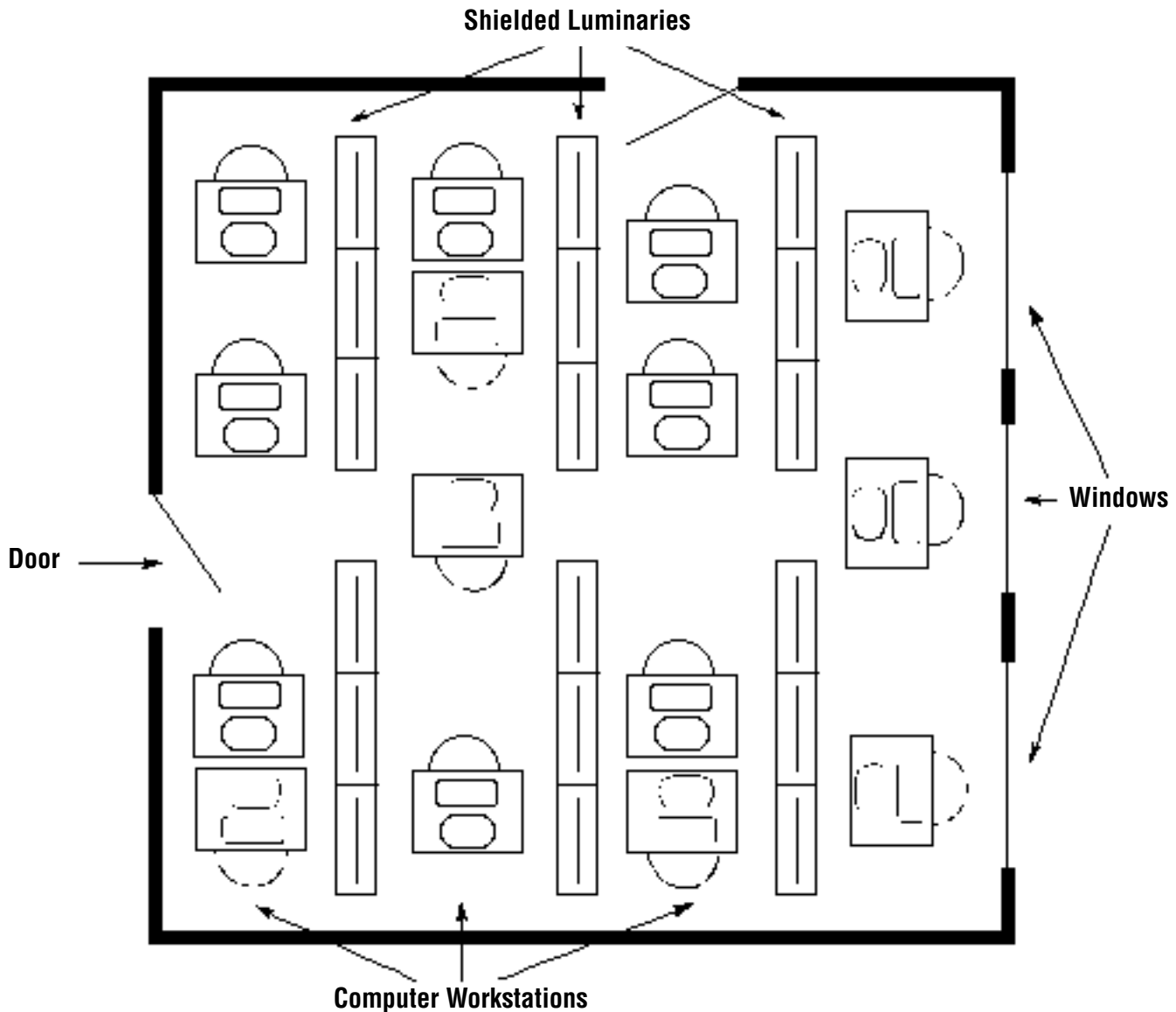
If after attempting to eliminate glare by the aforementioned methods, reflections are still present, then the computer should be modified. For computers that are not manufactured with an anti-glare treatment, the use of filters is recommended. As noted in the previous discussion on computer design, there are several types of screen filters. (See Table I for a comparison of filtering devices.) The filter is meant to absorb incoming light and reduce the amount of reflection from the screen. Since all filters reduce character luminance, care must be taken to choose filters that do not reduce contrast and degrade the legibility of screen characters to the point of causing the operator increased visual effort.

Veiling reflections may also be reduced by installing a hood over the computer screen. This device is used to block angular reflections and glare sources. However, screen hoods may make it difficult to look between the screen and source documents. Hoods also tend to accentuate contrast variations between the screen and lighter colors within the workplace.

Where there are glossy, smooth, or bright walls and equipment in the work environment, they should be painted non-reflective matte, earth tone, or pastel colors. Floors should be carpeted to eliminate reflections and reduce noise.

Computer workplaces should be engineered and maintained to provide comfortable temperature and humidity levels. Temperatures should

PROPER LAYOUT OF COMPUTER WORKPLACE



range from 68 to 75 degrees. Proper spatial design of the workplace, maintenance of temperature controls, and prevention of wide variations in temperature can help increase worker comfort, morale, efficiency, and productivity.

Scientists have suggested that computer operators working in locations with improper humidity levels may develop eye irritations (particularly contact lens wearers) and, possibly, facial rashes. These conditions are caused by electrostatic energy that builds up in the dry air between the



operator's body and the cathode ray tube (CRT) screen and, in turn, attracts airborne contaminants to the skin. It has also been postulated that synthetic fiber carpets not treated with anti-static materials might also contribute to the incidence of facial rashes. Humidity levels should be maintained between 30% and 60%. Maintenance of proper humidity levels will prevent such rashes from occurring and also help decrease upper respiratory illnesses.

Noise must also be considered as a source of problems in the office. Bothersome and distracting noise may come from the computers themselves, printers, and conversations between other workers. Suggested methods of resolving noise problems are not overcrowding workstations and equipment, and, where appropriate, using muffling devices such as equipment covers, carpets, and acoustic partitions and barriers. Panels can be used to separate workers. Particularly noisy equipment should be placed in a separate area or room. In addition, computers should be equipped with a fan to dissipate heat. Care must be taken, however, to avoid such equipment that adds to a noise problem.




F. Work Organization

Researchers suggest that work organization is as crucial a factor in causing worker health complaints as proper design of the computer, workstation, and workplace. Work organization includes both job and organizational design. Job design variables comprise the type and nature of a given task, time spent performing the job, work pace, and the amount of control over the way the job is performed. Both physical and psychological job demands influence the type, severity, and frequency of computer worker health complaints. For example, repetitive work may produce increased visual and postural (musculoskeletal) problems and heightened emotional or job stress complaints.

Jobs must be designed in such a manner that provides employees with a sense of accomplishment and a feeling of self-esteem. Fragmented, simplified jobs common to many clerical and communications jobs may not provide these needs. With computerization, job content has been significantly diminished which, in turn, has led to increased worker complaints of fatigue and boredom. Jobs should be designed so that employees can realize the end product of their labor, thus allowing them to feel that they will more closely identify with their work and increase their self-esteem and dignity.

Computer jobs are characterized by a lack of employee control over the work process which may lead to increased physical and psychological stress. A significant amount of stress might be reduced by enlarging operators' decision making and use of alternative work procedures. Tasks should be broad enough to provide workers with an understanding of the importance of their work. This will aid employees to overcome boredom and dissatisfaction associated with poorly designed work and help provide a feeling of security and sense of accomplishment. Also, periodic feedback should be provided by supervisors.

Workers need to interact with other workers in their work setting. Computerized work leads to decreased contact and communications with fellow employees by producing greater isolation. In many jobs in which CWA members are employed, it may be difficult to prevent this occurrence. Therefore, jobs need to be designed to allow contact



and communications with fellow workers during non-work periods like breaks and lunch periods.

Organizational design variables include worker participation in computer implementation, computer training, supervisory style, and employee monitoring. Employers should allow for a transition period that provides for worker participation before the introduction of computers. Workers should be involved in the planning phase, the design of the computer system and workplace, and the implementation of the computer equipment. Following this course of action will provide workers with an understanding of the computer system, its capabilities, and their role in the newly-designed work processes.

Computer training is crucial to the proper utilization of computer equipment. Such training will provide workers with time to develop the skills necessary to perform the job well and time to build confidence in their ability to perform the job. Instruction should include an explanation of why the new technology is needed, how the new technology works and functions — including ergonomic considerations — and the benefits of the new technology. Retraining should be provided on a periodic basis. Adherence to such an approach will help workers maintain their confidence and skills at high levels and, in turn, reduce job stress, particularly as it relates to job security and downgrading. Training should emphasize supervisory support for employee activities.

Employers should also employ administrative methods like flexible working hours (flex-time) and selection of break time to allow employees more control over their work. Flex-time may be of particular value as a stress reduction technique for shift workers. Computer workers should be provided frequent, short rest breaks to reduce fatigue and physical stress. Computer down-time should not be viewed as a period of rest. On the contrary, when a computer system goes down, computer operators view these periods as irritating and stressful. This stress reaction occurs because the operator has no control over the length of time the down-time will continue. NIOSH recommends that for jobs that require more than sixty percent viewing time, constant rapid muscular action, fixed postures for extended periods of time, or that are highly repetitive and boring, breaks of fifteen minutes every hour should be provided. Computer jobs with less stringent requirements should contain breaks of fifteen minutes every two hours.



G. Other Health Concerns

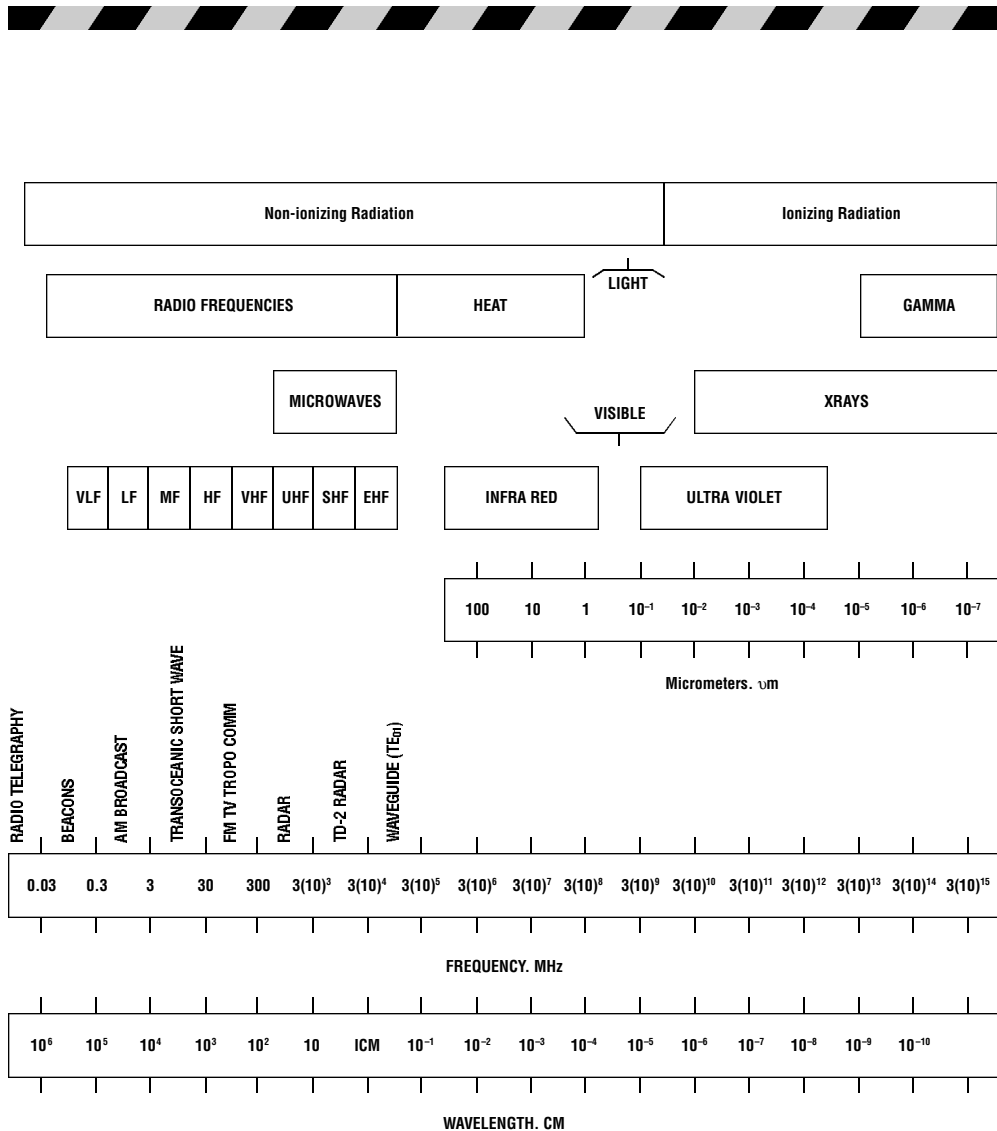
During the 1980's, the subject of radiation emissions from computers/CRTs had become a major concern to CWA. Of particular interest was the question of whether there was a link between computer/CRT exposure and birth defects, spontaneous abortions, or cataract formation. This concern had arisen as a result of the identification of several clusters of birth-related problems among computer/CRT operators. At present, there is no final conclusion as to whether computers/CRTs are responsible for these problems.

Ionizing and non-ionizing radiation are emitted from computer/cathode ray tubes. Together, ionizing and non-ionizing radiation comprise the electromagnetic spectrum. Electromagnetic radiation consists of vibrating electric and magnetic fields moving through space. For example, electric current in a transmitter circuit establishes magnetic and electric fields in the region around it. As the electric current moves back and forth, the fields continue to build up and collapse, forming electromagnetic radiation. This electromagnetic radiation is described in terms of the wavelength or the frequency of radiation.

Ionizing radiation includes the higher frequencies in the electromagnetic spectrum such as gamma, "x," and ultraviolet radiation. Low levels of x-radiation are generated in the cathode ray tube of the computer/CRT.

Non-ionizing radiation includes the lower frequencies in the electromagnetic spectrum like ultraviolet and visible light, infrared or thermal, microwave, and radio frequency. Ultraviolet, infrared and radio frequency (very low frequency and extremely low frequency) radiation are emitted from computers/CRTs. Non-ionizing radiation is emitted by activated phosphors and electronic components within computers/CRTs.

As noted, the current state of scientific knowledge is incomplete on the question of any possible relationship between the use of computers/CRTs and birth defects or spontaneous miscarriages. What is believed, is that ionizing radiation is emitted from computers/CRTs at negligible levels, and, therefore, should not be considered a problem to employee well-being. Nonetheless, many experts agree that computers/CRTs




Mumford WW: Some Technical Aspects of Microwave Radiation Hazards. Proc. IRE 49:427-17. 1961. The Electromagnetic Spectrum.

should be tested for design flaws and malfunctions to assure all concerned parties that x-radiation cannot be emitted at hazardous levels.

Certain types of non-ionizing radiation, such as ultraviolet and visible light, infrared, and radio frequency are not produced by computers/CRTs at high enough levels likely to be harmful to humans. However, the effects of radio frequency emissions cannot be judged in the absence of additional laboratory research and conclusive epidemiological studies.

One scientific investigation conducted by the National Institute for Occupational Safety and Health (NIOSH) involving members employed by Bell South and AT&T did not find any relationship between com-



puter/CRT radiation emissions and spontaneous abortion or miscarriage. However, because several important factors such as infertility, job stress, and musculoskeletal issues were not addressed, more comprehensive epidemiological research needs to be conducted. Upon completion, the relationship between computer/CRT use and potential reproductive harm will be more thoroughly spelled out.

Until such time as conclusive scientific data is formulated, computer operators should not have to wonder if exposure would result in negative health symptoms. Employers should be ensuring that CWA members are not exposed to harmful radiation levels. In part, this can be accomplished by manufacturers producing and employers providing low-emission (Swedish MPR-II) computers or installing conductive metal shielding on radiation-emitting components within the computers.

Another issue that has been raised is the relationship between the possible inhalation of polychlorinated biphenyls (PCBs) from computers and reproductive disorders. Scientific data suggests that exposure to PCBs may result in skin rashes, low birth weight, developmental and liver disorders, and cancer. PCBs are used in the insulation coating of some computers transformers and capacitors, especially in older machines. Concern has been raised as a result of findings that PCB levels were found in one office to be 50 — 80 times greater than levels found outdoors. However, additional scientific work has shown that PCBs are not emitted from computers.

As noted in the section regarding workplace design, researchers have suggested that computer operators working in environments with improper humidity levels may develop eye irritations and, possibly, facial rashes. These health symptoms are most likely caused by electrostatic energy that builds up in the dry air between the operator's body and the cathode ray tube. In turn, airborne contaminants are attracted to the skin. Maintenance of proper humidity levels will help prevent facial rashes from developing. Use of carpets treated with anti-static materials will also help prevent rashes from occurring. Where screen filters are used, they should have grounding features.



H. Use of Computer Checklists and Surveys

In order to effectively deal with member safety and health concerns, involved CWA leaders must know how to recognize elements of poorly designed computer, computer workstation, workplace, and work organization variables. A review of the previous sections should provide knowledge as to proper ergonomic factors. Having this information is necessary before attempting to suggest and/or implement considerations for proper design or redesign. This section is intended to help involved CWA personnel identify employee concerns by use of ergonomics and health problems checklists and surveys. Use of these instruments will provide the data Local leaders need to help identify and resolve worker concerns. Checklists and surveys should be completed, analyzed, and utilized to pinpoint member concerns and to provide data by which management's progress in properly designing and redesigning the total work environment may be assessed. Locals should maintain up-to-date records of checklists and survey results.

The CWA computer workplace checklist and questionnaire are intended to identify member concerns in computer workstation, workplace, and work organization design. Responses to checklist items and survey questions will assist Local members resolve visual, musculoskeletal, and job stress complaints. The computer workplace checklist and survey are not intended to be exhaustive. Local members should supplement provided information with additional questions specific to unique characteristics of represented workplaces.



Computer Workplace Checklist And Questionnaire

The following computer workplace checklist and questionnaire are useful in identifying causes of member health problems. Information from the checklist can be used to improve member working conditions. Complete the checklist periodically keeping all records to evaluate progress in safety and health improvements.

CWA COMPUTER WORKPLACE CHECKLIST

Computers:

	YES	NO
1. Are the computer screen and keyboard separate or detachable?	_____	_____
2. Is the distance from the screen to the operator's eyes adjustable?	_____	_____
3. Is the screen image clear and stable?	_____	_____
4. Can screen characters be easily distinguished from other screen characters?	_____	_____
5. a) Does the computer have brightness and contrast controls?	_____	_____
b) If so, are these controls conveniently located and easy to use?	_____	_____
6. Are computer matrixes at least 9 x 11 inches or larger?	_____	_____
7. a) Is the computer screen free of glare?	_____	_____
b) If not, are screen filters provided and utilized?	_____	_____
8. Does the computer have adjustable angle controls?	_____	_____
9. Are the computer and related equipment coated or painted with anti-glare or matte finish?	_____	_____



WORKSTATION EQUIPMENT:

Tables and Chairs

	YES	NO
10 a) Do computer tables have height adjustable controls?	_____	_____
b) If so, are the controls easy to use?	_____	_____
11. Is there adequate table space to allow for different required tasks?	_____	_____
12. Is there adequate space under the table for operators' legs and feet?	_____	_____
13. Does the table top have a thickness of one inch or less?	_____	_____
14. Does the table have well-rounded edges and corners?	_____	_____
15. Is the table finished with an anti-glare or matte treatment?	_____	_____
16. a) Do computer chairs have height adjustments?	_____	_____
b) If so, are controls easy to use?	_____	_____
17. Is the size of the seat pan appropriate? (Seat pans should be about 16-18 inches deep and 15-17 inches wide.)	_____	_____
18. Does the front of the seat surface have a well-rounded water fall design?	_____	_____
19. Is the seat surface upholstered, padded, and easily cleaned?	_____	_____
20. Does the backrest provide firm, comfortable support?	_____	_____
21. Does the backrest have a lumbar support positioned four to eight inches above the lowest point in the seat?	_____	_____



- | | YES | NO |
|---|------------|-----------|
| 22. a) Does the backrest have height adjustment? | _____ | _____ |
| b) If so, are the controls easy to use? | _____ | _____ |
| 23. a) Does the backrest have depth adjustment? | _____ | _____ |
| b) If so, are the controls easy to use? | _____ | _____ |
| 24. a) Does the backrest have angle adjustment? | _____ | _____ |
| b) If so, can the adjustment be easily made? | _____ | _____ |
| 25. Is the backrest upholstered, padded, and easily cleaned? | _____ | _____ |
| 26. Is the chair fitted with appropriate casters or glides if the work operation requires the operator to get up frequently or move about at the workstation? | _____ | _____ |

Document Holders, Task lighting, Footrests, Wrist and Arm Rests

- | | | |
|--|-------|-------|
| 27. Are document holders provided for use with hard copy materials? | _____ | _____ |
| 28. a) Are document holders adjustable in height, distance, position, and angle? | _____ | _____ |
| b) If so, are the adjustments easy to make? | _____ | _____ |
| 29. a) Is task lighting provided as needed? | _____ | _____ |
| b) If so, is it easily adjustable and fitted with glare control equipment? | _____ | _____ |
| 30. Are footrests provided to requesting workers? | _____ | _____ |
| 31. Are wrist rests provided to requesting employees? | _____ | _____ |
| 32. Are arm rests made available to requesting workers? | _____ | _____ |

Mouse Equipment

- | | | |
|---|-------|-------|
| 33. Is mouse or related input device equipment well designed? | _____ | _____ |
|---|-------|-------|



- | | YES | NO |
|--|------------|-----------|
| 34. Is mouse or related input device equipment at the same height and angle as the keyboard and situated next to the keyboard? | _____ | _____ |

WORKPLACE DESIGN

- | | | |
|--|-------|-------|
| 35. Is illuminance for computer work 300-700 lux? | _____ | _____ |
| 36. Are screens free of reflection? | _____ | _____ |
| 37. Are windows shielded by curtains, blinds, or partitions? | _____ | _____ |
| 38. a) Are computer tables and screens correctly positioned in relation to windows and luminaires? | _____ | _____ |
| b) Are room dividers, partitions, or screens used to block sources of glare or reflections? | _____ | _____ |
| 39. Are walls and equipment painted with matte or anti-glare finishes? | _____ | _____ |
| 40. Are proper temperature and humidity levels maintained? | _____ | _____ |
| 41. a) Is noise adequately controlled? | _____ | _____ |
| b) If so, are available controls used throughout the workplace? | _____ | _____ |

WORK ORGANIZATION

- | | | |
|---|-------|-------|
| 42. a) Are computer operators employed in jobs that are monitored for the quantity/quality of work? | _____ | _____ |
| b) If monitoring is performed, are monitoring records used as a method of feedback and job enlargement? | _____ | _____ |
| 43. a) Are computer jobs organized in such a way so that workers are not isolated from one another? | _____ | _____ |
| b) If so, do employees have an opportunity to regularly communicate during break time? | _____ | _____ |



	YES	NO
44. Are rest breaks (independent of regularly scheduled breaks) routinely provided computer operators?	_____	_____
45. Is comprehensive computer training provided to all concerned workers?	_____	_____
46. Do Union representatives of computer workers have input into the design or pace of computer jobs?	_____	_____

OTHER HEALTH CONCERNS

47. a) Are computer machines periodically tested for radiation emission levels?	_____	_____
b) If so, is the Union provided a copy or interpretation of test results?	_____	_____
48. Are eye examinations performed for all computer operators?	_____	_____
49. Are computer workplaces maintained to prevent high levels of static electricity?	_____	_____



CWA COMPUTER WORKPLACE QUESTIONNAIRE

I.

1. Name: _____
2. Employer/work Location: _____
3. Telephone Number: _____
4. Job Title: _____
5. Type of Machine: _____
6. Machine Number: _____


II.

7. How long have you been operating a computer? _____
8. How long has the computer been at this location? _____
9. Is the keyboard a separate unit or attached to the machine? _____

10. Is mouse or related input device equipment well designed (e.g. teardrop shape with a sloping or slanted surface and a drag-lock surface)?

11. Is mouse equipment at the same height and angle as the keyboard and situated next to the keyboard? _____

12. What color is the screen? _____
13. What color are the characters? _____
14. Is the brightness adjustable? _____

- 
15. a) Does the machine have an anti-glare surface? _____
b) If not, is the workplace designed in such a manner to prevent bothersome screen reflections? _____
16. Are walls/partitions behind the machines pastel or earth tone colors with a matte finish? _____
17. Are there blinds or curtains on nearby windows? _____
18. Are screen characters focused? _____
19. Are screen characters stable, (i.e., do not flicker)? _____
20. Are the figures on the screen easy to read? _____
21. a) Do you wear glasses while using the machine? _____
b) Are they bifocals? _____
22. How often do you go to an eye doctor? _____
23. When was the last time you had new lenses prescribed? _____
24. How many hours per day do you work at the computer? _____
25. Is your work continuous or interrupted? _____
26. a) Do you also do other work? _____
b) What type? _____
27. How often do you take a break away from the machine? _____
28. How long are your breaks? _____
29. a) Are you required to complete a certain amount of work per hour/per day? _____
b) How much? _____



- 30. a) Is your work monitored? _____
b) If so, by whom? _____
- 31. Do you have any control over setting the rate or pace at which you work? _____
- 32. Do you get headaches while working or after working with computer equipment? _____
- 33. How often do you experience such headaches? _____
- 34. Do your eyes become irritated, itchy; do they burn? _____
- 35. Do you ever experience dizziness or nausea while working or afterwards? _____
- 36. Since working with computer equipment, do you find yourself to be more irritable or nervous? _____
- 37. Does the chair you sit in have adjustable height? _____
- 38. Does the chair provide adequate back support? _____
- 39. Does the chair have adjustable back support? _____
- 40. a) Is the chair equipped with armrests? _____
b. If so, are the armrests adjustable; do they provide cushioned support? _____
- 41. Does the working surface (upon which the computer equipment is located) adjust vertically? _____
- 42. Do you ever experience backaches or neck pains while working on computer equipment or afterwards? _____
- 43. Describe any other health symptoms or discomfort: _____



44. Does your computer workstation have a foot rest? _____

45. What improvements would you like to see in your workplace? _____

46. In general, are you satisfied with your work? _____

47. What complaints do you have about your job? _____

48. What do you like about your job? _____

49. What do you believe CWA should be doing to make your workplace a better place to work? _____



I. Sample Computer Workplace Collective Bargaining Language

CWA leadership should attempt to address member computer workplace concerns through the collective bargaining and cooperative processes. In coordination with appropriate CWA staff, locals are encouraged to form active safety and health and cooperative committees to resolve ergonomic problems. These committees should utilize data gathered from the provided CWA computer workplace ergonomic checklist and survey to assist them in the resolution of member concerns.

One method of establishing guidelines or parameters for proper workplace design is through the collective bargaining process. The sample collective bargaining language on computer workplaces is intended to serve as a guide to CWA leadership.


Negotiations in 1983 between CWA and American Telephone and Telegraph, Inc., led to the development of voluntary guidelines for computer work. The guidelines dealt with proper design and redesign of computers, workstation equipment and workplace design.

Also, in 1988, the American National Standards Institute/Human Factors and Ergonomics Society (ANSI/HFES) developed the “American National Standard for Human Factors Engineering of Visual Display Terminal Workstations.” This document should be viewed as a consensus guideline that all CWA- represented employers should adhere to. A copy may be obtained from the Human Factors and Ergonomics Society, P. O. Box 1369, Santa Monica, California 90406.

At present, the ANSI/HFES document is under revision.

BACKGROUND ON SAMPLE ERGONOMICS PROPOSAL

During the 1960's, 1970's, 1980's, 1990's and now into the 21st century, the communications industry has been characterized by the development of modern, new technological devices. This new technology has



been implemented by management to increase productivity and decrease labor costs.

CWA members report that one particular product of new technology, the computer, has been introduced in such a fashion as to bring several new safety and health concerns into their workplaces.

The computer, the replacement for the typewriter, is made up of a television-like screen that displays information to the operator and a keyboard used to enter information into the computer and withdraw data from the computer. In addition, the computer may be equipped with a mouse unit or related input device equipment. Due to poor design of the computer equipment and the workplace environment in which they are situated, several health and safety problems are frequently reported. Visual problems include eyestrain, soreness, irritation, aching, and general discomfort. After spending several hours at a terminal, operators may experience difficulty in fixating objects. For example, single objects may appear to have color fringes or be double images. In addition, workers may develop dull headaches which might be difficult to describe and localize accurately. Causes for these physical strains include: too much or too little light, contrast glare effect, character sharpness, flicker effect, machine-paced delays, and the age of workers.


Postural concerns include hand and wrist, arm and shoulder, neck and back, and leg pains. These physical strains might be the result of an improper viewing angle, poor positioning of the computer work surface, and being provided with an improperly-designed chair. The generally preferred computer viewing direction is achieved by looking forward with the eyes slightly downward at 10 to 30 degrees from horizontal. Bifocal wearers must lean forward and simultaneously bend their necks backward to read the terminal screen, because normally the lower part of the lenses are designed for close vision. Computer work surfaces should be adjustable to ensure the proper viewing angle of the operator. Thus, workers should be provided with vertically-adjustable computer tables. In addition, employers should purchase vertically-adjustable chairs to accommodate the different height characteristics of workers. Computer chairs should also have adjustable back support. In addition, employers should make task lighting available to computer workers, especially those entering and withdrawing computer data.

A second concern is the design of the entire work environment. Office environments should be properly illuminated with ceiling lights arranged to avoid visual glare and discomfort, including computer



screen reflection. Existing lights might be fitted with special light covers (e.g., parawedge louvers) to eliminate glare. Windows should be shielded with shades, curtains, or blinds to eliminate glare. In addition, potential problems of noise and heat can be minimized or eliminated by not locating too many machines in a work area and adopting a bi-annual maintenance schedule. One way to potentially minimize design-related problems would be to allow workers to review suggested design plans.

A third factor is occupational stress. Before computers were introduced, CWA members reported high levels of job stress. Since the implementation of computers, they now indicate even higher levels of job stress. The employer must work to ensure that the implementation of computers improves employees' quality of work life and well-being.



The Communications Workers of America proposes that the following guidelines for computer workplaces be adopted and put into action by (Employer):

I. Computer Workplace Guidelines

A. Physical Plant

1. Computer and workstation equipment should be as flexible as possible to allow for individual operator control of:
 - a. Keyboard height and angle
 - b. Screen height
 - c. Screen brightness and contrast
 - d. Leg room
 - e. Workstation illumination levels
 - f. Chair adjustments (of seat height, backrest height, and tension.)
 - g. Use of footrests, arm rests, and wrist rests.
 - h. Use of mouse equipment or related input device.
2. The computer screen should be positioned so that the viewing angle is 10 to 30 degrees below the horizontal plane at eye level.
3. Illumination levels should be within 300-700 lux, with individual workstation lighting provided for jobs requiring hard copy work.
4. Screen glare should be controlled through the use of any or all of the following means:
 - a. Windows should be covered with drapes or blinds to limit direct sunlight.
 - b. Computers should be positioned properly with respect to overhead lighting and high luminance sources in the work area.
 - c. A glare shield should be installed on the screen.
 - d. Hoods may be installed over screens to shield from direct or reflected light.
 - e. Recessed lighting and special fixture covers should be used.
5. All computers should be equipped with metallic shielding upon radiation emitting electrical components, i.e., the flyback transformer and the cathode ray tube, or fitted with other devices to eliminate radiation emissions.



B. Breaks

1. Every employee working on a computer shall be required to take a rest break away from his or her tube; such breaks shall be 15 minutes after every hour of work for intensive computer work and 15 minutes after every two hours of work for less intensive computer work. Such breaks will be in addition to regularly scheduled breaks.
2. Employees who operate computers shall not be required to work on computers for periods longer than four hours in a given day. Therefore, employees' computer work should be combined with varied non-computer tasks. In addition, computer operators should be given the opportunity to take frequent short breaks, i.e., 20-30 seconds, as required.

C. Eye Care

1. Each employee required to use computers shall be given eye examinations at the commencement of employment or of assignment to computers, and annually thereafter. Such examinations shall be made by an ophthalmologist or optometrist and shall include, in addition to routine optical testing, refraction, acuity, and accommodation testing, tests for color vision function, and examination of the cornea and the lens for opacity and the retina for detachment.
2. The employer is required to keep records on each employee for the duration of his or her employment plus 30 years thereafter. Such records shall include information on tests results, as specified in paragraph 1 above. Access to such records shall be limited to the individual employee, the union representing that employee, and bona fide health researchers.
3. The employers shall pay for all eye examinations and all corrective lenses; such payment shall be over and above coverage provided by existing health plans financed by the employer. Payment for corrective lenses shall be provided every time an employee's prescription changes.

D. Inspection of Machines

1. Each CRT or computer tube in use shall be inspected every six months by the employer for radiation and for focus and clarity of image. Such inspections shall be made in addition to maintenance work performed on individual machines as requested by the operator. In addition to bi-annual inspections, each machine shall be inspected each time it is moved or maintenance is performed in place.



2. A union representative shall accompany such inspector making the inspection.
3. Test results shall be forwarded to the respective Union offices no later than the 15th of each month following the testing. In addition, all test results at each worksite shall be posted at the appropriate worksite.

BACKGROUND ON SAMPLE COMPUTER RADIATION EMISSIONS PROPOSAL


Over the past few decades, the subject of potential health hazards and the use of computers/CRTs has become a major concern to the Communications Workers of America. Of particular concern is the question of whether there is a link between computer/CRT exposure and birth defects and spontaneous abortions. This concern has arisen because of the identification of several clusters of birth-related problems among computer/CRT operators. At present, there is no final conclusion as to whether computers/CRTs are responsible for these problems.

The current state of scientific knowledge is incomplete on the question of any possible relationship between the use of computers/CRTs and birth defects and spontaneous abortions. What is believed, however, is that because emissions of ionizing radiation from computers/CRTs are negligible, ionizing radiation should not be considered to be a problem. In addition, certain types of non-ionizing radiation, including ultraviolet and visible light, as well as infrared, are not produced by computers at high enough levels likely to be harmful to humans.

The scientific data does indicate that certain computers/CRTs produce pulse-modulated, Very Low Frequency and Extremely Low Frequency electromagnetic radiation fields and that such fields may be biologically harmful. However, the effects, if any, of these emissions cannot be judged in the absence of additional laboratory research and conclusive epidemiological studies.

Recognizing there may be hazards yet undetermined in the use of computers/CRTs, procedures should be established to assign pregnant employees other work upon request.

- I. Until the necessary scientific information becomes available, the Union and the employer agree that all computer/CRT operators may request, with no immediate or future reduction in wages or benefits,



a transfer to non-computer/CRT work or a leave of absence during the term of their pregnancy. Such transfer or leave of absence shall be provided by management as soon as possible.

- II. The Communications Workers of America proposes that: The employer promote the need for scientific research to determine whether pulse-modulated, Very Low Frequency and Extremely Low Frequency electromagnetic radiation emitted from computers/CRTs is harmful.



J. Tables

Table I

COMPUTER SCREEN FILTERS OR SURFACE TREATMENTS

Reflected screen glare can, to a certain extent, be controlled by using various screen filters or surface treatments. Selection of suitable filtering devices depends upon ambient lighting conditions, the type of screen, and the way in which the computer is used. Below is a brief review of these devices.

- Color filter (same color as phosphor): Selectively filters different colors of light increasing character contrast and decreasing reflections; however decreases character brightness and degrades image.
- Matte finish or surface etching of screen surface: decreases reflections; however, also decreases image quality or legibility. Not recommended.
- Micromesh, microlouver: increases character contrast; however, tends to collect dust, cut out screen images when viewed from some angles and reduce brightness of screen images.
- Neutral density: used to improve character contrast; however, decreases image brightness and degrades image.
- Polaroid filter: increases character contrast; however, decreases character luminance. Preferred.
- Quarter-wave or coated filter: Sprayed or attached to the screen surface, improves image; however, reduces luminance and very sensitive to dust and fingerprints.


Table II
VISUAL TESTING

The visual testing program outlined below is primarily for the purpose of ensuring that operators have the appropriate corrected vision for performing computer tasks. Determination of the proper corrected vision should be made with the viewing requirement of such tasks in mind.

The American Optometric Association (AOA) recommends a thorough eye/vision examination for computer users which should include:

1. The taking of a general case history. In addition, the taking of a specific case history relating to computer use to include:
 - a. Approximate length of time the patient has been a computer operator;
 - b. Type of computer work;
 - c. Length of a typical session, if use is not continuous;
 - d. Number of hours of VDT work per day;
 - e. Size and form of screen characters;
 - f. Screen color;
 - g. Size of print on additional documents;
 - h. Position of display screen;
 - i. Working distance;
 - j. Symptoms, if any, associated with computer work.
2. Measurement of unaided and aided visual acuity at distance, near and intermediate working distances.
3. Evaluation of internal and external eye health (e.g., ophthalmoscopy, biomicroscopy, tonometry).
4. Objective and subjective refractive analysis.
5. Analysis of binocular function (e.g., accommodative and convergence amplitude and facility, heterophoria, fusional ability).
6. Evaluation of ocular motility (e.g., versions, rotations, saccadics).
7. Measurement of depth perception.
8. Measurement of color discrimination.



EYE EXAMINATION CHART

The National Safety Council has prepared the following eye examination chart for computer users. This information should be presented to the examining doctor.

Central Visual Acuity

- Sharpness of vision
- Clear vision at a distance of 20 feet
- Near vision of 13 to 16 inches

Muscle Balance and Eye Coordination

- Appropriately balanced eye movement
- No significant eye deviation horizontally or vertically
- Ability to relay images from various distances which the brain can correlate without difficulty

Depth Perception

- Ability of eyes to judge relationships in space

Color Discrimination

- Ability to judge color correctly



K. Glossary

Investigation of safety and health problems associated with the use of computers necessitates becoming familiar with the meaning of certain terms. Below is a list of commonly used “computer” words or expressions and their definitions.

Accommodation — The ability of the eyes to adjust to different viewing distances.

Adaptation — Adjustment of the eyes and the sense of vision in relation to the amount of available light.

Cataract — An opaque body which forms in the eye, obscuring the transparency of the lens, i.e., light does not reach the retina.

Cathode — Component of a computer that generates the display.

Cathode Ray Tube — An electronic tube in which a beam of electrons is generated and used to energize a phosphor screen which thereby emits light. The CRT of the computer.

Character — The actual or coded representation of a digit, letter, or symbol.

Computer/CRT — Computer equipment comprised of a keyboard and screen. Well-designed computers should have a separate keyboard and screen unit.

Contrast — The difference in luminance or brightness between two areas.

Contrast Ratio — Luminance of task divided by luminance of background.

Data Entry — A task devoted primarily to transcribing letters and numbers from paper documents to computer based records.

Dialogue — Task involving retrieving information from computer based records, modifying them, and sending changes back to the computer based records.

Dot Matrix — Patterns of dots which create the character images on the screen.

Dot Matrix Characters — Character images on a computer screen



that are represented by an appropriate number and location of dots within a defined cell or “matrix” of dot positions. For example, 9 x 11 inch dot matrix produces characters that are nine dots wide and eleven dots tall.

Electromagnetic Radiation — Electrical energy traveling in the form of waves.

Electron — A minute atomic particle possessing the smallest negative electrical charge.

Epidemiology — The study of disease.

Ergonomics — The study of the relationship between human beings and the work process and environment. Ergonomic aspects of the computer work environment include the computer and related workstation equipment, workplace, and work organization design.

Extra Low or Extremely Low Frequency (ELF) — the longest electromagnetic waves having very low frequencies.

Flicker — A periodic variation in brightness of video characters caused by alternate decay and re-excitation of phosphor.

Font — Size and style of type.

Frequency — The number of times an electrical wave goes up and down in a period of time, or the number of cycles per second as expressed in Hertz (Hz).

Gigahertz (GHz) — Thousands of millions of hertz or cycles per second.


Glare — A visual condition caused by excessive luminance variation within the field of vision.

Glare, Direct — A condition caused by bright sources of light such as windows or bright lights, which impair a person’s ability to clearly distinguish objects.

Glare, Reflected — A condition caused by light bouncing off illuminated surfaces within the field of vision.

Hard Copy Unit — A printer associated with a processing system that can print out the information on a computer screen or is contained in storage.

Hertz (Hz) — A unit measuring the number of times an electrical wave goes up and down per second or the number of cycles per second.



Hyperopia — A visual disorder caused by insufficient refractive power of the eye whereby only objects far away appear to be in focus; farsightedness.

Illuminance — Amount of light falling on a surface measured in lux or foot candles (1 lux = .093 foot candles, 10 lux = 1 foot candle).

Image Quality — The quality of legibility of computer screen characters. The quality of the displayed image on a computer is determined by several factors including character spacing, shape, stability, resolution, luminance, and contrast.

Image Stability — The perceived stability, i.e., freedom from flicker and movement, of character images on the computer screen.

Infrared — That portion of the electromagnetic spectrum between microwaves and visible light.

Ion — An atom or group of atoms that carries a positive or negative electric charge.

Ionizing Radiation — Electromagnetic radiation which interacts with matter to produce ions or electrically charged particles. Ionizing radiation has sufficient energy to displace or break up electrons from atoms possibly causing damage to the body's molecular structure.

Key Force — The force required to depress the key so as to ensure the action of the keystroke.

Luminance — Amount of light emitted by or reflected from a surface; measured in candles per square meter or foot lamberts.


Luminaire — A complete lighting device (including lamps, diffuser, etc.).

Megahertz (MHz) — Millions of hertz or cycles per second.

Micromesh Filter — A fine mesh that is placed in front of or in contact with a computer screen to reduce the visibility of reflections on the screen.

Myopia — A visual disorder caused by excessive refractive power of the eye resulting in only being able to focus objects close to the eye; nearsightedness.

Non-ionizing Radiation — Electromagnetic radiation that does not produce ions or electrically charged particles when it interacts with matter. Non-ionizing radiation does not contain sufficient energy to ionize the absorbing material.



Persistence — The ability of a computer screen phosphor to continue emitting light after the original stimulation has ceased.

Phosphor — A coating of luminescent material that emits visible light when struck by a beam of electrons.

Polarization Filter — A type of screen filter in which the intensity of the reflection of incident light is reduced through the polarization action of the filter. This occurs because the filter only allows waves in one plane to escape the field of the filter.

Presbyopia — The reduction of eye accommodation with age due to a progressive inability of the eye's lens to change shape, thus limiting the range over which objects can be focused.

RAD — Radiation Absorbed Dose measures the amount of radiation absorbed.

Radio Frequency — That portion of the electromagnetic spectrum between Extra Low Frequency waves and microwaves.

Raster — Horizontal back and forth pattern traced by the electron beam as it scans the entire surface of the video screen. The basic pattern of lines without the image is the raster.

Reflectance — The ratio between the quantity of light reflected from a given surface and the total quantity of light that is falling on the same surface.

Reflection, Specular — Reflected or mirror-like screen images that occur when objects with high luminance are reflected from smooth, glossy surfaces on and from the screen.

Refresh — A technique used to energize the phosphor coating in the CRT to ensure apparently continuous, stable images.

Refresh Rate — Frequency with which the electron beam returns to a point on the video screen to re-excite the decaying phosphor.

Reversed Video — Characters shown as dark strokes on light background. Most common are light strokes on dark background.

REM — Roentgen Equivalent Man, measures the biological effects of an absorbed dose of radiation.

Roentgen — The quantitative measure of x-ray energy.

Source Document — Paper document containing typed characters, handwriting or mixture that is referred to while using the computer.



Static Electric Fields — A build-up of electrons or electrical charges that are stationary.

Task Lighting — Supplementary lighting provided for tasks requiring more light than provided by general room lighting; illuminates only specific areas where more light is required.

Ultraviolet — That portion of the electromagnetic field between visible light and x-rays.

Very Low Frequency (VLF) — Radio waves of any frequency between 3,000 and 30,000 hertz.

Viewing Distance — Distance between an operator's eye and the center of the video screen.

Visible Light — That portion of the electromagnetic spectrum that is visible to the eye.

Wavelength — The distance from any point of a wave to the same point on the next wave.


X-Rays — Bundles of energy or photons caused by the movement of high speed electrons.




L. Bibliography

1. American National Standards Institute/Human Factors and Ergonomics Society, *American National Standard for Human Factors Engineering of Visual Display Terminal Workstations*, Human Factors Society, P.O. Box 1369, Santa Monica, CA 90406, 1988.
2. American Optometric Association, Washington, D.C., 1980.
3. Arndt, R., "Telephone Operator Reactions to Video Display Terminals", paper presented at American Industrial Hygiene Association Conference, Portland, Oregon, 1981.
4. Australian Public Service Association, *A Safe and Healthful Job*, Australian Public Service Association, Carlton South, Victoria, Australia, 1983.
5. Bell Laboratories, "Radiation and Video Display Terminals," unpublished paper, October, 1981.
6. Bureau of Radiological Health, U.S. Department of Health and Human Services, *An Evaluation of Radiation Emissions from Video Display Terminals*, Washington, D.C., 1981.
7. Cakir, A.; Hart, D.J.; and Stewart, T.F.M., *Visual Display Terminals: A Manual Covering Ergonomics, Workplace Design, Health and Safety, Task Organization*, Chichester, United Kingdom, John Wiley and Sons, 1980.
8. Canadian Centre for Occupational Health and Safety, "VDTS- Evidence Incomplete," news release, Hamilton, Ontario, Canada, January 11, 1983.
9. Canadian Labor Congress, *Toward a More Humanized Technology: Exploring the Impact of VDTs on the Health and Working Conditions of Canadian Office Workers*, Canadian Labor Congress, Labor Education and Studies Center, Ottawa, Canada, 1982.
10. Caplan, R.D.; Cobb, S.; French, J.R., Jr.; Harrison, R.V.; and Pinneau, S.R., Jr., *Job Demands and Worker Health*, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, Washington, D.C., 1975.
11. Cohen, B.G.F.; Smith, M.J.; and Stammerjohn, L. W., Jr., "Psychosocial Factors Contributing to Job Stress of Clerical VDT Operators," in *Machine Pacing and Occupational Stress*, edited by Salvendy, G. and Smith, M.J., Taylor and Francis, London, England, 1981.

- 
12. Dainoff, M.J., "Visual Fatigue in VDT Operators," in *Ergonomic Aspects of Visual Display Terminals*, edited by Grandjean, E., and Vigliani, E., Taylor and Francis, London, England, 1981.
 13. Dainoff, M.J.; *Occupational Stress Factors in Visual Display Terminal Operation: A Review of Empirical Research*, National Institute for Occupational Safety and Health, Department of Health and Human Services, Cincinnati, Ohio, 1980.
 14. DeMatteo, B.; Fitzrandolph, K.; and Daynes, S., *The Hazards of VDTS*, Ontario Public Service Employees Union, Ontario, Canada, 1981.
 15. Digernes, V., and Astrup, E.G., "Are Datascreen Terminals A Source of Increased PCB - Concentrations in the Working Atmosphere?" in *International Archives of Occupational and Environmental Health*, V. 49, No. 3-4, 1982.
 16. Gardell, B., "Alienation and Mental Health in the Modern Industrial Environment," in *Society, Stress and Disease*, edited by Levi, L., Oxford University Press, London, England, 1971.
 17. Goldhaber, M.; Polen, M.; Hiatt, R., *The Risk of Miscarriage and Birth Defects Among Women Who Use Visual Display Terminals During Pregnancy*, American Journal of Industrial Medicine, 1988.
 18. Grandjean, E., *Fitting the Task to the Man: An Ergonomic Approach*, Taylor and Francis, New York, New York, 1986.
 19. Grandjean, E., and Vigliani, E., *Ergonomic Aspects of Visual Display Terminals*, Taylor and Francis, London, England, 1981.
 20. Gunnarsson, E., and Ostberg, O., *The Physical Aspects of Visual Display Terminals*, Taylor and Francis, London, England, 1981.
 21. Gunnarsson, E., and Soderberg, I., "Eye Strain Resulting from VDT Work at the Swedish Telecommunications Administration", National Board of Occupational Safety and Health, Stockholm, Sweden, 1980.
 22. Haider, M., Kundi, M., and Weissenbock, M., "Worker Strain Related to VDUs with Differently Coloured Characters," in *Ergonomic Aspects of Visual Display Terminals*, edited by Grandjean, E., and Vigliani, E., Taylor and Francis, London, England, 1981.
 23. Hunting, W., Laubli, T., and Grandjean, E., "Constrained Postures of VDT Operators," in *Ergonomic Aspects of Visual Display Terminals*, edited by Grandjean, E., and Vigliani, E., Taylor and Francis, London, England, 1981.
 24. *International Labor Organization, International Trade Union Guidelines on Visual Display Units*, Geneva, Switzerland, 1984.

- 
25. *Journal of Illumination Engineering*, American National Standard for Office Lighting, Vol. 3, No. 1, 1983.
 26. Laubli, T., Hunting, W., and Grandjean, E., "Visual Impairments in VDT Operators Related to Environmental Conditions," in *Ergonomic Aspects of Visual Display Terminals*, edited by Grandjean, E., and Vigliani, E., Taylor and Francis, London, England, 1981.
 27. Moss, G.E., Murray, W.E., Parr, W.H., Messite, J., and Karches, G.J., *A Report on Electromagnetic Radiation Surveys of Video Display Terminals*, National Institute for Occupational Safety and Health, Department of Health and Human Services, Washington, D.C., 1972.
 28. National Institute for Occupational Safety and Health *Hazard Evaluation Report 89-299-2230* (investigating the relationship between VDT work and the occurrence of cumulative trauma musculoskeletal disorders among CWA- represented telecommunications workers), Department of Health and Human Services, Cincinnati, Ohio, 1992.
 29. National Institute for Occupational Safety and Health, *Potential Health Hazards of Video Display Terminals*, Department of Health and Human Services, Cincinnati, Ohio, 1981.
 30. Ostberg, O., "Accommodation and Visual Fatigue in Display Work," in *Ergonomic Aspects of Visual Display Terminals*, edited by Grandjean, E., and Vigliani, E., Taylor and Francis, London, England, 1981.
 31. Ostberg, O., "Review of Visual Strain, with Special Reference to Microimage Reading," paper presented at the International Micrographics Congress, Stockholm, Sweden, September, 1976.
 32. Petersen, R.C., "Bioeffects of Microwaves: A Review of Current Knowledge," *Journal of Occupational Medicine*, Vol. 25, No. 2, February, 1983.
 33. Planetary Association for Clean Energy, Inc., "Unease with Video Display Systems," newsletter, Vol. 4, No. 1, Ottawa, Canada, March, 1983.
 34. Putz-Anderson, V., *Cumulative Trauma Disorders: A Manual for Musculoskeletal Diseases of the Upper Limbs*, Taylor and Francis, New York, New York, 1988.
 35. Quackenboss, J.J., Sauter, S.L., Harding, G.E., and Gottlieb, M.S., "VDT Computer Automation of Work Practices as a Stressor in Information-Processing Jobs: Some Methodological Considerations,"

- 
- in *Machine Pacing and Occupational Stress*, edited by Salvendy, G., and Smith, M.J., Taylor and Francis, London, England, 1981.
36. Scalet, E., *VDT Health and Safety: Issues and Solutions*, Ergosyst/Report Store, Vermont, 1987.
 37. Schleifer, L. W., Smith, M.J., "Job Stress Factors in Video Display Operations," National Institute for Occupational Safety and Health, Department of Health and Human Services, Cincinnati, Ohio, March, 1983.
 38. Schnorr, T., et al., "Video Display Terminals and the Risk of Spontaneous Abortion", National Institute for Occupational Safety and Health, Cincinnati, Ohio, 1990.
 39. Smith, M.J., "Occupational Stress. An Overview of Psychosocial Factors," in *Machine Pacing and Occupational Stress*, edited by Salvendy, G., and Smith, M.J., Taylor and Francis, London, England, 1981.
 40. Smith, M. J., Carayon, P., Sanders, K. J., Lim, S., LeGrande, D., "Employee Stress and Health Complaints in Jobs With and Without Electronic Performance Monitoring," University of Wisconsin, 1991.
 41. Smith, M.J., Hurrell, J.J., Jr., and Murphy, R.K., Jr., "Stress and Health Effects in Paced and Unpaced Work", in *Machine Pacing and Occupational Stress*, edited by Salvendy, G., and Smith, M.J., Taylor and Francis, London, England, 1981.
 42. Smith, M.J., Colligan, M.J., and Hurrell, J.J., "A Review of the Psychological Stress Research Carried Out by NIOSH, 1971 to 1976," in *New Developments in Occupational Stress*, edited by Schwartz, R., Institute of Industrial Relations, University of California, Los Angeles, California, 1979.
 43. Smith, M.J., Stammerjohn, L.W., Cohen, B.G.F., Lalich, Nina R., "Job Stress in Video Display Operations," in *Ergonomic Aspects of Visual Display Terminals*, edited by Grandjean, E., and Vigliani, E., Taylor and Francis, London, England, 1981.
 44. Starr, S.J., "A Study of Video Display Terminal Workers," *Journal of Occupational Medicine*, Vol. 25, No. 2, February, 1983.
 45. Stewart, T.F.M., "Practical Experience in Solving VDT Ergonomics Problems," in *Ergonomic Aspects of Visual Display Terminals*, edited by Grandjean, E., and Vigliani, E., Taylor and Francis, London, England, 1981.
 46. Terrana, T., Merluzzi, F., and Giudici, E., "Electromagnetic Radiation Emitted by Visual Display Units," in *Ergonomic Aspects of Visual*



Display Terminals, edited by Grandjean, E., and Vigliani, E., Taylor and Francis, London, England, 1981.

47. The Newspaper Guild, *Humanizing the VDT Workplace*, Washington, D.C., 1981.
48. Weiss, M.M., "The Video Display Terminals - Is There a Radiation Hazard?" *Journal of Occupational Medicine*, Vol. 25, No. 2, February, 1983.

Prepared by: David LeGrande, Director, Occupational Safety and Health; Occupational Safety and Health Department, Communications Workers of America, AFL-CIO.

Reviewed by: Dr. Robert Arndt, University of Wisconsin.

1982, updated 1985, 1987, 1988, 1996, 1998, 2000, and 2002.

For additional information, contact the CWA Occupational Safety and Health Department at CWA Headquarters, 501 3rd Street, N.W., Washington, D.C. 20001-2797, (202) 434-1160; web-page www.cwasafetyandhealth.org.



Resources

- A. CWA OCCUPATIONAL SAFETY AND HEALTH FACT SHEETS
- B. OCCUPATIONAL SAFETY AND HEALTH MATERIALS ORDER FORM
- C. RECOMMENDED LIST OF PUBLICATIONS
- D. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION OFFICES
- E. NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH OFFICES AND EDUCATIONAL RESOURCE CENTERS
- F. RELATED FEDERAL AGENCIES
- G. STATE PLAN OFFICES
- H. COLLEGES AND UNIVERSITIES
- I. COMMITTEES ON OCCUPATIONAL SAFETY AND HEALTH
- J. OTHER SUPPORT ORGANIZATIONS



A. CWA Occupational Safety and Health Fact Sheets



B. Occupational Safety and Health Materials Order Form

The following publications and audiovisuals should be obtained by CWA Locals. Use of these materials will help CWA Local members become more proficient in the recognition and minimization/elimination of occupational safety and health hazards.

CWA WRITTEN MATERIALS

- CWA Computer/VDT Workplace Manual

- Drug Testing: What You Should Know and What You Should Ask — A Brochure for Union Stewards (*produced in conjunction with the Union's Education and Legal Departments*)

- What to Do If a Member Contacts You About a Repetitive Motion Injury — A Brochure for CWA Stewards" (*produced in conjunction with the Union's Education and Legal Departments*)

- Dealing with Workplace Violence

- The Family and Medical Leave Act

- ADA: What You Need to Know (Revised Edition)

- CWA Occupational Safety and Health Fact Sheets: *no charge*
 - #1 Asbestos & The Workplace
 - #2 Carbon Monoxide & The Workplace
 - #3 Lead & The Workplace
 - #4 Polyurethanes & Isocyanates & The Workplace
 - #5 Computer Workplace Ergonomics
 - #6 Arsenic & The Workplace
 - #7 Polychlorinated Biphenyls (PCBs) & The Workplace
 - #8 Freon & The Workplace
 - #9 Forming CWA Local Occupational Safety & Health Committees



- #10 Solvents & The Workplace
- #11 Vinyl Chloride & The Workplace
- #12 Confined Spaces & The Workplace
- #13 Duty of Fair Representation & Occupational Safety & Health
- #14 Right to Refuse Unsafe Work
- #15 Personal Protective Equipment & The Workplace
- #16 Microwave & Radio Frequency Radiation & The Workplace
- #17 Lasers & The Workplace
- #18 Temperature Extremes & The Workplace
- #19 AIDS & The Workplace
- #20 Indoor Air Quality & The Workplace
- #21 Occupational Stress & The Workplace
- #22 Computer Workplace Repetitive Motion Health Symptoms/ Disorders
- #23 High Tech Toxics & The Workplace

ERGONOMICS AWARENESS MATERIALS

- Computer Workplace Ergonomics Awareness Training Program
-
- Workplace Ergonomics Awareness Training Program

CWA AUDIOVISUAL MATERIALS

- Ergonomics** (1983) slide/tape, *Instructor's Manual*, 11 minutes
(available by loan)

Provides information about proper workplace design, workstation design, and work organization factors. Emphasis is placed upon resolving design and organizational concerns through Local Occupational Safety and Health Committees. Good for Local meetings and safety and health training sessions.

- Fact vs. Fantasy: Your Safety and Health** (1980) slide/tape, 15 minutes (available by loan)

Good introduction to safety and health for CWA members. Briefly discusses various hazards encountered by CWA members who work in offices, plants, or telecommunications jobs. In addition, Locals are shown how to take the first step toward securing workers' rights under the OSHAct.

- 
- Occupational Stress: The Hazard and the Challenge** (1986)
30 minute video, \$10.00

Practical translation of physiological and psychological consequences of occupational stress as well as discussion of union identification and resolution techniques.

- People and Progress** (1983) Slide/tape, *Instructor's Manual*,
13 minutes (*available by loan*)

Depicts various workplace hazards to which CWA members are exposed. It is an update of the audiovisual "Fact vs. Fantasy: Your Safety and Health." Particular emphasis is placed upon the minimization/elimination of exposure to cancer-causing substances discovered at CWA-represented worksites. The suggested means of resolution is through Local Occupational Safety and Health Committees. Good for Local meetings and safety and health training sessions.

- VDT Victories** (1990) video and slide/tape, 7 minutes, \$10.00

Designed to educate CWA members about the health hazards associated with computers or visual display terminals (VDTs) and provide examples of how members, through their union, have made computer work safer and more humane.

(See order form next page.)



ORDER FORM

Complete and return this form to:

Communications Workers of America

Occupational Safety and Health Department

501 Third Street, NW

Washington, DC 20001-2797

Phone: (202) 434-1160

Webpage: www.cwasafetyandhealth.org

Date _____

Name _____

Title _____

Address _____

City _____ State _____ Zip Code _____

Local _____ Phone Number _____

E-mail _____

WRITTEN MATERIAL *(please call for availability and prices)*

QUANTITY

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

AUDIOVISUAL *(please call for availability and prices)*

QUANTITY

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Order well in advance of expected date of use.



C. Recommended List of Publications

Asbestos Removal and Control: An Insider's Guide to the Business, Anthony Natale and Hoag Levins, J.L. Levins Design, Inc., Cherry Hill, New Jersey, 1984.

Building Air Quality, U.S. Environmental Protection Agency and the National Institute for Occupational Safety and Health, U.S. Government Printing Office, Washington, D.C., 1997.

Computers and the Psychosocial Work Environment, Gunilla Bradley, Taylor and Francis, New York, New York, 1989.

“Confronting Reproductive Hazards on the Job”, Massachusetts Coalition for Occupational Safety and Health, Boston, Massachusetts, 1992.

Crisis in the Workplace: Occupational Disease and Injury, Nicholas Ashford, The MIT Press, Cambridge, Massachusetts, 1977.

CWA Workplace Ergonomics Train-the-Trainer Training Manual, CWA Occupational Safety and Health Department, Washington, D.C., 1997.

CWA Computer Workplace Manual, CWA Occupational Safety and Health Department, Washington, D.C., 1999.


Death on the Job, Daniel Berman, Monthly Review Press, New York, New York, 1978.

Double Exposure: Women's Health Hazards on the Job and at Home, edited by Wendy Chavkin, M.D., Monthly Review Press, New York, New York, 1984.

EMF in the Workplace: Electric and Magnetic Fields Associated with the Use of Electric Power, National Institute for Occupational Safety and Health, National Institute of Environmental Health Sciences, and the U.S. Department of Energy, U.S. Government Printing Office, Washington, D.C., 1996.

Encyclopedia of Occupational Safety and Health, Fourth Edition, edited by Jeanne M. Stellman, International Labor Organization Publications, Geneva, Switzerland, 1998.

Expendable Americans, Paul Brodeur, The Viking Press, New York, New York, 1974.



Fear at Work: Job Blackmail, Labor and the Environment, Richard Kazis and Richard Grossman, The Pilgrim Press, New York, New York, 1982.

Fitting the Task to the Man: An Ergonomic Approach, Etienne Grandjean, Taylor and Francis, Philadelphia, Pennsylvania, 1986.

Fundamentals of Industrial Hygiene, edited by Barbara A. Plog, MPH, CIH, CSP and Patricia J. Qunlan, National Safety Council, Itasca, Illinois, 2002.

High Tech and Toxics: A Guide for Local Communities, Susan Sherry and contributing authors, Golden Empire Health Planning Center, Sacramento, California, may be ordered from the Conference on Alternative State and Local Policies, Washington, D.C. 1985.

How to Survive in Your Toxic Environment, Edward Bergin and Ronald Grandon, Avon Books, New York, New York, 1984.

Medical Screening of Workers, Mark Rothstein, Bureau of National Affairs, Washington, D.C., 1984.

Musculoskeletal Disorders and the Workplace, National Research Council, National Academy Press, Washington, D.C., 20001.

Musculoskeletal Disorders and Workplace Factors, National Institute for Occupational Safety and Health, Cincinnati, Ohio. 1997.

Occupational Diseases: A Guide to Their Recognition, National Institute for Occupational Safety and Health, U.S. Government Printing Office, Washington, D.C., 1977.


“Occupational Safety and Health Act of 1970”, U. S. Government Printing Office, 1971.

Occupational Safety and Health Standards, Construction Industry, U.S. Department of Labor, U.S. Government Printing Office, Washington, D.C., 1996.

Occupational Safety and Health Standards, General Industry, U.S. Department of Labor, U.S. Government Printing Office, 1996.

Pocket Guide to Chemical Hazards, National Institute for Occupational Safety and Health, U.S. Government Printing Office, Washington, D.C. 1997.

The Politics of Cancer, Samuel Epstein, M.D., Doubleday and Company, New York, New York, 1978.

- 
- Repetitive Strain Injury: A Computer's User's Guide*, Emil Pascarelli, M.D. and Deborah Quilter, John Wiley and Sons, New York, New York, 1994.
- Right-to-Know: A Regulatory Update on Providing Chemical Hazard Information*, Bureau of National Affairs, Washington, D.C., 1985
- Total Workplace Performance: Rethinking the Office Environment*, Stan Aronoff and Audrey Kaplan, WDL Publications, Ottawa, Ontario, Canada, 1995.
- The Stress of Life*, Hans Selye, McGraw-Hill Book Company, New York, New York, 1976.
- Women's Work, Women's Health: Myths and Realities*, Jeanne Stellman, Women's Vintage Books, New York, New York, 1978.
- Work is Dangerous to Your Health*, Jeanne Stellman and Susan Daum, Vintage Books, New York, New York, 1973.
- Workers' Compensation and Work-Related Illnesses and Diseases*, Peter Barth and H. Allan Hunt, The MIT Press, Cambridge, Massachusetts, 1980.
- Work Related Musculoskeletal Disorders: A Reference Book for Prevention*, Pascale Carayon, Mats Hagberg, Hal Hendrick, Michael Perusse, Barbara Silverstein, Michael J. Smith, Richard Wells, Taylor and Francis, Bristol, Pennsylvania, 1995.
- Work-Related Musculoskeletal Disorders*, National Research Council, National Academy Press, Washington, D.C., 1999.
- The Zapping of America*, Paul Brodeur, George J. McLeod, Limited, Toronto, Canada, 1977.

In addition, there are a number of publications available from the Occupational Safety and Health Administration, National Institute for Occupational Safety and Health, the Environmental Protection Agency, and the Equal Employment Opportunity Commission. Refer to Chapter 9 for specific locations and phone numbers.

* Computer Workplace publications are also contained in Chapter 8, Computer Workplace Ergonomics.



D. Occupational Safety and Health Administration Offices

HEADQUARTERS OFFICE

200 Constitution Avenue., NW
Washington, DC 20210
Telephone: 202/219-6104

REGIONAL OFFICES

REGION I

Connecticut, Massachusetts Maine,
New Hampshire, Rhode
Island, Vermont

John F. Kennedy Federal
Building, Room E340
Boston, Massachusetts 02203
Telephone: 617/565-9860

REGION II

New Jersey, New York, Puerto Rico,
Virgin Islands

201 Varick Street, Room 670
New York, NY 10014
Telephone: 212/337-2378

REGION III

Delaware, District of Columbia,
Maryland, Pennsylvania,
Virginia, West Virginia

3535 Market Street
Gateway Building
Suite 2100
Philadelphia, PA 19104
Telephone: 215/596-1201

REGION IV

Alabama, Florida, Georgia,
Kentucky, Mississippi, North
Carolina, South Carolina,
Tennessee

Atlanta Federal Center
61 Forsyth Street, SW
Room 6T50
Atlanta, GA 30303
Telephone: 404/652-2300

REGION V

Illinois, Indiana, Michigan,
Minnesota, Ohio, Wisconsin

230 South Dearborn Street
Room 3244
Chicago, IL 60604
Telephone: 312/353-2220

REGION VI

Arkansas, Louisiana,
New Mexico, Oklahoma,
Texas

525 Griffin Street
Room 602
Dallas, TX 75202
Telephone: 214/767-4731


REGION VII

Iowa, Kansas, Missouri,
Nebraska

City Center Square
1100 Main Street
Room 800
Kansas City, MO 64105
Telephone: 816/426-5861

REGION VIII

Colorado, Montana, North
Dakota, South Dakota, Utah,
Wyoming

1999 Broadway-Suite 1690
Denver, CO 80202-5716
Telephone: 303/844-1600

REGION IX

American Samoa, Arizona,
California, Guam, Hawaii,
Nevada, Trust Territories of the
Pacific

71 Stevenson Street
Room 420
San Francisco, CA 94105
Telephone:
415/975-4310

REGION X

Alaska, Idaho, Oregon,
Washington

1111 Third Avenue, Suite 715
Seattle, WA 98101-3212
Telephone: 206/553-5930

AREA OFFICES**Alabama**

Birmingham, AL 35216
2047 Canyon Road
Todd Mall
Telephone: 205/731-1534

Mobile, AL 36693-4309
3737 Government Blvd.
Suite 100
Telephone: 334/441-6131

Alaska

Anchorage, AK 99503-7571
301 West Northern Lights Blvd.
Suite 407
Telephone: 907/271-5152

Arizona


Phoenix, AZ 85016
3221 North 16th Street
Suite 100
Telephone: 602/640-2007

Arkansas

Little Rock, AR 72201
425 West Capitol Avenue
Suite 450
Telephone: 501/324-6291

California

Sacramento, CA 95815
101 El Camino Plaza
Suite 105
Telephone: 916/566-7470



San Diego, CA 92123
5675 Ruffin Road
Suite 330
Telephone: 619/557-2909

Colorado

Denver, CO 80204-2552
1391 Speer Boulevard
Suite 210
Telephone: 303/844-5285

Englewood, CO 80011-2714
7935 East Prentice Avenue
Suite 209
Telephone: 303/843-4500

Connecticut

Bridgeport, CT 06604
One Lafayette Square
Suite 202
Telephone: 203/579-5581

Hartford, CT 06103
Federal Office Building,
450 Main Street
Room 613
Telephone: 860/240-3152

Delaware

Wilmington, DE 19801
1 Rodney Square
Suite 402
920 King Street
Telephone: 302/573-6115

Florida

Fort Lauderdale, FL 33324
8040 Peters Road
Building H-100
Telephone: 954/424-0242

Jacksonville, FL 32207
Ribault Building
Suite 227
1851 Executive Center Drive
Telephone: 904/232-2895

Tampa, FL 33610-4249
5807 Breckenridge Parkway
Suite A
Telephone: 813/626-1177

Georgia

Savannah, GA 31406
450 Mall Blvd., Suite J
Telephone: 912/652-4393

Smyrna, GA 30080
2400 Herodian Way
Suite 250
Telephone: 770/984-8700

Tucker, GA 30084-4154
2183 North Lake Parkway
Building 7 – Suite 110
La Vista Perimeter Office Park
Telephone: 770/493-6644

Hawaii

Honolulu, HI 96850
300 Ala Moana Blvd.
Suite 5122
Telephone: 808/541-2685

Idaho

Boise, ID 83702
3050 North Lake Harbor Lane
Suite 134
Telephone: 208/334-1867



Illinois

Calumet City, IL 60409
1600 167th Street, Suite 9
Telephone: 708/891-3800

Des Plaines, IL 60018
2360 East Devon Avenue
Suite 1010
Telephone: 847/803-4800

North Aurora, IL 60542
344 Smoke Tree Business Park
Telephone: 630/896-8700

Peoria, IL 61614
2918 West Willow Knolls Road
Telephone: 309/671-7033

Indiana

Indianapolis, IN 46204
46 East Ohio Street
Room 422
Telephone: 317/226-7290

Iowa

Des Moines, IA 50309
210 Walnut Street, Room 815
Telephone: 515/284-4794

Kansas

Wichita, KS 67202
300 Epic Center
301 North Main
Telephone: 316/269-6644

Kentucky

Frankfort, KY 40601-1992
John C. Watts Federal Building
Room 108
330 West Broadway
Telephone: 502/227-7024

Louisiana

Baton Rouge, LA 70806
2156 Wooddale Boulevard
Hoover Annex-Suite 200
Telephone: 504/389-0474

Maine

Bangor, ME 04401
202 Harlow Street
Room 211
Telephone: 207/941-8177

Maryland

Baltimore, MD 21201
300 West Pratt Street
Room 1110
Telephone: 410/962-2840

Massachusetts

Braintree, MA 02184
639 Granite Street
4th Floor
Telephone: 617/565-6924

Methuen, MA 01844
Valley Office Park
13 Branch Street
Telephone: 617/565-8110

Springfield, MA 01103-1493
1145 Main Street – Room 108
Telephone: 413/785-0123

Michigan

Lansing, MI 48917
801 South Waverly Road, S-306
Telephone: 517/377-1892



Minnesota

Minneapolis, MN 55415
300 South 4th Street
Suite 1220
Telephone: 612/664-4560

Mississippi

Jackson, MS 39211-6323
3700 I-55
Suite 210
Telephone: 601/965-4606

Missouri

Kansas City, MO 63120
6200 Connecticut Avenue
Suite 100
Telephone: 816/483-9531

St. Louis, MO 63101
911 Washington Avenue
Room 420
Telephone: 314/425-4249

Montana

Billings, MT 59101
2900 4th Avenue North
Suite 303
Telephone: 406/247-7494

Nebraska

Omaha, NE 68106
Overland-Wolfe Building
Room 100
6910 Pacific St.
Telephone: 402/221-3182

Nevada

Carson City, NV 89701
705 North Plaza
Room 204
Telephone: 702/885-6963

New Hampshire

Concord, NH 03301
279 Pleasant Street, Suite 201
Telephone: 603/225-1629

New Jersey

Avenel, NJ 07001
Plaza 35 - Suite 205
1030 Saint Georges Ave.
Telephone: 908/750-3270

Hasbrouck Heights, NJ 07604
500 Route 17 South
2nd Floor
Telephone: 201/288-1700

Marlton, NJ 08053
Marlton Executive Park
701 Route 73 South
Building 2 - Suite 120
Telephone: 609/757-5181

Parsippany, NJ 07054
299 Cherry Hill Road
Suite 304
Telephone: 201/263-1003

New Mexico

Albuquerque, NM 87102
Western Bank Building
505 Marquette Avenue NW
Suite 820
Telephone: 505/248-5302



New York

Albany, NY 12205-3809
401 New Karner Road
Suite 300
Telephone: 518/464-4338

Bayside, NY 11361
42-40 Bell Boulevard, 5th Fl.
Telephone: 718/279-9060

Bowmansville, NY 11361
5360 Genesee Street
Telephone: 716/684-3891

New York, NY 10017
201 Varick Street
Room 646
Telephone: 212/337-2636

North Syracuse, NY 13212
3300 Vickery Road
Telephone: 315/451-0808

Tarrytown, NY 10591
660 White Plains Road
4th Floor
Telephone: 914/524-7510

Westbury, NY 11590
990 Westbury Road
Telephone: 516/334-3344

North Carolina

Raleigh, NC 27601-9998
Century Station, Room 438
300 Fayetteville Street Mall
Telephone: 919/856-4770

North Dakota

Bismarck, ND 58501
Federal Office Building
1640 East Capitol Avenue
Telephone: 701/250-4521

Ohio

Cincinnati, OH 45246
36 Triangle Park Drive
Telephone: 513/841-4132

Cleveland, OH 44199
Federal Office Building
Room 899
1240 East Ninth Street
Telephone: 216/522-3818

Toledo, OH 43604
Federal Office Building
Room 734
234 North Summit Street
Telephone: 419/259-7542

Oklahoma

Oklahoma City, OK 73102
420 West Main, Suite 300
Telephone: 405/231-5351

Oregon


Portland, OR 97204
1220 Southwest Third Avenue,
Room 640
Telephone: 503/326-2251

Pennsylvania

Allentown, PA 18102
850 North 5th Street
Telephone: 610/776-0592

Erie, PA 16506
3939 West Ridge Road
Suite B-12
Telephone: 814/833-5758

Harrisburg, PA 17109
Progress Plaza
49 North Progress Avenue
Telephone: 717/782-3902



Philadelphia, PA 19106
U.S. Custom House, Room 242
Second and Chestnut Streets
Telephone: 215/597-4955

Pittsburgh, PA 15222
1000 Liberty Avenue
Room 1428
Telephone: 412/644-2903

Wilkes-Barre, PA 18701-3590
Penn Place, Room 2005
20 North Pennsylvania Ave.
Telephone: 717/826-6538

Puerto Rico

Guaynabo, PR 00968
BBV Plaza Building – Suite 5B
1510 F.D. Roosevelt Avenue
Telephone: 787/277-1560

Rhode Island

Providence, RI 02903
380 Westminster Mall-Room 243
Telephone: 401/528-4669

South Carolina

Columbia, SC 29201-2453
1835 Assembly Street
Room 1468
Telephone: 803-765-5904

Tennessee

Nashville, TN 37215
2002 Richard Jones Road
Suite C-205
Telephone: 615/781-5423

Texas

Austin, TX 78701
903 San Jacinto Blvd.
Suite 319
Telephone:
512/916-5783

Corpus Christi, TX 78476
Wilson Plaza, Suite 700
606 North Carancahua
Telephone: 512/888-3420

Dallas, TX 75228
8344 East R.L. Thornton Freeway
Suite 420
Telephone: 214/320-2400

Fort Worth, TX 76180-7610
North Starr 2 Building
Suite 302
8713 Airport Freeway
Telephone: 817/428-2470

Houston, TX 77058
17625 El Camino Real
Suite 400
Telephone: 281/286-0583

Houston, TX 77060
350 N. Sam Houston Parkway
Suite 120
Telephone: 281/591-2438

Lubbock, TX 79401
Federal Building
1205 Texas Avenue
Room 806
Telephone: 806/472-7681

Utah

Salt Lake City, UT 84115-1802
1781 South 300 West
Telephone: 801/487-0073



Virginia

Norfolk, VA 23510
Federal Office Building
200 Granby Street
Room 835
Mail Drawer 486
Telephone: 804/441-3820

Washington

Bellevue, WA 98004
505 106th Avenue Northeast
Suite 302
Telephone: 206/553-7520

West Virginia

Charleston WV 25301
550 Eagan Street, Room 206
Telephone: 304/347-5937

Wisconsin

Appleton, WI 54911-8664
2618 North Ballard Road
Telephone: 414/734-4521

Madison, WI 53716
4802 East Broadway
Telephone: 608/264-5388

Milwaukee, WI 53203
Harry S. Reuss Building
310 W. Wisconsin Avenue
Room 1180
Telephone: 414/297-3315



E. National Institute for Occupational Safety and Health Offices and Educational Resource Centers

HEADQUARTERS OFFICES

Washington, D.C.

200 Independence Avenue
Room 715H
Washington, DC 20201
Telephone: (202) 401-0721

Atlanta

1600 Clifton Road, NE
Atlanta, GA 30333
Telephone: (404) 639-3061

RESEARCH FACILITIES

Robert A. Taft Laboratories
4676 Columbia Parkway
Cincinnati, OH 45226
Telephone: (513) 533-8241

**Appalachian Laboratory for
Occupational Safety and Health**
3040 University Avenue
Morgantown, WV 26505
Telephone: (304) 285-5894

1095 Willowdale Road
Morgantown, WV 26505
Telephone: (304) 285-5894

Pittsburgh Research Laboratory
606 Cochran's Mill Road
Pittsburgh, PA 15236
Telephone: (412) 892-6601

Spokane Research Laboratory
315 East Montgomery Avenue
Spokane, WA (509) 354-8001

Alaska Activity
4230 University Drive
Anchorage, AL 99508
Telephone: (907) 271-2382

EDUCATIONAL RESOURCE CENTERS

District 1

Harvard University
Harvard School of Public Health
665 Huntington Avenue
Boston, MA 02155
Telephone: (617) 432-3323

Mt. Sinai School of Medicine
P.O. Box 1057
One Gustave L. Levy Place
New York, NY 10029-6574
Telephone: (212) 241-4804



District 2

Johns Hopkins University
School of Hygiene and Public Health
615 North Wolfe Street
Baltimore, MD 21205
Telephone: (410) 955-4082

District 3

University of North Carolina
School of Public Health
Rosenau Hall CF# 7400
Chapel Hill, NC 27599-7400
Telephone: (919) 966-3473

University of Alabama at Birmingham
School of Public Health
The Ryals Public Health Bldg.
1665 University Boulevard
Birmingham, AL 35294-0008
Telephone: (205) 934-8488

University of South Florida
College of Public Health
13201 Bruce B. Downs Blvd.
MDC Box 56
Tampa, FL 33620
Telephone: (813) 974-3623

District 4

University of Cincinnati
Department of Environmental Health
P.O. Box 670056
Cincinnati, OH 45267-0056
Telephone: (513) 558-1749

University of Illinois at Chicago
School of Public Health
2121 W Taylor Street,
M/C 922
Chicago, IL 60612-7260
Telephone: (312) 996-7887

District 6

The University of Texas Health Science Center at Houston
School of Public Health
P.O. Box 20186
Houston, TX 77225-0186
Telephone (713) 500-9459

District 7

University of Minnesota
School of Public Health
Minneapolis, MN 55455
Telephone: (612) 626-0900


University of Utah
Rocky Mountain Center for Occupational and Environmental Health
Building 512
Salt Lake City, UT 84112
Telephone: (801) 581-8719

University of Washington
Department of Environmental Health
P. O. Box 357234
Seattle, WA 98195-7234
Telephone: (206) 543-6991

District 9

University of California at Berkeley
School of Public Health
140 Warren
Berkeley, CA 94720-7360
Telephone: (510) 642-0761

University of California at Los Angeles
School of Public Health
Los Angeles, CA 90095
Telephone: (310) 825-5524



University of Southern California
School of Medicine
Department of Preventive Medicine
1540 Alcazar Street
Suite 236
Los Angeles, CA 90033
Telephone: (213) 342-1096



F. Related Federal Agencies

**Consumer Product Safety
Commission**
4330 East-West Highway
Bethesda, MD 20814
Telephone: (301) 504-0800

**National Institute for
Environmental Health Sciences**
111TW Alexandria Drive
Research Triangle, NC 27709
Telephone: (919) 541-3345

**Environmental Protection
Agency**
1200 Pennsylvania Avenue NW
Washington, DC 20460
Telephone: (202) 260-2090

**Occupational Safety and Health
Review Commission**
1120 20th Street NW, 9th Floor
Washington, DC 20036-3419
Telephone: (202) 606-5100

**Equal Employment Opportunity
Commission**
1801 L Street NW
Washington, DC 20507
Telephone: (202) 663-4900



G. States with Approved Occupational Safety and Health Plans

DISTRICT 1

Connecticut

Connecticut Department
of Labor
200 Folly Brook Boulevard
Wethersfield, CT 06109
Telephone: (860) 566-5123
Fax: (860) 566-1520

New Jersey

New Jersey Office of Public
Employees Occupational Safety
and Health
P.O. Box 387
Trenton, NJ 08625-0387
Telephone: (609) 292-7036

New York

New York Department of Labor
W. Averell Harriman State
Office Building-12, Room 500
Albany, New York 12240
Telephone: (518) 457-2741
Fax: (518) 457-6908

Puerto Rico

Puerto Rico Department of
Labor and Human Resources
Prudencio Rivera Martinez Bldg.
505 Munoz Rivera Avenue
Hato Rey, Puerto Rico 00918
Telephone: (787) 754-2119
Fax: (787) 753-9550

Vermont

Vermont Department of
Labor and Industry
National Life Building
Drawer 20
120 State Street
Montpelier, VT 05620
Telephone: (802) 828-2288
Fax: (802) 828-2748

DISTRICT 2

Maryland

Maryland Division of Labor and
Industry
*Department of Licensing and
Regulation*
1100 North Eutaw St., Room 613
Baltimore, MD 21201-2206
Telephone: (410) 767-2215
Fax: (410) 767-2003

Virginia

Virginia Department of Labor
and Industry
Power-Taylor Building
13 South 13th Street
Richmond, VA 23219
Telephone: (804) 786-2377
Fax: (804) 371-6524



DISTRICT 3

Kentucky

Kentucky Labor Cabinet
1047 U.S. Highway, 127 South
Suite 2
Frankfort, KY 40601
Telephone: (502) 564-3070
Fax: (502) 564-5387

North Carolina

North Carolina Department of
Labor
319 Chapanoke Road
Raleigh, NC 27603
Telephone: (919) 662-4585
Fax: (919) 662-4582

South Carolina

South Carolina Department of
Labor, Licensing, & Regulation
Koger Office Park, Kingtree
Building
110 Centerview Drive
P.O. Box 11329
Columbia, South Carolina 29210
Telephone: (803) 896-4300
Fax: (803) 896-4393

Tennessee

Tennessee Department of Labor
710 James Robertson Parkway
Nashville, TN 38243-0659
Telephone: (615) 741-2582
Fax: (615) 741-5078

DISTRICT 4

Indiana

Indiana Department of Labor
State Office Building
402 West Washington Street,
Room W195
Indianapolis, IN 46204
Telephone: (317) 232-2378
Fax: (317) 233-3790

Michigan

Michigan Department of
Consumer and Industry Services
3423 North Martin Luther King
Boulevard
P. O. Box 30649
Lansing, MI 48909
Telephone: (517) 373-7230
Fax: (517) 373-2129

DISTRICT 7

Alaska

Alaska Department of Labor
111 W. 8th Street, Room 306
Juneau, Alaska 99801
Telephone: (907) 465-2700
Fax: (907) 465-2784

Arizona

Industrial Commission of
Arizona
800 West Washington
Phoenix, AR 85007
Telephone: (602) 542-5795
Fax: (602) 542-1614



Iowa

Iowa Division of Labor Services
1000 East Grand Avenue
Des Moines, IA 50319
Telephone: (515) 281-3447
Fax: (515) 242-5144

Minnesota

Minnesota Department of Labor and Industry
443 Lafayette Road
St. Paul, MN 55155
Telephone: (612) 296-2342
Fax: (612) 282-5404

New Mexico

New Mexico Environment Department
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, New Mexico 87502
Telephone: (505) 827-2850
Fax: (505) 827-2836

Oregon

Oregon Occupational Safety and Health Division
Department of Consumer and Business Services
350 Winter Street, NE, Room 430
Salem, Oregon 97310
Telephone: (503) 378-3272
Fax: (503) 378-4538

Utah

Labor Commission of Utah
160 East 300 South, 3rd Floor
P. O. Box 146650
Salt Lake City, UT 84114-6650
Telephone: (801) 530-6898
Fax: (801) 530-6880

Washington

Washington Department of Labor and Industries
General Administration Building
P.O. Box 44001
Olympia, Washington 98504-4001
Telephone: (360) 902-4200
Fax: (360) 902-4202

Wyoming

Wyoming Department of Employment
Worker's Safety and Compensation Division
Herschler Building, 2nd Floor, East
122 West 25th Street
Cheyenne, WY 82002
Telephone: (307) 777-7786
Fax: (307) 777-5850

DISTRICT 9

California

California Department of Industrial Relations
45 Fremont Avenue
San Francisco, CA 94105
Telephone: (415) 972-8835
Fax: (415) 972-8848

Hawaii

Hawaii Department of Labor and Industrial Relations
830 Punchbowl Street
Honolulu, Hawaii 96813
Telephone: (808) 586-8844
Fax: (808) 586-9099



Nevada

**Nevada Department of
Industrial Relations**
400 West King Street
Carson City, Nevada 97502
Telephone: (702) 687-3032
Fax: (702) 687-6305



H. Occupational Safety and Health Resources: Colleges and Universities

DISTRICT 1

New Jersey

Rutgers University
School for Management & Labor Relations
94 Rockefeller Road, Suite 216
Piscataway, NJ 08854
Telephone: (732) 445-5997

New York

Cornell University
NYSSILR
16 East 34th Street
4th Floor
New York, NY 10016
Telephone: (212) 481-8790

Connecticut

Labor Education Center
University of Connecticut
Box U-13
Storrs, CT 06268
Telephone: (860) 486-3417

Central Connecticut State University
Department of Industrial Technology
New Tritatin, CT 06050
Telephone: (860) 832-1830

University of New Haven
Department of Occupational Safety & Health
300 Orange Avenue
New Haven, CT 06516
Telephone (203) 932-7175

University of Connecticut
Department of Community Medicine
Farmington, CT 06030
Telephone: (860) 679-3551

Massachusetts

University of Massachusetts
College of Engineering Work Environment
1 University Avenue
Lowell, MA 01854
Telephone: (508) 934-2570

University of Massachusetts
Labor Studies Center
125 Draper Hall
Amherst, MA 01003
Telephone: (978) 934-3250

Rhode Island

Institute for Labor Studies & Research
99 Bald Hill Road
Cranston, RI 02920
Telephone: (401) 463-9900



Maine

University of Maine
Bureau of Labor Education
5713 Chadbourne Hall
Orono, ME 04469
Telephone: (207) 581-4124

DISTRICT 2

Coppin State College
OSHA Program
Administration Building
Room 202
2500 West North Avenue
Baltimore, MD 21216
Telephone: (410) 951-3000

George Meany Center For Labor Studies
1000 New Hampshire Avenue
Silver Spring, MD 20903
Telephone: (301) 431-6400

West Virginia Institute of Technology
Center for Labor Education
Montgomery, WV 25316
Telephone: (304) 442-3157

West Virginia University
Institute for Labor Studies
Division of Social and Economic Development
Center for Extension and Continuing Education
Morgantown, WV 26506
Telephone: (304) 293-3223

DISTRICT 3

University of Alabama at Birmingham
Center for Labor Education & Research
University Station
Birmingham, AL 35294
Telephone: (205) 934-2101


Georgia State University
College of General Studies
Labor Education Program
University Plaza
Atlanta, GA 30303
Telephone: (404) 658-0980

University of North Carolina
School of Public Health
Department of Environmental Sciences and Engineering
208 Hill Building 426A
Chapel Hill, NC 27514
Telephone: (919) 966-1023

University of Tennessee
College of Pharmacy
Center for Health Sciences
Occupational Health Program
874 Union Avenue, Room 105
Memphis, TN 38163
Telephone: (901) 528-5465

DISTRICT 4

University of Cincinnati
College of Medicine
Department of Environmental Health
3223 Eden Avenue
Cincinnati, OH 45267
Telephone: (513) 872-5708



Michigan State University
*School of Labor and Industrial
Relations*
Labor Program Service
432 South Kedzie Hall
East Lansing, MI 48824
Telephone: (517) 355-7673

Ohio State University
*Labor Education and Research
Service*
1810 College Road
Columbus, OH 43210
Telephone: (614) 422-8157

University of Illinois
*Institute of Labor and Industrial
Relations*
504 East Armory Avenue
Champaign, IL 61820
Telephone: (217) 333-0980

Indiana University
Division of Labor Studies
312 North Park
Bloomington, IN 47401
Telephone: (812) 337-9082

University of Wisconsin
School for Workers
610 Landon Street
422 Lowell Hall
Madison, WI 53703
Telephone: (608) 262-2111

**Waukesha County Technical
Institute**
800 Main Street
Pewaukee, WI 53702
Telephone: (414) 548-5566

DISTRICT 6

Kansas State University
Division of Cooperative Extension
Umberger Hall
Manhattan, KS 66506
Telephone: (913) 532-5820


University of Missouri
406 Clark Hall
Columbia, MO 65201
Telephone: (314) 882-4321

University of Houston
*Institute of Labor and Industrial
Relations*
4800 Calhoun
Houston, TX 77004
Telephone: (713) 749-3755

DISTRICT 7

Colorado State University
*Occupational Safety & Health
Section*
Environmental Health Building
Room 131
Ft. Collins, CO 80523
Telephone: (303) 491-6151

University of Oregon
*Labor Education and Research
Center*
1289 University of Oregon
Eugene, OR 97403-1289
Telephone: (541) 346-5054



Salt Lake Community College
*Occupational Safety and Health
Section*
1521 E 3900 South Millcreek
Center
Salt Lake City, UT 84124
Telephone: (801) 957-4710

**University of California at
Berkeley**
*Labor Occupational Health
Program (LOHP)*
2515 Channing Way
Berkeley, CA 94720-5120
Telephone: (510) 642-5507

University of Iowa
Labor Center
100 Oakdale Campus
Room M210 OH
Iowa City, Iowa 52242-5000
Telephone: (319) 335-4144

DISTRICT 13

Pennsylvania State University
Department of Labor Studies
201A Old Botany Building
University Park, PA 16802
Telephone: (814) 865-5425

DISTRICT 9

**University of California at
Los Angeles**
*Labor Occupational Safety and
Health Program (LOSH)*
*Center for Labor Research and
Education*
P.O. Box 9514781
Los Angeles, CA 90095
Telephone: (310) 794-5983



I. Committees on Occupational Safety and Health

DISTRICT 1

Connecticut

ConnectiCOSH
77 Huyshape Street
Hartford, CT 06106
Telephone: (203) 549-1877

Rhode Island

RICOSH
741 Westmister Street
Providence, RI 02903
Telephone: (401) 751-2015

Massachusetts

MassCOSH
12 Southern Avenue
Dorchester, MA 02124
Telephone: (617) 825-7233

Western MassCOSH
458 Bridge Street
Springfield, MA 01103
Telephone: (413) 731-0670

New Hampshire

NHCOSH
c/o AFL-CIO
110 Sheep David Road
Pembroke, NH 03175
Telephone: (603) 228-3711

Maine

Maine Labor Group on Health
Box V
Augusta, ME 04330
Telephone (207) 622-7823

New Jersey

New Jersey Industrial Union
Council AFL/CIO
Health and Safety Committee
452 E. Third Street
Moorestown, NJ 08057
Telephone: (609) 866-9405


Work Environment Council
1543 Brunswick Avenue, 1st Floor
Lawrenceville, NJ 08648
Telephone: (609) 695-7100

New York

CNYCOSH (Syracuse)
615 West Genesee Street
Syracuse, NY 13204
Telephone: (315) 471-6187

ENYCOSH (Albany)
121 Erie Boulevard
Schenectady, NY 12305
Telephone: (518) 372-4308

Long Island NYCOSH
30 Motor Parkway
Hauppauge, NY 17788
Telephone: (516) 273-1234



Lower Hudson NYCOSH
(Westchester/Rockland)
345 Westchester Avenue
Port Chester, NY 10573
Telephone: (914) 939-5612

NYCOSH (New York City)
275 7th Avenue
8th Floor
New York, NY 10001
Telephone: (212) 627-3900

ROCOSH (Rochester)
46 Prince Street
Rochester, NY 14607
Telephone: (716) 244-0420

WNYCOSH (Buffalo)
2495 Main Street
Buffalo, NY 14214
Telephone: (716) 833-5416

DISTRICT 2

Maryland

Alice Hamilton Occupational Health Center
Maryland Committee for Occupational Safety and Health
1320 Fenwick Lane
Suite 600
Silver Spring, MD 20912
Telephone: (301) 565-4590

West Virginia

KVCOSH
Kanawaha Valley Coalition on Occupational Safety and Health
P. O. Box 3062
Charleston, WV 25331
Telephone: (304) 925-6664

DISTRICT 3

Tennessee

TNCOSH
Tennessee Committee for Occupational Safety and Health
705 North Broadway, Room 212
Knoxville, TN 37092
Telephone: (615) 525-3147

DISTRICT 4

Ohio

COCOSH
Columbus Committee on Occupational Safety and Health
1187 East Broad Street
Suite 21
Columbus, Ohio 43205
Telephone: (614) 224-4511

ORVCOSH

Ohio River Valley Committee on Occupational Safety and Health
2121 Bennett Avenue
Cincinnati, OH 45212
Telephone: (513) 531-6365

Illinois

CACOSH
Chicago Area Committee on Occupational Safety and Health
847 West Jackson Boulevard
Chicago, IL 60607
Telephone: (312) 666-1611



Wisconsin

WISCOSH

*Wisconsin Committee on
Occupational Safety and Health*
2468 West Juneau
Milwaukee, WI 53233
Telephone: (414) 643-0928

WISCOSH

*Wisconsin Committee on
Occupational Safety and Health*
2228 Myrtle Street
Madison, WI 53704
Telephone: (608) 245-1331

DISTRICT 7

Minnesota

MACOSH

*Minnesota Area Committee on
Occupational Safety and Health*
1729 Nicollet Avenue South
Minneapolis, MN 55403
Telephone: (612) 291-1815

Arizona

ACOSH

*Arizona Center for Occupational
Safety and Health*
University of Arizona Health Sci-
ences Center
Tucson, AZ 85724
Telephone: (602) 626-6835

Washington

SEACOSH

*Seattle Committee on Occupational
Safety and Health*
Resource Center, Box 18371
Seattle, WA 98118
Telephone: (206) 762-7288

DISTRICT 9

SacCOSH

*Sacramento Committee on
Occupational Safety and Health*
c/o Firefighters Local 522
3101 Stockton Boulevard
Sacramento, CA 95820
Telephone: (916) 442-4390

SCCOSH

*Santa Clara Center for
Occupational Safety and Health*
760 North First Street
San Jose, CA 95112
Telephone: (408) 998-4050

LACOSH

*Los Angeles Committee on
Occupational Safety and Health*
5855 Venice Boulevard
Los Angeles, CA 90019
Telephone: (213) 931-9000

BACOSH

*Bay Area Committee on
Occupational Safety and Health*
Alameda County Labor Temple
2315 Valdez Street
Oakland, CA 94612
Telephone: (415) 763-9076

SCOSH

*Santa Clara Committee on
Occupational Safety and Health*
655 Castro Street
Mountain View, CA 94041
Telephone: (415) 969-7233

SDCOSH

*San Diego Committee for
Occupational Safety and Health*
P. O. Box 9901
San Diego, CA 92109
Telephone: (714) 459-2160



DISTRICT 13

Pennsylvania

PHILAPOSH

*Philadelphia Area Project on
Occupational Safety and Health*
1321 Arch Street, #607
Philadelphia, PA 19107
Telephone: (215) 568-5188



J. Other Support Organizations

A. Phillip Randolph Educational Fund

260 Park Avenue South
New York, NY 10010
Telephone: (212) 533-8791

American Labor Education Center, Inc.

2000 P Street, N.W.
Washington, DC 20036
Telephone: (202) 828-5170

Coalition for Labor Union Women

1126 16th Street, N.W., Room 104
Washington, D.C. 20036
Telephone: (202) 466-4610

Center to Protect Workers' Rights

111 Massachusetts Avenue, N.W.,
5th Fl.
Washington, D.C. 20001
Telephone: (202) 962-8490

Silicon Valley Toxics Coalition

760 N. First Street
San Jose, CA 95112
Telephone: 408-287-6707



Glossary of Safety and Health Terms

Abatement Date — the date by which an employer must correct workplace hazards as specified in a OSHA citation.

Absorption — penetration of a substance into the human body.

Acoustic — associated or related to sound.

Acoustic Trauma — loss of hearing caused by sudden loud noise in the ear or by a sudden blow to head.

Acute Effect — an adverse effect upon the human body following a brief exposure to a toxic substance.

Administrative Controls — techniques employed by management to decrease a worker's exposure to specific toxic substances and equipment. Examples would be permanent or temporary transfer to another job and periodic rest breaks.

Amendment — a change or modification.

American Council of Governmental Industrial Hygienists — a scientific organization which conducts research and proposes standards related to occupational safety and health.

Anemometer — an instrument used for measuring the speed of air flow in ventilation systems.

Appeal — to apply for review to a higher decision—making body.


Asbestosis — a disease of the lungs caused by breathing airborne fibers of asbestos.

Asphyxiant — any substance which prevents a person from taking enough oxygen into the bloodstream to survive.

Audiogram/Audiometer — an audiometer is an instrument used to measure a person's hearing ability. The result of the hearing test is an audiogram.

Benign — a term meaning harmless or not progressive.

Biological Monitoring — a term referring to medical tests used to indicate the amount of human exposure to hazardous substances.



Calibration — adjustment of sampling equipment so that they measure the tested object accurately.

Cancer — an uncontrolled growth of abnormal cells.

Capture Velocity — the speed at which air enters the mouth of ventilation equipment. It is necessary to know capture velocities in order to ascertain whether the ventilation equipment is operating according to rated capacity. Capture velocity is normally expressed in feet per second.

Carpal Tunnel Syndrome — an affliction reducing manipulative skills caused by the compression of blood vessels and nerves located in the wrist. Often associated with the tingling, pain or numbness in the thumb and first three fingers.

Carcinogens — substances that can cause cancer.

Ceiling Limit — maximum concentration of a chemical, dust, or physical agent that is allowed at any time under OSHA Standards.

Chronic Effect — an adverse effect upon the body which is caused from long—term exposure to a toxic substance.

Citation — a notice issued to an employer when a violation of an OSHA Standard is detected in the workplace. The citation lists the nature of the violation, the abatement date and proposed penalties.

Closing Conference — held at completion of workplace inspection to inform parties of inspection results.

Compliance Safety and Health Inspector — OSHA inspector.

Committee on Occupational Safety and Health — labor support organization comprised of safety and health professionals (e.g., scientists, industrial hygienists, physicians, academics, and labor union members).

Concentration — the amount of chemical, dust, or other substance in a given amount of air.

Contaminant — poisonous, toxic substance.

Cumulative — additive effects of a substance with long—term exposure.

Corrosive — a substance that can wear or eat away another substance.

Decibel (Db) — a unit used to measure sound pressure or degree of



loudness. The current OSHA Standard is 90 db, averaged over an eight-hour work day.

Dermatitis — inflammation of the skin. May result from exposure to solvents.

Direct — reading Instrument — an instrument that gives an immediate indication of the concentration of an airborne contaminant.

Dosimeter — an instrument used for measuring exposure levels of noise, radiation, carbon monoxide, etc.

Dust — airborne solid particles created by work processes such as grinding and sanding.

Eleven C Complaint (OSHA) — a complaint a worker may file with OSHA if he/she feels that the employer has discriminated against him/her for exercising rights under OSHA.

Engineering Control — prevention of worker exposure to contaminants by production design. OSHA regulations require exposure to many toxic substances be decreased by engineering controls rather than by use of personal protective equipment (respirators, gloves, goggles, etc.) and administrative controls (transfer to another job, rest breaks, etc.).

Ergonomics — the study of the relationship between human beings and the work process and environment. Ergonomic aspects of the work environment include computer and related workstation, work equipment and tools, work environment, and work organization design.


Ex Parte Warrant — warrant obtained by OSHA to gain access to inspect a workplace.

Exhaust Ventilation — removes air contaminants from the workplace by sucking them away near their sources by means of hoods, canopies, or ducts. Exhaust ventilation is the most efficient means of controlling air contaminants.

Exposure — when a worker takes in a toxic substance by breathing, eating, skin absorption, or other means, he/she is exposed to that substance. Exposure is measured over time and in amounts.

Flammable — can easily be set on fire.

(Lower) Flammable Explosive Limit (LEL) — the lowest concentration of a combustible or flammable gas or vapor in air that will produce a flash of fire.



(Upper) Flammable Exposure Limit (UEL) — the highest concentration of a combustible or flammable gas or vapor in air that will produce a flash of fire.

Frequency — the time or rate at which a condition repeats itself.

Fume — small particles that become airborne when a solid material is heated or burned.

Gas — a chemical that is normally airborne at room temperature.

General Duty Clause — clause in the OSHAct requiring employers to provide a workplace free from recognized hazards that are likely to cause death or serious physical harm. The clause covers hazards for which there are not current OSHA Standards.

General Ventilation — a method of reducing airborne concentrations of contaminants by diluting workplace air with ceiling or window fans.

Generic Name — the universal substance name of a particular item as opposed to a manufacturer's trade name.

Hazard Abatement — the process of controlling and eliminating hazards.

Health Hazard — any type of work—related dangerous substances, agents, or working conditions that could cause an accident, injury, disease, or death to workers.

Heat Stress — the amount of thermal (heat) strain upon the human body.

Hertz (Hz) — unit used to measure the frequency of sound. One hertz equals one cycle of sound per second.


Imminent Danger — a hazard which is likely to cause immediate serious injury or death.

Industrial Hygiene — the technical field concerned with the recognition, evaluation, and elimination of workplace hazards.

Ingestion — the process of taking a substance through the mouth.

Inhalation — the process of breathing something into the lungs.

Inorganic — refers to compounds that generally do not contain carbon.



Job Stress (Pressure) — work—related factors or conditions that cause bodily and emotional tensions and disorders.

Laser — an acronym for light amplification by stimulated emission of radiation. A laser produces and amplifies light.

Latency Period — the time that elapses between exposure and the first sign of symptoms or disease.

Local Effect — the effect a chemical has at the point of contact (e.g., dermatitis caused by skin contact with solvents.)

Malignant — a cancerous mass.

Material Safety Data Sheet — material supposed to be made available by manufacturers regarding the dangers of any substance they produce or make available.

Medical Removal Protection — protection of workers' level of wages, seniority, and other benefits who are removed from their job due to excessive level of exposure to toxic substances or hazardous working conditions.

Mist — airborne liquid droplets that are created either by a gas going into a liquid state or by a liquid being splashed, foamed, or atomized.

Monochromatic — a single fixed wavelength such as a monochromatic laser beam.

Morbidity — the number and types of illnesses suffered by a certain group of people over a particular time.


Mortality — the number and causes of deaths for a particular group of people over a specific time.

Mutagens — substances which can cause mutations or changes in the genetic material of living cells.

Mutation — a change in the genetic material of a cell. When it occurs in the sperm or egg, the mutation can be passed on to future generations.

Noise Level — refers to the pressure level of airborne sound.

Noise Level Survey — a study of the amount of noise workers are exposed to, usually averaged over an eight—hour day. Exposure can be measured by a dosimeter or by the use of a sound level meter.



Opening Conference — held at the beginning of a workplace inspection to outline inspection procedures and participated in by the OSHA inspector, and the union and employer representatives.

Organic — term used to designate chemicals that contain carbon.

OSHA Standard — a legally enforceable safety and health regulation governing working conditions designated to assure a safe and healthful workplace.

Oxygen Deficiency — an atmosphere having less than the normal percentage (18—21%) of oxygen in the air.

Parts Per Million — the ratio of the amount of a substance to the amount of air, i.e., one part of a vapor, gas, or other contaminant per million parts of air.

Party Status — the right of a union to participate in all of the activities regarding management's appeal of an OSHA citation or penalty.

Permissible Exposure Limit — allowable concentration of exposure to toxic substances.

Penalties — fines or sanctions which can be assessed against employers for violations of duties, standards, rules, regulations, and orders of OSHA.

Permanent Noise-Induced Threshold Shift — term used to describe the permanent loss of hearing caused by excessive exposure to noise.


Personal Protective Equipment — devices worn by workers to protect them against workplace hazards.

Rad — unit for measuring the dose of radioactivity an exposed person receives.

Radiation — a form of energy transmitted in waves or particles.

(Ionizing) Radiation — electromagnetic radiation which interacts with matter to produce ions or electrically charged particles. Ionizing radiation has sufficient energy to displace or break up electrons from atoms possibly causing damage to the body's molecular structure.

(Non—ionizing) Radiation — electromagnetic radiation that does not produce ions or electrically charged particles when it interacts with matter. Non-ionizing radiation does not contain sufficient energy to ionize the absorbing material.



Rate Retention — a provision that provides economic protection for workers displaced or removed from a job due to abnormal medical test results.

Rem — a measure of the dose of a particular radioactive material a person receives.

Respirable — particles of dust, fumes, etc. small enough to get into the lungs.

Respirator — a device to protect the wearer from inhalation of harmful contaminants.

Sensitizer — a substance that causes a person to react when subsequently exposed to the same or other irritant.

Solvent — a liquid substance capable of dissolving another.

Sound Level Meter — an instrument used to measure and document noise levels.

Standard — legal stipulations limiting worker exposure to a hazardous substance and describing engineering controls, personal protective equipment, and medical exams.

Stress — a physical, chemical, or emotional factor that causes bodily or mental tension and disorders; primarily caused by poor work organization, fatigue, and certain diseases.

Stressor — any agent causing a condition of stress.

Synergistic — two or more substances that act together to produce a total effect greater than the sum of the separate effects.


Systemic Effect — a chemical's effect on the body that takes place somewhere other than the point of contact.

Temporary Threshold Shift — the temporary loss of hearing caused by excessive noise exposure.

Teratogen — substances that damage the fetus; results in birth defects or other abnormalities in offspring.

Threshold Limit Value — legal limit allowed for worker exposure to toxic chemicals, substances, and airborne contaminants.

Time Weighted Average Exposure — the period of time (usually an 8-hour workday) for which exposure tests are conducted.



Toxic — poisonous, capable of causing any sort of illness/injury to the body.

Trade Name — a name a company decides to use for a product.

Tumor — a growth of useless cells somewhere in the body.

Vapor — the gaseous form of substances which are normally in the solid or liquid state.

Variance — used in reference to OSHA Standards. A request by an employer to be exempt from complying with an OSHA Standard.

Velometer — equipment used to measure the speed and movement of air.

Ventilation — process by which fresh air replaces or dilutes contaminated air.

Willful Violation — when the company knows it is violating an OSHA standard, or knows that a hazardous condition exists, but makes no effort to correct it.