

# Safety Bulletin

Volume Two  
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# Frequently Cited OSHA Standards

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This article is the first in a series that will identify and suggest ways to correct the hazards related to the most frequently cited OSHA standards in the industries with SIC codes of 3271—Concrete Block and Brick, 3272—Concrete Products Except Block and Brick and 3273—Ready-Mix. Using weighted average methodology, it was determined that the top five most frequently cited standards within these three SIC codes are:

1. Control of Hazardous Energy—Lockout/Tagout
2. Hazard Communication
3. Respiratory Protection
4. Permit Required—Confined Spaces
5. Electrical Wiring Methods—Components & Equipment

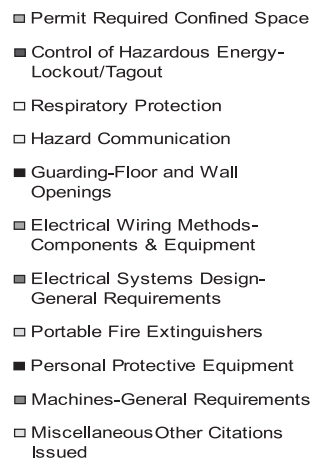
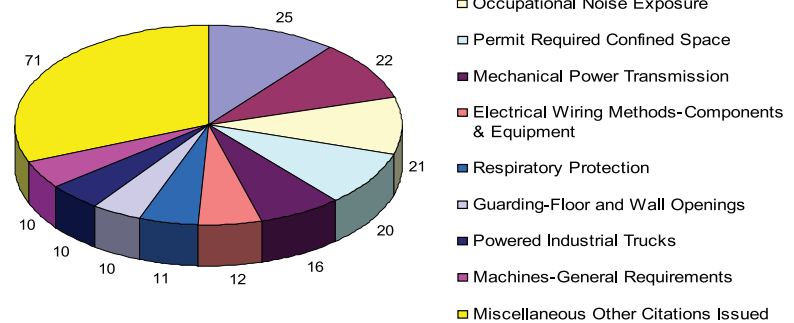
A total of 1247 citations were issued in these three SIC codes during 2002. Fines approaching US\$750,000 were levied. Each inspection conducted, citation issued and fine imposed is contained within the OSHA Integrated Management Information System (IMIS) database, which can be accessed on the [osha.gov](http://osha.gov) web site. Employers can use this information to educate employees about which hazards commonly cause accidents, while OSHA field personnel use this information to identify violations commonly found in certain types of facilities.

The three pie charts on the right indicate the most frequently cited OSHA standards in Concrete Block and Brick, Concrete Products Except Block and Brick and Ready-Mix. Reviewing the information on these charts will guide producers to the first areas to address with safety efforts.

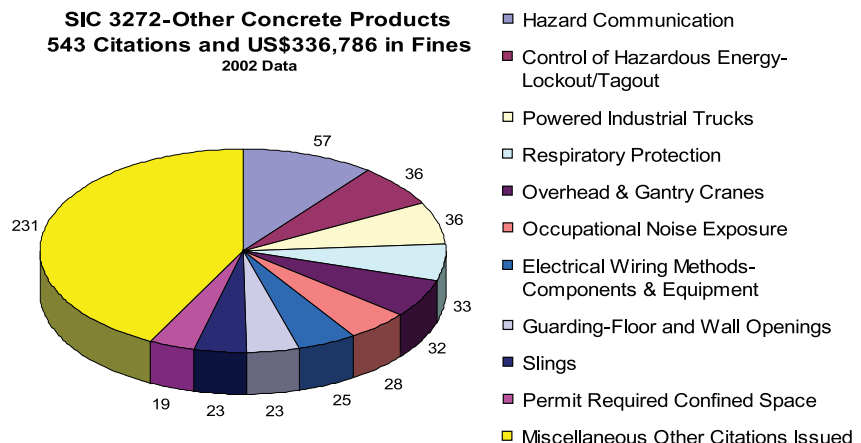
In all three industry segments Hazard Communication was a frequently violated OSHA standard. This topic will be addressed in the next issue of *Concrete Impressions*. Articles about Respiratory Protection and Electrical Wiring Methods—Components and Equipment will follow. Articles about Lockout/Tagout and Permit Required Confined Spaces have previously been addressed, and can be accessed online at [besser.com](http://besser.com).

An ongoing commitment to established safety programs, equipment guarding and engineering controls will help ensure that your facility is an all-around safe workplace. Consult the OSHA web site or your state-sponsored plan web site for specific guidelines on establishing and maintaining a safety program. 

**SIC3271-Concrete Block & Brick**  
228 Citations and US\$117,998 in Fines  
2002 Data



**SIC 3272-Other Concrete Products**  
543 Citations and US\$336,786 in Fines  
2002 Data

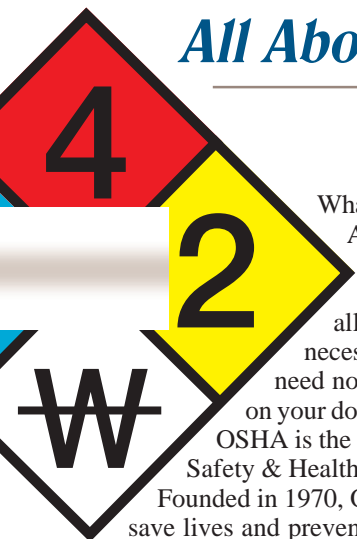


## Reference

[www.OSHA.gov](http://www.OSHA.gov)

by Amy E. Essex

Besser Company Tax and Risk Manager



## What is OSHA?

A force to be reckoned with and avoided at all costs? Not necessarily. You need not fear a knock on your door from OSHA.

OSHA is the Occupational Safety & Health Administration.

Founded in 1970, OSHA works to save lives and prevent accidents in the workplace. Since the founding of OSHA, the workplace death rate has been cut in half and occupational injury and illness rates have declined 40 percent. During the same time, employment in the United States nearly doubled from 56 million workers at 3.5 million work sites to 105 million workers at 6.9 million sites.

## OSHA Structure

In 1999, federal OSHA operated with a staff of more than 2,200 including 1,200 inspectors and a budget of \$382 million. In addition, OSHA-approved programs operate in 25 states including: Alaska, Arizona, California, Connecticut (state and municipal employees only), Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, New York (state and municipal employees only), North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virgin Islands, Virginia, Washington and Wyoming.

At work sites under OSHA jurisdiction, compliance to standards is

enforced through unannounced inspections. Top priorities for OSHA are life-threatening situations, accidents involving deaths, or three or more workers injured severely enough to require hospitalization. Also, high on the list for inspections are employee complaints. Inspections of high hazard industries and work sites with a record of many injuries or illnesses come next. OSHA will also conduct follow-up inspections at companies previously cited for violations.

## Employers' Responsibilities under the OSHA Act

- Providing a safe workplace for employees (the General Duty Clause).
- Preparing and maintaining records of work related injuries and illnesses.
- Communicating information about workplace hazards to employees.
- Complying with all OSHA rules and standards.
- Posting all applicable notices (job safety posters, OSHA workplace injury and illness log).
- Providing personal protective equipment to your employees, where applicable.

## Employees' Rights and Responsibilities under the OSHA Act

- Reviewing copies of appropriate standards, rules, regulations and requirements that the employer should make available at the workplace.

- Requesting information from the employer on safety and health hazards in the workplace.
- Observing any monitoring or measuring of hazardous materials and seeing the resulting records.
- Being informed, by posting, of any citation issued by OSHA as part of an inspection.

Although OSHA does not cite employees for violations of their responsibilities, OSHA states that employees "shall comply with all occupational safety and health standards and all rules, regulations and orders issued under the Act."

Employees' responsibilities include:

- Reading the OSHA posters at the work site.
- Complying with applicable OSHA standards.
- Following all employer safety and health regulations and wearing or using prescribed protective equipment while working.
- Reporting hazardous conditions to the employer.
- Reporting a job-related injury or illness to the employer and seeking treatment promptly.
- Cooperating with the OSHA compliance officer conducting an inspection if he or she inquires about safety and health conditions in the workplace.

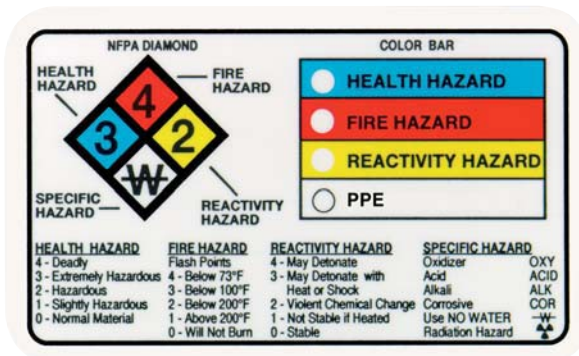
## OSHA's Hazard Communication Standard

More than 30 million workers are potentially exposed to one or more chemical hazards. There are an estimated 650,000 hazardous chemical products in existence today and hundreds of new ones are introduced annually. This poses a serious problem for exposed workers and their employers.

The OSHA Hazard Communication Standard (HCS) includes protection for all workers exposed to hazardous chemicals in all industrial sectors. This standard is based on a simple concept - that employees have both a need and right to know the hazards and the identities of the chemicals they are exposed too. Consequently, the OSHA Hazard Communication Standard is commonly referred to as "Right to

Federal Inspections Fiscal Year 1999 34,342 Inspections			
Number	Percent	Reason for Inspection	
9,196	27	Complaint/accident-related	
15,483	45	High-hazard targeted	
9,663	28	Referrals and follow-ups	
Number	Percent	Industry Sector	
18,614	54	Construction	
8,623	25	Manufacturing	
7,105	21	Other industries	
Violations	Percent	Type	Penalties
646	0.8	Willful	\$24,460,318
50,567	66	Serious	50,668,509
1,816	0.2	Repeat	8,291,014
226	0.3	Failure to abate	1,205,063
408	0.01	Unclassified	3,740,082
23,533	30	Other	1,722,338
77,196	Total		\$90,087,324

State Inspections Fiscal Year 1999 54,989 Inspections			
Number	Percent	Reason for Inspection	
14,644	27	Complaint/accident-related	
31,787	58	High-hazard targeted	
8,558	15	Referrals and follow-ups	
Number	Percent	Industry Sector	
24,661	45	Construction	
11,299	20	Manufacturing	
19,029	35	Other industries	
Violations	Percent	Type	Penalties
441	0.3	Willful	\$12,406,050
57,010	40	Serious	35,441,267
2,162	1.5	Repeat	4,326,620
785	0.5	Failure to abate	2,860,972
46	0.0002	Unclassified	2,607,900
82,120	40	Other	3,631,309
202,962	Total		\$61,274,118



Front

RATING EXPLANATION GUIDE		
HEALTH	FLAMMABLE	REACTIVE
Recommended Protection	Susceptibility to Burning	Susceptibility to Energy Release
4 Special full protective suit and breathing apparatus must be worn	4 Very flammable	4 May detonate under normal conditions
3 Full protective suit and breathing apparatus should be worn	3 Ignites under normal temperature conditions	3 May detonate with shock or heat
2 Breathing apparatus with full face mask should be worn	2 Ignites with moderate heating	2 Violent chemical change but does not detonate
1 Breathing apparatus may be worn	1 Ignites when preheated	1 Not stable if heated use precautions
0 No precautions necessary	0 Will not ignite	0 Normally stable

Back

The front of the card shows both the NFPA and HMIS labeling systems. The back of the card explains the hazard numbering system (which is the same for either system). Cards like these are available from most safety supply catalogs.

Know.” Workers also need to know what protective measures are available to prevent adverse effects from occurring. OSHA predicts that proper implementation of the HCS will result in a reduction of illnesses and injuries caused by chemicals.

The HCS establishes uniform requirements to ensure that the hazards of all chemicals imported into, produced or used in the United States’ workplaces are evaluated. This hazard information must be transmitted to affected employers and exposed employees. Chemical manufacturers and importers must convey hazard information to employees through container labels and material safety data sheets (MSDSs). In addition, all covered employers must have a hazard communication program to inform employees.

Labels contain information relating to the health hazards, fire hazards and reactivity hazards associated with a chemical substance. Labels can also indicate what personal protective equipment is appropriate to use when in contact with the substance.

There are two types of labeling systems in common use. The National Fire Protection Association (NFPA) uses a “diamond” system to show the health hazard, fire hazard, reactivity hazard and any specific hazard inherent in a product. The Hazard Material Identification System (HMIS) also shows the health, fire and reactivity hazard of a product, but instead of showing other specific hazards, it includes a spot to show what personal protective equipment (PPE) should be used when handling the product. Either system can be used, but it is best to choose one and use it consistently.

MSDSs include information on the manufacturer, the hazardous ingredients, physical/chemical characteristics, fire and explosion hazard data, reactivity data, health hazard data, precautions for safe handling and use and hazard control measures.

## Training, Training, Training

What is the most common theme at OSHA these days? You guessed it: TRAINING. Training is the common thread running through most of the OSHA standards.

Determining what training is required can be a mind-boggling task. OSHA offers some guidelines in this area in the form of a seven-step process:

1. Determine if training is needed.
2. Identify training needs.
3. Identify goals and objectives.
4. Develop learning activities.
5. Conduct training.
6. Evaluate program effectiveness.
7. Improve the program.

Part 2 of this OSHA series of safety articles will address the topic of training in depth.

## The OSHA General Duty Clause

Once an employer has reviewed and complied with all OSHA standards, common sense says that employers should be safe from any inspection-related penalties. However, OSHA has thrown a catch-all into the mix. Under the General Duty Clause, “Each employer shall 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 physical harm to his employees.” OSHA inspectors have applied the General Duty Clause to issues such as (but not limited to) workplace violence, ergonomics (soon to be a standard of its own) and indoor air quality.

In general, you must keep the workplace safe from hazards, even if the hazards are not specifically spelled out in an OSHA standard.

## What is OSHA up to today?

The proposed new ergonomics standard is a top priority.

Musculoskeletal disorders account for one-third of all serious injuries and one-third of workers’ compensation costs. Preventing these injuries is a top priority for OSHA. The standard has not been released yet but it is expected soon. What does this new standard mean for you as an employer? It will undoubtedly mean reevaluating the conditions under which employees work and how job functions are performed. It may mean changing work stations and the way employees do their jobs.

Three other serious safety and health problems that OSHA is currently focusing on are: Silicosis, amputations and lead poisoning. In the concrete products industry, Silicosis and amputations are common problems.

## Conclusion

The primary goal of OSHA is to ensure safe and healthful conditions for every American worker. All of the agency’s enforcement, educational and partnership efforts seek to reduce the number of occupational injuries, illnesses and deaths.

OSHA prides itself on being “the new OSHA.” They claim their emphasis is on results - not red tape. Inevitably, you will have some interface with OSHA at some point. Keep an open mind, take steps to protect your company, but most importantly, work to make the OSHA interface a beneficial experience for your company.

*Editor’s Note: Amy Essex has expanded her responsibilities to include risk management for the Besser Family of Companies and corporate-wide tax planning.*

## Resources

State or regional OSHA offices - contact OSHA at (202) 693-1999 for help finding the correct office to contact.

## References

Occupational Safety and Health Administration (OSHA) web site: [www.osha.gov](http://www.osha.gov).

*Editor's Note - In this article "OSHA" and "OSHA Compliance Officer" refer to the Federal OSHA. Your state may have its own state-approved OSHA programs and these guidelines may vary slightly.*

The best way to be prepared for an OSHA inspection is to continually stress the importance of safety in the workplace. Management and employees must be committed to safety. An effective safety program must be in place that holds one person responsible for implementing and monitoring the program.

The following guidelines will help you through an inspection.

## ***Authority to Inspect***

OSHA is authorized under the Occupational Safety & Health Act to conduct workplace inspections. Every establishment covered by the Act is subject to inspection by OSHA compliance safety and health officers. Similarly, states with their own occupational safety and health programs conduct inspections using qualified compliance officers.

Under the Act, "upon presenting appropriate credentials to the owner, operator or agent in charge," an OSHA compliance officer is authorized to:

1. "Enter without delay and at reasonable times any factory, plant, establishment, construction site or other areas, workplace, or environment where work is performed by an employee or an employer" and to
2. "Inspect and investigate during regular working hours, and at other reasonable times, and within reasonable limits and in a reasonable manner, any such place of employment and all pertinent conditions, structures, machines, apparatus, devices, equipment and materials therein, and to question privately any such employer, employee, owner, operator or agent."

## ***What to Do When OSHA Comes Knocking***

Common questions asked by many employers are, "What rights does OSHA have when entering my business?" and conversely, "What rights and responsibilities do I have as a business owner when OSHA comes knocking at my door?"

In general you will not receive advance notification of an OSHA inspection. Employers should always insist upon seeing the OSHA compliance officer's credentials, who should readily agree to this request. In extreme cases you may wish to request a search warrant from the compliance officer before allowing entrance into your facility. By law, OSHA is required to have a search warrant to enter your premises; however, requiring OSHA to secure a search warrant could create an adversarial relationship between your company and OSHA. You may want to request this only in the case where a fatality or serious injury occurred that can result in criminal actions.

## ***The Inspection Process***

### *Arrival of the Compliance Officer*

A designated individual from the company should greet the compliance officer and check the credentials. In rare cases when a search warrant seems necessary or prudent, verify that the search warrant is valid.

### *Opening Conference*

This conference is your chance to get more information regarding the inspection. The compliance officer should explain the purpose of the visit, the scope of the inspection and the standards that apply. If the inspection is the result of an employee complaint, you have a right to see a copy of the complaint, although you will probably not be shown the name of the complaining employee.

An authorized employee representative is also given the opportunity to attend the opening

conference and to accompany the compliance officer during the inspection. An employee union or a plant safety committee (in the absence of a union) can designate the authorized employee. Where neither employee group exists, the employee representative may be selected by the employees themselves, or the compliance officer will determine if any employee suitably represents the interests of the other employees. Under no circumstances may the employer select the employee representative for the walk-around.

The Act does not require that there be an employee representative at each inspection. When there is no authorized employee representative, however, the compliance officer must consult with a reasonable number of employees concerning safety and health matters in the workplace; such consultations may be held privately.

***Ways to protect your  
rights and maintain a cordial  
relationship with  
the OSHA inspector***

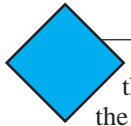
The OSHA compliance officer may ask to see reports of work-related accidents or injuries (your OSHA log). Also, be prepared to show the compliance officer your hazard communication program, lockout/tagout program, a general safety program and other records relating to the safety of your employees.



#### Walk-through

The compliance officer determines the route and duration of the inspection. While talking with employees, the compliance officer should make every effort to minimize work interruptions. The compliance officer will observe conditions, consult with employees, take photos (for record purposes), take instrument readings if necessary and examine records.

An OSHA inspection is an evidence gathering process. Prepare to document the entire inspection.



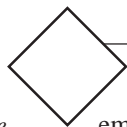
#### Closing Conference

During the closing conference the compliance officer and the employee representative will discuss with the employer all unsafe or

unhealthful conditions observed during the inspection. The compliance officer will indicate all apparent violations for which a citation may be issued or recommended. At this time, the employer is also told of appeal rights. The compliance officer will not indicate any proposed penalties since only the OSHA area director has that authority.

As the employer, you should be given a chance to discuss these violations and present your side of the case. You may wish to produce records which document compliance efforts and provide information which can help OSHA determine how much time may be needed to abate an alleged violation.

A closing conference may also be held with the employees or their representative, if requested, to discuss matters of direct interest to employees.



#### Post Inspection

Gather your notes and photos into a file. Follow-up with any employees who were interviewed by the OSHA compliance officer. If the employee has signed a statement, you are entitled to receive a copy of that statement for your file.

## **Conclusion**

Above all, remember that the compliance officer is at your facility because there is a question (whether unfounded or not) about the safety of your employees. Cooperation between you and the officer will result in a safe working environment for employees. The goal is to rectify unsafe conditions with minimal or no penalty imposed on your company.

## **Resources**

State or regional OSHA offices - contact OSHA at (202) 693-1999 for help finding the correct office to contact.

## **References**

Occupational Safety and Health Administration (OSHA) web site: [www.osha.gov](http://www.osha.gov).

- ✓ Ask the compliance officer the purpose of the visit. Is this a wall-to-wall inspection or the result of a complaint against the company? If the inspection is the result of a complaint, the compliance officer should only inspect the specific machine or process involved in the complaint.
- ✓ Never leave the compliance officer alone in the plant. Stay with him/her during the entire visit.
- ✓ The compliance officer is allowed to speak privately to your employees. Allow enough space between you and the compliance officer so he/she

can speak privately, but stay in sight range of the the compliance officer.

- ✓ Taking still photos is acceptable, but as a general rule, do not allow the compliance officer to take video footage. If the compliance officer takes a photo of something, you should take your own photo.
- ✓ If the compliance officer requests documents, get the copies for him/her. Do not let the compliance officer browse through documents at will. Also, keep a file that contains a copy of all documents provided to the compliance officer during the course of an inspection.

- ✓ Listen carefully to questions asked by the OSHA compliance officer. Answer honestly, but answer only the question asked – do not volunteer additional information.
- ✓ Never try to guess, surmise or presume what the OSHA compliance officer is asking, if you are unsure ask for clarification. Make sure that you have a clear understanding of what is being asked before you answer the question.
- ✓ If the compliance officer takes notes - ask what he/she is writing and take your own notes.

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*Editor's Note - In this article "OSHA" and "OSHA Compliance Officer" refer to the Federal OSHA. Your state may have its own state-approved OSHA programs and these guidelines may vary slightly.*

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Previous issues of Besser Block discussed OSHA in general and what occurs during an OSHA inspection. This issue discusses the OSHA citation, appeal and settlement processes.

### OSHA Citations

After the compliance officer reports the findings from his/her visit to your facility, the OSHA area director determines if citations will be issued and if penalties will be proposed.

Citations indicate the alleged regulations and standards violated and the proposed length of time set for abatement. The employer receives citations and notices of proposed penalties by certified mail. The employer must post a copy of each citation at or near the place where a violation occurred, for three days or until the violation is abated, whichever is longer.

### The Appeal Process

1. Abatement Period - When a citation is issued, a date is set by which the OSHA violation must be corrected. The citation specifies the abatement date.
2. Appeals by Employees - If an inspection was initiated due to an employee complaint, the employee or an authorized employee representative may request an informal review of an OSHA decision NOT to issue a citation. However, employees MAY NOT contest citations, amendments to citation, penalties or lack of penalties. Also, employees may request an informal conference with OSHA to discuss issues raised by an inspection, citation, notice of proposed penalty or employer's Notice of Contest.
3. Appeals by Employers
  - a. Request for Informal Hearing - When issued a citation, notice or

proposed penalty, an employer may request an informal meeting with the OSHA area director to discuss the case. The informal hearing should take place within the 15 working day contest period discussed later in this article. Employee representatives may be invited to attend the meeting. The OSHA area director is authorized to enter into settlement agreements that revise citations and penalties to avoid prolonged legal disputes.

b. Petition for Modification of Abatement - Upon receiving a citation, the employer must correct the cited hazard by the prescribed date unless he or she contests the citation or abatement date. If the abatement cannot be accomplished within the prescribed time, an employer can file a Petition for Modification of Abatement (PMA). The PMA must be filed in writing with the OSHA area director who originally issued the citation by the working day following the abatement date.

A PMA should specify all steps taken to achieve compliance to date, the additional time needed to achieve complete compliance, the reason(s) additional time is needed, and steps being taken to safeguard employees against the cited hazard during the intervening period. Also, the employer must state that a copy of the PMA was posted in a conspicuous place at or near each place where a violation has occurred and that the employee representative (if there is one) has received a copy of the petition.

c. Notice of Contest - If an employer decides to contest either the citation, the time set for abatement, or the proposed penalty, he/she has 15 working days from the time the citation and proposed penalty are received in which to notify the OSHA area director. The Notice of Contest MUST be in writing. There is no special format for the Notice of Contest however, it must identify the employer's reason for contesting the citation, notice of proposed penalty, abatement period, or notification of

failure to correct violations.

A copy of the Notice of Contest must be given to the employee representative. If affected employees are not represented by a recognized bargaining agent, a copy of the notice must be posted in a prominent location in the workplace or given personally to each unrepresented employee.

### OSHA Review Procedure

If the written Notice of Contest has been filed within the required 15 working days, the OSHA area director forwards the case to the Occupational Safety and Health Review Commission (OSHRC). The commission is an independent agency not associated with OSHA or the Department of Labor. The Commission assigns the case to an administrative law judge.

The judge may disallow the contest if it is found to be legally invalid or a hearing may be scheduled at a public

### Types of Violations and Potential Penalties ▶

place near the employer's location. The employer and the employees have the right to participate in the hearing. Although not required, having an attorney present may be advisable.

Once the administrative law judge has ruled, any party to the case may request further review by OSHRC. An OSHRC commissioner may also bring a case for review.

### *Appeals in State Plans*

States with their own occupational safety and health programs have a system to review and appeal citations, penalties and abatement periods. The procedures are generally similar to those of the Federal OSHA. However, a state review board or equivalent authority hears cases. If you are located in a state with a state plan, familiarize yourself with the appeal process in that state.

### *Settlement of Cases*

1. OSHA area directors have guidelines to negotiate settlement agreements, except for in extreme cases, or cases which affect other jurisdictions:

**a.** The area director can enter into a Formal Settlement Agreement after the employer has filed a written Notice of Contest.

**b.** Area directors are authorized to change abatement dates, to reclassify violations (e.g. willful to serious, serious to other-than-serious) and to modify or withdraw a penalty, a citation or citation item if the employer presents evidence during the informal conference which convinces the area director that the changes are justified.

2. Pre-Contest Settlements (Informal Settlement Agreements) occur during or immediately following the informal conference and prior to the completion of the 15 working day contest period. If a settlement is reached during the informal conference, an Informal Settlement Agreement is prepared and the employer representative is invited to sign it. The settlement becomes effective once signed by the area director and the employer representative.

3. Post-Contest Settlements (Formal Settlement Agreements) occur before the complaint is filed with the Review Commission. After an employer files a Notice of Contest, the area director notifies the regional solicitor if a settlement with the employer is forthcoming.

4. Corporate-Wide Settlements can be entered into under special circumstances. In these settlements, the employer formally recognizes cited hazards and accepts the obligation to seek out and abate those hazards throughout all workplaces under the employer's control.

### *Conclusion*

Above all, remember that the compliance officer is at your facility because there is a question (whether unfounded or not) about the safety of your employees. The objective is to cooperate with the compliance officer to create a safe place for your employees to work. If unsafe conditions exist, the ideal goal is to rectify the unsafe conditions with minimal or no penalty imposed on your company.

### *Resources*

State or regional OSHA offices - contact OSHA at (202) 693-1999 for help finding the correct office to contact.

### *References*

Occupational Safety and Health Administration (OSHA) web site: [www.osha.gov](http://www.osha.gov).

#### ✓ **Other than Serious Violation**

A violation that has a direct relationship to job safety and health, but probably would not cause death or serious physical harm. OSHA can impose a penalty of up to US \$7,000 for this category of violation, which can be adjusted downward by as much as 95% based on the employer's good faith efforts to comply with standards, history of previous violations and size of business.

#### ✓ **Serious Violation**

A violation where there is a substantial probability that death or serious physical harm could result and that the employer knew, or should have known, of the hazard. A mandatory penalty of up to US \$7,000 for each violation is proposed, which can be adjusted as described above.

#### ✓ **Willful Violation**

A violation that the employer knowingly commits or commits with plain indifference to the law. The employer either knows that what he or she is doing constitutes a violation or is aware that a hazardous condition existed and made no reasonable effort to eliminate it. Penalties of up to US \$70,000 may be proposed for each willful violation with a minimum penalty of US \$5,000 for each violation. A proposed penalty for this type of violation can be adjusted downward depending on the size of the business and the history of previous violations. Typically no credit is given for good faith.

#### ✓ **Repeated Violation**

A violation that is substantially similar to a violation for which the employer has previously been issued a citation. The fine for this type of violation can be up to US \$70,000 and will not normally be adjusted.

#### ✓ **Failure to Abate Prior Violation**

Failure to abate a prior violation may bring a civil penalty of up to US \$7,000 for each day the violation continues beyond the prescribed abatement date.

#### ✓ **De Minimis Violation**

A violation of a standard which has no direct or immediate relationship to safety or health. These violations are documented the same way as other violations, but no citation is issued.

*The Occupational Safety and Health Administration (OSHA) does not have a general standard mandating safety and health training. However, OSHA does recognize that a general training program is essential to the workplace. Training can make employees more competent and better qualified to perform job assignments.*

*It is important to teach employees about job specific safety hazards and*

*proper work practices. Trained employees are less likely to be injured on the job, which results in fewer workplace injuries. Many OSHA standards make it the employer's responsibility to limit certain job assignments to employees who are "certified", "competent" or "qualified" by means of completing special training.*

*OSHA has developed a training model that employers can follow for designing, conducting, evaluating and revising training programs. These guidelines are not currently mandatory but are a good source of information. Remember safety and health programs are not "one size fits all." OSHA encourages employers to personalize training to best suit their needs.*

## The OSHA Training Model

### *Determining if Training is Necessary*

If a problem exists in the workplace, the first step is to determine whether the problem can be remedied through training. Problems that can be remedied include those that arise from lack of knowledge of a work process, unfamiliarity with equipment or incorrect execution of a task. An employee's lack of motivation or lack of attention to the job can also be addressed through training.

Sometimes, the problem is not an issue of a lack of knowledge or skill level, but rather an inherent hazard in the workplace. These hazards should be corrected through other avenues.

### *Identifying Training Needs*

If the problem in the workplace can be remedied through training, the next step is determining the type of training that is needed. The question to ask is, "What is the employee expected to do and in what ways, if any, is the employee's performance deficient?" A job analysis can be used to determine the answer and the goal of the training. OSHA Publication 3071 includes information on "How to Conduct a Job Hazard Analysis." This is a process that records each step of a job, identifies existing or potential hazards and determines the best way to perform the job in order to reduce or eliminate the risks inherent in the job. Employees are often an excellent source of determining what problems exist and how to solve them.

### *Identifying Goals and Objectives*

After determining what kind of training is needed, the goals and objectives for the training need to be addressed. Objectives do not necessarily have to be written but they must be clear, measurable and well communicated. The objectives should tell the employee what the employer wants him/her to do, to do better or to stop doing.

### *Developing Learning Activities*

The next step is identifying and describing the learning activities to meet the training objectives. These activities will provide skills needed by the employee to perform job assignments properly. The activities should, as closely as possible, simulate the employee's actual job and can include lecture, role-play, demonstrations or self-instruction.

### *Conducting the Training*

Prior to conducting the training, the employee should be convinced of the importance and relevance of the materials. Providing specific examples or demonstrations that are relative to an employee's specific job function are helpful. Since hands-on learning can be very effective, employee involvement is crucial in the training process. Employees should be allowed and encouraged to ask questions, contribute their knowledge and expertise and become involved in demonstrations and role-playing.

### *Evaluating Program Effectiveness*

When creating a training program, a method for measuring and evaluating the effectiveness of the program should also be developed. Once the training has been conducted, this evaluation should take place to ensure that the program met the goals and objectives. The evaluation can be a combination of the employee's opinions of the program, supervisor observations of the employee's post-training performance and demonstrated workplace improvements.

### *Improving the Program*

If the program did not give the employee the level of skill and knowledge anticipated, it should be revised. It may be helpful to survey the employee trained to get input as to why the training may have failed to meet the objectives. All aspects of the design and implementation of the program should be reviewed, beginning with the job analysis, to determine where the program is deficient.

### *Specific Training Required by OSHA Standards*

As mentioned earlier, OSHA advocates but does not mandate training for employees. OSHA does, however, require training in specific areas. A sample of some of the areas that may apply to concrete products production facilities is shown in Figure 1. The list refers to OSHA standards that contain specific training requirements. Each producer must determine which OSHA standards apply to his or her plant.

Figure 1

## OSHA Standard Title

Employee Emergency Plans and Fire Prevention Plans	1910.38
Hearing Protection	1910.95
Flammable and Combustible Liquids	1910.106
Personal Protective Equipment	1910.132
Respiratory Protection	1910.143
Specifications for Accident Prevention Signs and Tags	1910.145
Permit Required Confined Spaces	1910.146
The Control Of Hazardous Energy (lockout/tagout)	1910.147
Medical Services and First-Aid	1910.151
Fire Protection	1910.155
Fire Brigades	1910.156
Portable Fire Extinguishers	1910.157
Fixed Extinguishing Systems	1910.160
Fire Detection Systems	1910.164
Employee Alarm Systems	1910.165
Powered Industrial Trucks	1910.178
Bloodborne Pathogens	1910.1030
Hazard Communication	1910.1200

Citation Number

2. Your workers' compensation insurance carrier. Many times they will be able to provide or recommend training to improve the skill of your workforce and reduce the number of work-related injuries.
3. The internet is a great place to search. There are many safety programs that can be purchased inexpensively and then modified to fit your specific needs.

### Sources of Training Information

Are you ready to take the next step, but not sure how to proceed? An effective training program does not require a professional trainer or expensive training materials. There are many sources of training materials available. A good place to start is the OSHA web site, [www.osha.gov](http://www.osha.gov). The OSHA web site allows you to download and print "Training Requirements in OSHA Standards and Training

Guidelines," which is the reference source for this article. Some of the information contained in the guidelines is industry specific (e.g. a section relating specifically to Shipyard Employment), but most of the publication relates to general industry training issues. Other sources for training assistance:

1. Your state OSHA (if you are in a state with a State Approved Plan).

### Reference

Herman, Alexis M., and Jeffress, Charles N. (1998). Training Requirements in OSHA Standards and Training Guidelines, U.S. Department of Labor, Occupational Safety and Health Administration. OSHA Publication 2254. Available: [www.osha-slc.gov/OshDoc/Additional.html](http://www.osha-slc.gov/OshDoc/Additional.html).

# Safety:

# Personal Protective Equipment

Personal protective equipment (PPE) is an integral part of any safety program. Every program should include an in-depth evaluation of the PPE needed to guard against workplace hazards. A standard operating procedure should be developed which includes the proper training of employees on the limitations, correct use and maintenance of PPE.

## Identify Hazards

The first step is to determine the need for PPE. Walk through the workplace and identify potential sources of hazards:

- Motion – machinery or processes where any movement of equipment or particles could exist, or movement of employees could result in collision with stationary objects
- High temperatures that could result in burns, eye injury or ignition of PPE
- Chemical exposure
- Harmful dust
- Light radiation
- Falling objects or potential for dropping objects
- Sharp objects which might pierce
- Rolling or pinching objects
- Electrical hazards

## Organize and Analyze Data

After the walk-through is completed, organize and analyze your findings and include any injury/accident data. This will assist you in selecting the proper PPE.

- Compare the hazards found in the workplace and the tasks performed by employees with the capabilities of various PPE.
  - The durability of PPE materials, such as tear and seam strength, should be considered in relation to the hazard and the task.
  - Keep in mind that certain PPE will protect against some hazards but not against others.
- Choose PPE that provides more protection than the minimum required.
- Match the user with the appropriate PPE and make sure the equipment fits properly.
- Provide instructions on the use, maintenance and limitations of the PPE.
- Reassess the workplace on a regular basis to determine if the chosen PPE still protects from the hazard.

## Levels of Protection

There are four categories of PPE based on the degree of protection. Level A requires the most protection while Level D requires the least.

**Level A protection** should be used when:

- The hazardous substance has been identified and requires the highest level of protection for skin, eyes and the respiratory system based on whether the measured (or potential for) high concentration of atmospheric vapors, gases, or particulates exists; or the operations and work functions involve a high potential for splash, immersion, or exposure to unexpected vapors, gases, or materials that are harmful to skin or capable of being absorbed through the skin.
- Substances with a high degree of hazard to the skin are known or suspected and skin contact is possible.
- Operations must be conducted in confined, poorly ventilated areas and the absence of conditions requiring Level A protection have not yet been determined.

Level A protection includes (when appropriate):

- Positive pressure, full-face piece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA, approved by the National Institute for Occupational Safety and Health (NIOSH).
- Totally encapsulating chemical-protective suit
- Coveralls
- Long underwear
- Gloves, outer, chemical-resistant
- Gloves, inner, chemical-resistant
- Boots, chemical-resistant, steel toe and shank
- Hard hat (under suit)
- Disposable protective suit, gloves and boots (depending on suit construction, may be worn over totally encapsulating suit)

**Level B protection** should be used when:

- The type and atmospheric concentration of substances have been identified and require a high level of respiratory protection, but less skin protection.
- The atmosphere contains less than 19.5 percent oxygen.
- The presence of unidentified vapors or gases is indicated by a vapor detection instrument, but are not suspected of containing high levels of chemicals harmful to skin or capable of being absorbed through the skin.

Level B involves atmospheres with IDLH (“Immediately Dangerous to Life and Health”) concentrations of specific substances that present severe inhalation hazards and that do not represent a severe skin hazard; or that do not meet the criteria for use of air-purifying respirators.

Level B protection includes (when appropriate):

- Positive pressure, full-face piece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved)
- Hooded chemical-resistant clothing (overalls and long-sleeved jacket, coveralls, or one or two-piece chemical-splash suit, disposable chemical-resistant overalls)
- Coveralls
- Gloves, outer, chemical-resistant
- Gloves, inner, chemical-resistant
- Boots, outer, chemical-resistant steel toe and shank
- Boot covers, outer, chemical-resistant (disposable)
- Hard hat
- Face shield

**Level C protection** should be used when:

- Atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect or be absorbed through the skin.
- Air contaminants have been identified, concentrations measured, and an air-purifying respirator is available that can remove the contaminants.
- All criteria for the use of air-purifying respirators are met.

Level C protection includes (when appropriate):

- Full-face or half-mask, air purifying respirators (NIOSH approved)
- Hooded chemical-resistant clothing (overalls, two-piece chemical-splash suit, disposable chemical-resistant overalls)
- Coveralls
- Gloves, outer, chemical-resistant
- Gloves, inner, chemical-resistant
- Boots (outer), chemical-resistant steel toe and shank
- Boot covers, outer, chemical-resistant (disposable)
- Hard hat
- Escape mask
- Face shield

**Level D protection** should be used when:

- The atmosphere contains no known hazards.
- Work functions preclude splashes, immersion, or the potential for unexpected inhalation of or contact with hazardous level of any chemicals.

Level D protection includes (when appropriate):

- Coveralls
- Gloves
- Boots/shoes, chemical-resistant steel toe and shank
- Boots, outer, chemical-resistant (disposable)
- Safety glasses or chemical splash goggles
- Hard hat
- Escape mask
- Face shield

The use of PPE alone cannot protect employees from harm. PPE must be used in conjunction with established workplace safety programs, equipment, guarding and engineering controls to ensure that your facility is an all-around safe workplace.

**Reference**

OSHA - “Non-mandatory Compliance Guidelines for Hazard Assessment and Personal Protective Equipment Selection” (1910 Subpart I, Appendix B).

# Hearing Conservation Strategies

Work-related hearing loss is one of the most critical occupational health problems according to the Occupational Safety and Health Administration (OSHA). Prolonged exposure to high levels of noise can cause temporary or permanent hearing loss.

OSHA has established a hearing conservation program to assist in combating this occupational health problem. The program is designed to protect workers with significant occupational noise exposures from suffering material hearing impairment even if they are subject to such noise exposure over their entire working lifetime.

The OSHA hearing conservation program contains the following components:

## Monitoring

- Employers are required to monitor noise levels and identify employees exposed to noise at or above 85 decibels (dB) averaged over 8 working hours or an 8 hour time-weighted average (TWA)
- The exposure measurement must include all noise within an 80 dB to 130 dB range
- Instruments that are used for noise measurement must be calibrated to ensure accuracy
- Noise monitoring must be repeated if there is a change in noise levels

## Audiometric Testing

- Employers must develop and maintain a program that includes a baseline hearing test (audiogram), annual audiograms, training and follow-up
- The testing must be performed at no cost to employees who are exposed to a minimum level of 80 dB over an 8 hour period or 8 hour TWA (action level)
- A licensed or certified technician must perform the actual testing

- The baseline audiogram must be performed within 6 months of an employee's first exposure at or above an 8 hour TWA of 85 dB
- Employees should have 14 hours of non-exposure to workplace noise prior to the baseline testing
- Annual audiograms must be conducted for employees at or above the action level

## Audiogram Evaluation

- Annual audiograms must be compared to the baseline results to determine if the employee must be fitted or refitted with hearing protectors
- Employees must be shown how to properly wear the hearing protection and must be required to wear them at work

## Hearing Protectors

- Hearing protectors must be made available to all employees exposed to an 8 hour TWA noise level of 85 dB or above
- A person trained in fitting hearing protectors should assist the employer in selecting appropriate hearing protection
- Hearing protection should be comfortable to wear and should also be effective in preventing hearing loss

## Training

- Employees need to understand the effects that prolonged exposure to high levels of workplace noise can have on their hearing and general health

## PERMISSIBLE NOISE EXPOSURE LEVELS

<u>Duration (hours)</u>	<u>Noise Level</u>
8 .....	85 dB
6 .....	87 dB
4 .....	90 dB
3 .....	92 dB
2 .....	95 dB
1.5 .....	97 dB
1 .....	100 dB
0.5 .....	105 dB

The typical block plant employee is exposed to a variety of noise levels, as shown below:

Concrete Products Machine Operator .....	102 dB
Mixer Operator .....	99 dB
Cuber Operator .....	98 dB
Fork Lift Operator .....	94 dB

- Employees exposed to an 8 hour TWA of 85 dB and above must be trained annually in the following:
  - Effects of noise
  - Purpose, advantages, and disadvantages of various types of hearing protectors
  - Selection, fit and care of hearing protectors
  - Purpose and procedures for audiometric testing

### Recordkeeping

- Employers must keep noise exposure measurement records for a minimum of two years
- Records of audiometric testing must be kept for the duration of employment of the affected employee

Removing hazardous noises from the workplace through engineering controls is the most effective way to prevent noise induced hearing loss. Hearing protectors such as ear muffs and ear plugs should be used when workplace noise is above a safe level. Effective noise control strategies for block plants include:

- Hearing Protectors
  - Ear muffs
  - Ear plugs
- Sound absorbing materials on the walls or ceiling of the block plant
- Operator location
  - Position the operators in designated areas throughout the plant to best protect them from prolonged noise exposure, while still allowing them to perform job functions
  - Reduce the number of operators by automating block plant equipment

- Quieter equipment
  - SmartPac® vibration is quieter than standard vibration by approximately 5 dB
  - Electro-mechanical devices are quieter than hydraulic power units
  - Vibration isolators
  - Pallet receiver rubbers
  - Rubber covered pallet placing fingers
  - Non-metallic mold locks

- Proper machine maintenance to avoid unnecessary noises

- Compartmentalize the following functions:

- Raw material handling
- Production
- Curing
- Packaging
- Maintenance

- Sound Enclosures

- Concrete masonry walls
- Insulated plywood partitions
- Pre-manufactured insulated panels

Consult the OSHA web site or your state-sponsored plan web site for specific guidelines on establishing and maintaining a hearing conservation program.

### References

OSHA Regulation 1910.95  
"Occupational Noise Exposure"  
OSHA Publication 3074  
"Hearing Conservation"  
National Institute for Occupational  
Safety and Health (NIOSH)

## COMMON NOISE EXPOSURES

Whisper	30 dB
Normal Conversation	60 dB
Ringling Telephone	80 dB

(Exposures at or above 85 dB may cause hearing loss)

Hair Dryer	90 dB
Power Lawn Mower	90 dB
Belt Sander	93 dB
Tractor	96 dB
Hand Drill	98 dB
Impact Wrench	103 dB
Bulldozer	105 dB
Spray Painter	105 dB
Continuous Miner	108 dB
Chain Saw	110 dB
Pneumatic Percussion Drill	119 dB
Ambulance Siren	120 dB
Jet Engine Takeoff	140 dB
12-Gauge Shotgun	165 dB
Rocket Launch	180 dB
Loudest Tone Possible	194 dB

SOURCE: National Institute for Occupational Safety and Health (NIOSH) General Estimates of Work Related Noises

# Safety Bulletin

Volume One  
September 2000

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**BESSER**

# Safety Basics

by  
Amy E. Essex  
Tax & Risk Manager

The importance of safety in the design, operation, maintenance and repair of equipment is in the public eye now more than ever before. In the last decade Federal, State and International Safety and Health Standards have become increasingly stringent. For instance, during this time the adoption of the Occupational Safety and Health Administration (OSHA) Lockout/Tagout Standard, the ANSI-Z535.4 Standard for safety signs and decals, and European Union requirements for equipment sold in Europe and the United Kingdom have been instituted.

Safety is important not only because governmental agencies are imposing harsher requirements and stricter penalties for failure to meet those requirements, but because employees are a company's most important asset and deserve to be protected from hazards. There are numerous ways to protect employees. This article will address the following necessary components of a plant safety program:

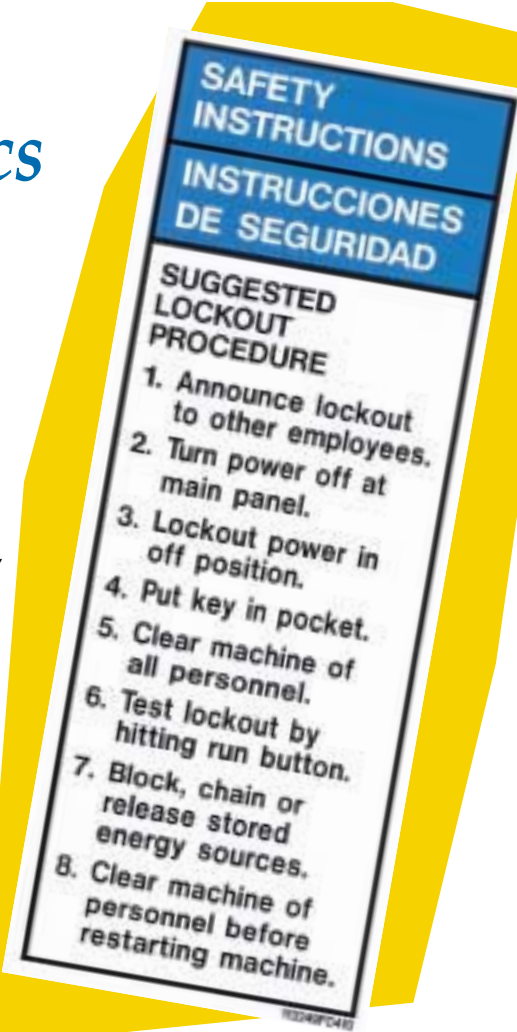
- 1) The Safe Work Environment;
- 2) The OSHA Lockout/Tagout Standard; and
- 3) Pictorial Warnings.

## The Safe Work Environment

The most important benefit an employer can provide to employees is a safe work environment, which, in fact, is required by law. The most important measure that employees can do for themselves and for the company is to follow the safe work practices and procedures each plant develops.

### ELEMENTS OF A SAFE WORK ENVIRONMENT:

- Proper guarding is in place for all pinch, shear, crush and nip points.
- A written lockout/tagout procedure is in place.
- Employees are trained in safety.
- The work area is free from slipping and tripping hazards.



- Equipment is *not modified without written approval* of the manufacturer.
- *Proper maintenance* is performed on the equipment.
- The operation or repair of equipment by *untrained personnel* is never allowed.

### SAFE WORK PRACTICES AND PROCEDURES:

- Follow the *written lockout / tagout procedure*.
- Make sure your fellow workers are *clear of equipment* before starting it.
- Be sure you use the *appropriate safety devices* when providing maintenance and repairs to any piece of equipment.
- Always be sure equipment is *properly grounded*.
- Always wear *appropriate protective equipment* like safety glasses, safety shoes, hearing protection, hard hats, etc.
- Never operate any equipment while any part of your body is in the proximity of *potentially hazardous areas*.

- *Never climb or stand* on any equipment while it is operational.
- Never exceed the *rated capacity* of a machine or tool.
- Never operate any equipment if *unusual or excessive noise or vibration* occurs.

## OSHA Lockout/Tagout Standard (29 CFR 1910.147)

Lockout/tagout is one of the least expensive and least complicated OSHA standards with which to comply, yet in many industries it is the most cited OSHA violation. Violation of the lockout/tagout standard usually involves the employer not having a formal written lockout/tagout program in place or not conducting training for employees. Recently, a Besser customer was visited by the OSHA department in their state, resulting in the assessment of several fines, one of which related to failure to "develop, document, and utilize procedures for the control of potentially hazardous energy when employees are engaged in service or maintenance of machines or equipment where unexpected energization, start-up or release of stored energy could occur and cause injury." This particular company was fined US \$600 for this violation, but the fines can be as high as US \$10,000.

The OSHA Lockout/Tagout Standard was developed in 1990 to prevent the accidental release of energy from equipment. The OSHA standard establishes the minimum requirements for lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment. The procedure should be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources and locked out before employees perform any servicing or maintenance where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury. If the lockout procedure is not followed, severe injury or death can result. Representatives of OSHA have stated that compliance with the standard could prevent as many as 120 deaths and 60,000 accidents yearly.

Shown above is a suggested lockout procedure decal available

from Besser Company. This decal should be placed on all machines and electrical panels. The decal will enable employees to refer to the lockout procedure rather than having to memorize the procedure. *However*, do not substitute the decal for a written lockout/tagout procedure and training program. The decal is meant to be an aid to a formal procedure,

did not have a uniform standard or guideline for designing product safety signs and decals. Most manufacturers either developed their own warning designs, borrowed the OSHA designs for environmental and facility safety signs, or purchased generic warning signs from safety sign companies. The result was a multitude of

mailing, Besser customers were urged to retrofit their equipment with these labels. These pictorial warning decals are designed in accordance with the ANSI Z535.4 Standard. The decals are shown on pages five through eight of the 2000 Besser Parts and Accessories Catalog, and can be ordered from the Besser Central Order department or through your local Besser representative. Prints are also available showing the suggested placement of the decals.

Besser had a good response to the 1990 mailing, but that was a long time ago. Please check the status of the pictorial warnings on your equipment. If they are missing or unreadable, now is the time to replace them.

### *Developing A Plant Safety Program*

Use of the safety practices and procedures detailed above are minimum guidelines for the development of a plant safety program. These guidelines should be tailored to fit the specifics of each plant, including the types of equipment used, the types of operations which will be performed on each piece of equipment, and any specific guidelines issued by the OSHA department in each state. Remember, ultimately it is the responsibility of the employer to ensure that employees have safe work conditions. ■

### *References:*

1. OSHA Compliance Manual for General Industry, Appendix A to 1910.147 – Typical Minimum Lockout Procedure, 1995, The Merritt Company.
2. 29 CFR §1910.147, The Control of Hazardous Energy (Lockout/Tagout).
3. The ANSI Z535.4 Standard and the Product Safety Design Process, 1996, Geoffrey Peckham, Hazard Communications Systems, Inc.



*In 1990 Besser Company instituted a pictorial warning program. All Besser customers were mailed notification of the availability of pictorial type warning decals for all Besser machines, conveyors, motors and electrical panels. These pictorial warning decals are designed in accordance with the ANSI Z535.4 Standard.*

and a reminder to employees of the steps which should be followed.

When you review these resources please keep in mind that ultimately it is the responsibility of the employer to ensure that a formal written lockout/tagout procedure is in place and that employees are trained in the application of the lockout/tagout procedure. The OSHA Lockout/Tagout Standard is not only required by law, but following it makes good sense.

### *Pictorial Warnings*

Prior to the approval of the American National Standards Institute (ANSI) Z535 Standards in June 1991, product manufacturers


product safety sign designs, colors, and messages in use.

The ANSI Z535.4 Standard was specifically designed to correct this problem. It establishes definitions for the layout, content, and color of a product safety sign. The result for plant owners and employees is a system of safety signs and decals that are easily recognizable and understandable, resulting in fewer product-related injuries and deaths.

In 1990 Besser Company instituted a pictorial warning program. All Besser customers were mailed notification of the availability of pictorial type warning decals for all Besser machines, conveyors, motors and electrical panels. In our

# The Importance of Pictorial Warnings

by Amy E. Essex  
Besser Company Tax & Risk Manager



**H**ave you ever wondered why there are pictorial labels on Besser capital equipment? The labels are there to communicate valuable information regarding safe operation of

the equipment. If these warnings are followed by everyone who operates, maintains or repairs the equipment, the labels may prevent a serious injury, or even save a life.

Pictorial warning labels are carefully designed and worded to be easily understood, even by people who speak other languages. A plant owner, manager or supervisor can benefit from understanding the importance of these labels and the process behind their formulation and design.

## *The Construction of Pictorial Warning Labels:*

There are strict guidelines (ANSI Z535.4) which address the design of safety signs. A good safety sign contains all of the following elements:

### *Signal Words: CAUTION, WARNING or DANGER*

It is important that the warning label begins with the correct signal word.

**CAUTION** indicates a potentially hazardous situation which, if not avoided, **MAY** result in **minor or moderate injury**.

**WARNING** indicates a potentially hazardous situation which, if not avoided, **COULD** result in **death or serious injury**.

**DANGER** indicates an imminently hazardous situation which, if not avoided **WILL** result in **death or serious injury**. This signal word is to be limited to the most extreme situations.

You may wonder, why not be "safe" and use the DANGER signal word for all potentially hazardous situations? The answer is simple: because people tend to become "immune" to warnings when overused. If all the equipment in

your plant was plastered with **DANGER** signs workers could become used to the signs and begin to ignore the signals, or they may not recognize situations where true **DANGER** is present.

### *Safety Alert Symbol.*

The safety alert symbol indicates a potential **personal safety hazard**. It is made up of a triangle surrounding an exclamation point. If the hazard *could* result in personal injury the safety alert symbol should be present on the pictorial warning label.



### *Colors - Yellow, Orange and Red*

**CAUTION**

**Caution-** should be in black letters on a **yellow** background

**WARNING**

**Warning-** should be in black letters on an **orange** background

**DANGER**

**Danger-** should be in white letters on a **red** background

These colors were carefully selected by the ANSI committee and are intended to serve as visual codes to reinforce the meaning of the signal words. By using these colors consistently, workers will recognize the level of hazard seriousness at a glance.

### *The Word Message*

The signal word and the color as described above unite to communicate the seriousness of the hazard.

The word message and the pictorial itself combine to communicate the three other

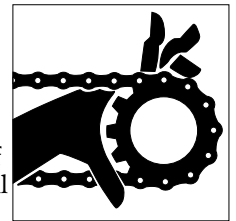
elements of the sign:

- \* the nature of the hazard,
- \* how to avoid the hazard, and
- \* the consequence of involvement with the hazard.

The word message should be concise and readily understood. However, when detailed instructions, precautions or consequences become lengthy, the pictorial sign may refer the user to the proper instruction manual.

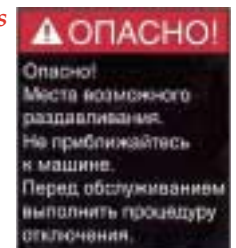
### *The Pictorial*

The pictorial is a graphic representation intended to convey a message without the use of words. The pictorial can represent a hazard, a hazardous situation, a precaution to avoid a hazard, a result of not avoiding a hazard, or any combination of these messages. Pictorials can be used as a supplement to or in place of a worded message on a safety sign or label.



### *Foreign Languages*

The ANSI Z535.4 standard does not address the issue of bilingual formats for product safety labels. However, Besser has designed labels to show the signal word in both English and Spanish. Also, because many Besser customers have employees with various language backgrounds, safety labels have recently been introduced which show both the signal word and the word message in one of five languages: Spanish, French, Italian, Russian and Chinese (see Besser Block, Third Quarter 1997, Vol. 22, No.3).



### *Pulling it Together*

When all of these elements (signal word, color code, word message and pictorial) are combined, the result is a pictorial warning label that is intended to show staff at a glance what hazard is present, how to avoid the hazard and what the consequences are if the hazard is not avoided.

**Nip hazard.  
Stay clear of  
conveyor. Follow  
lockout procedure  
before servicing.**

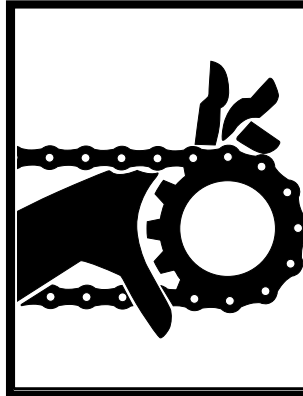
In 1990 Besser enhanced its warning labels by adding pictorials. At that time, customers were notified of the availability of these labels. For the safety of your staff, if labels for your pre-1990 equipment have not been obtained or if any of your equipment has missing or damaged labels, please take the time to order TODAY.

These labels can be ordered from pages three through eight of the 2000 Besser Parts and Accessories catalog. If you do not know which labels you

need, please contact a Besser representative for assistance.

References: ANSI Z535.4 Standard

*The ANSI Z535.4 Standard and the Product Safety Design Process*, Geoffrey Peckham, Hazard Communications Systems, Inc., September 1996



**⚠ WARNING**

**⚠ MUCHO CUIDADO**

**Nip hazard. stay clear of conveyor. Follow lockout procedure before servicing.**

## SAFETY BULLETIN

**This notice is issued to advise you that some previously accepted shop practices may not be keeping up with changing Federal and State Safety and Health Standards. Your current shop practices may not emphasize the need for proper precautions to insure safe operation and use of machines, tools, automatic loaders and allied equipment and/or warn against the use of certain solvents or other cleaning substances that are now considered unsafe or prohibited by law. Since many of your shop practices may not reflect current safety practices and procedures, particularly with regard to the safe operation of equipment, it is important that you review your practices to ensure compliance with Federal and State Safety and Health Standards.**

### IMPORTANT

The operation of any machine or power-operated device can be extremely hazardous unless proper safety precautions are strictly observed. Observe the following safety precautions.

- Always be sure proper guarding is in place for all pinch, catch, shear, crush and nip points.
- Always make sure that all personnel are clear of the equipment before starting it.
- Always be sure the equipment is properly grounded.
- Always turn the main electrical panel off and lock it out in accordance with published lockout/tagout procedures prior to making adjustments, repair, and maintenance.
- Always wear appropriate protective equipment like safety glasses, safety shoes, hearing protection and hard hats.
- Always keep chemical and flammable material away from electrical or operating equipment.
- Always maintain a safe work area that is free from slipping and tripping hazards.
- Always be sure appropriate safety devices are used when providing maintenance and repairs to all equipment.
- Never exceed the rated capacity of a machine or tool.
- Never operate equipment if unusual or excessive noise or vibration occurs.
- Never use any toxic flammable substance as a solvent cleaner.
- Never allow the operation or repair of equipment by untrained personnel.
- Never climb or stand on equipment when it is operational.

**It is important that you review Federal and State Safety and Health Standards on a continual basis. All shop supervisors, maintenance personnel, machine operators, tool operators, and any other persons involved in the setup, operation, maintenance, repair or adjustment of Besser-built equipment should read and understand this bulletin and all Federal and State Safety and Health Standards on which this bulletin is based. For additional copies of this bulletin see page three of the 2000 Besser Parts and Accessories Catalog or contact Julie DeYoung at 517-354-1170.**

# Confined Spaces

by Amy E. Essex  
Besser Company Tax & Risk Manager

## Background

In October 1993, OSHA issued general industry safety standards relating to confined space entry. OSHA initially directed its efforts at certain high-risk industries where every entry into a confined space was potentially fatal. Through informational articles and crack downs by state OSHA departments, employers in other industries are gradually becoming aware of the responsibility to protect and educate their employees about confined spaces and the potential hazards. This article is intended to make you aware of the OSHA Confined Space Safety Standard by providing background information. Contact your OSHA area representative to get more specific guidance on the standards in your state.

## What is a Confined Space?

A confined space has ALL of the following characteristics:

- The size and shape of the space allows a person to enter it;
- The space has limited openings for workers to enter and exit; and
- The space is not designed for continuous occupancy.

Look around your plant: which pieces of equipment and areas in your facility exhibit the characteristics described above? What about bins, hoppers, kilns, mixers, or pits? There is a good chance that your state OSHA department will consider some or all of these to be confined spaces. There may be other areas in your plant which are also considered confined spaces. So you should never let your employees enter these spaces, right? WRONG!! Mixers, bins, kilns, pits and other potential confined spaces unique to the concrete industry need to be cleaned and maintained on a regular basis. These activities

usually require that employees access these spaces. What can you do to protect your workers from potential hazards? Just as you need a written policy for the OSHA Lockout/Tagout Standard, you must also develop a written policy for entering and working in confined spaces and you must educate your employees about what could constitute a confined space.

## Permit-Required Confined Spaces

Certain confined spaces are further characterized as "Permit-Required Confined Spaces." Such spaces require a permit before entry to the space can be allowed. The permit is issued by a supervisor or other company official and allows an employee entry into the confined space. The permit tells what hazards are present in the permit space and how to

movement of machinery

- Electrocution
- Heat stress
- Becoming wedged into a narrow part of the space and suffocating
- Physical dangers such as falls, debris, slipping ladders.

All confined spaces should be considered permit-required unless they are exempted by OSHA, or unless you can prove to OSHA, upon inspection, that the space is not permit-required. This permit requirement may be waived by your area OSHA office for mixers, pits and other pieces of equipment. However, exemption from the permit requirement **does not** free you from the obligation to institute procedures to keep employees safe when entering

these spaces. In fact, the OSHA office will not waive the permit requirement unless you can show that you have safety measures in place such as atmospheric monitoring data, lockout/tagout programs and additional training programs which show that the space should not be a permit-required confined space.



control them. Also included is a checklist of necessary safety measures. Access to permit-required confined spaces should be limited by a barrier where feasible, or clearly marked. Permit-required confined spaces include those which could pose the following hazards to your employees:

- Hazardous atmosphere
- Not enough oxygen
- Flammable or toxic air
- Engulfment – being trapped in liquid or solid material
- Danger from unexpected

## Establishing a Confined Space Program

What steps do you, as an employer, need to take to establish a Confined Space Program? The first step is to get information on the applicable Confined Space Standards in your state. The general steps in establishing a program are:

- Identify all permit spaces in your facility.
- Reduce employee risk around permit spaces with signs like the one pictured on this page and with training.

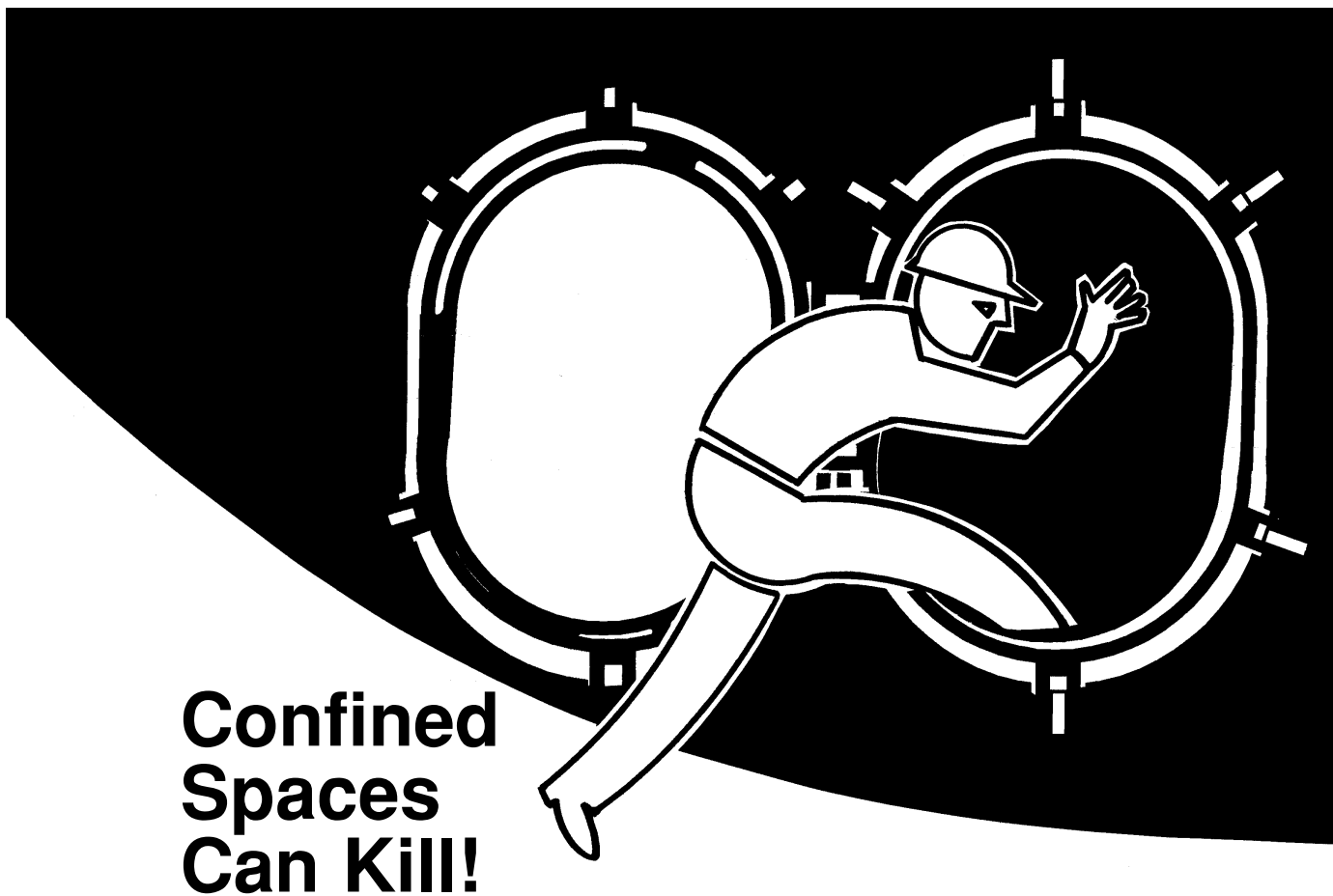
- Prevent unauthorized employee entry in permit spaces.
- Develop and implement a written permit space program.
- Document procedures establishing a non-permit space.
- Re-evaluate spaces when conditions change.
- Make special arrangements with contractors who may enter permit spaces.
- Supply safety and personal protective equipment, if needed.

- Establish emergency/rescue procedures in case someone becomes trapped in a confined space.
- Remember, it is your duty to keep your plant safe for your employees. This can only be achieved through awareness, education, training and cooperation of both the plant owner and the employees. ■

*Please contact your area OSHA representative for specific guidance on confined space guidelines in your state.*

### References:

1. "Common Confined Spaces," Bob Eckhardt, *Concrete Products*, January 1997.
2. "A Guide to Safety in... Confined Spaces," National Institute for Occupational Safety and Health, published by Praxair, Inc., July 1987.
3. Department of Labor, General Industry Safety Standards Commission, Safety Standards, part 90: Confined Space Entry.



Make sure you know all of the appropriate procedures and precautions to take for entry into and exit from confined spaces. If there are hazardous confined spaces where you must work, your employer is required by law to have a permit-required confined space program, permit system, emergency procedures, appropriate engineering and work practice controls and to provide you with training and appropriate personal protective equipment. See OSHA's standard on confined spaces

in Title 29 of the *Code of Federal Regulations*, Part 1910.146. For related OSHA publications, contact your regional or area office, or call (202) 219-4667, FAX (202) 219-9266.

### U.S. Department of Labor

Robert B. Reich, Secretary  
Occupational Safety and Health Administration  
OSHA 3140  
1993



**24-Hour OSHA Hotline: 1-800-321-OSHA**  
(To report suspected fire hazards, imminent danger safety and health hazards in the workplace, or other job safety and health emergencies.)

Region I - Boston, MA (617) 565-7164  
Region II - New York, NY (212) 337-2378  
Region III - Philadelphia, PA (215) 596-1201  
Region IV - Atlanta, GA (404) 347-3573  
Region V - Chicago, IL (312) 353-2220

Region VI - Dallas, TX (214) 767-4731  
Region VII - Kansas City, MO (816) 426-5861  
Region VIII - Denver, CO (303) 844-3061  
Region IX - San Francisco, CA (415) 744-6670  
Region X - Seattle, WA (206) 553-5930

# Reducing Lost Time Accidents

by Amy E. Essex  
Besser Company Tax & Risk Manager



**H**ow long has it been since your plant experienced a lost-time accident? 1 year? 8 years?

Chances are you have had several lost-time accidents within

these time frames. A lost-time accident is one that results in occupational injury or disease which disables the worker beyond the day of injury; i.e. the worker is unable to return to work for their next regularly scheduled shift. According to statistics published by the Bureau of Labor Statistics, U.S. Department of Labor, the 1997 lost-time incident rate for concrete block and brick manufacturers was 6.3 days per 100 workers. For equipment manufacturers (such as

Besser Company), the lost time incident rate was 2.9 days per 100 workers in 1997.

This article focuses on two companies: one just completed one year without a lost-time accident and remarkably, the other has been without a lost-time accident for over eight years. By comparing and contrasting the safety programs of these two companies you will see that these programs are not "one size fits all." A program that works well for one company may not be appropriate for another. The key is to find what works for you and your employees and set a program in action.

## *A Study of Conditions and People*

Featherlite Building Products Corporation, with locations throughout Texas, recently completed a year without a lost-time accident. How was this accomplished? According to

Eddie Pina, Safety Director for Featherlite, the key was the *Safety Training and Observation Program (STOP)* by DuPont. "The main

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*According to statistics published by the Bureau of Labor Statistics, U.S. Department of Labor, the 1997 lost-time incident rate for concrete block and brick manufacturers was 6.3 days per 100 workers.*

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objective of DuPont's program is to eliminate incidents and injuries. This is done by modifying behavior by observing people as they work and talking with them to encourage safe work practices and eliminate at-risk behavior."

STOP is based on the following principles:

- ✓ All injuries and occupational illnesses can be prevented.
- ✓ Safety is everyone's responsibility.
- ✓ Management is directly accountable for preventing injuries and occupational illnesses.
- ✓ Safety is a condition of employment.
- ✓ Training is an essential element for safe work practices.
- ✓ Safety audits must be conducted.
- ✓ Safe work practices should be reinforced and all unsafe acts and unsafe conditions must be corrected promptly.
- ✓ It is essential to investigate injuries and occupational illnesses as well as incidents with the potential for injury.
- ✓ Safety off the job is an important element of your overall safety effort.
- ✓ Preventing injuries

Mike Krom from the Besser International Pipe Machinery purchasing department updates the safety record sign.



and occupational illnesses is good business.

- ✓ People are the most critical element in the success of a safety and health program.

STOP utilizes videos and workbooks for training managers, safety coordinators, line supervisors and key lead people in the principles of the program.

Why has this program worked for Featherlite? "Featherlite has been successful with this program because it has taught our supervisors how to recognize unsafe actions of our employees. It has taught our supervisors how to talk with our employees and how to prevent recurrence of an unsafe act. STOP has also taught our supervisors how to reinforce positive behavior when an employee is working safe," stated Eddie.

**For further information on STOP, contact DuPont at 1-800-532-SAFE or access their website at [www.dupont.com/safety](http://www.dupont.com/safety).**

#### *A Safety Record to Emulate*

Incredibly, Besser International Pipe Machinery in Sioux City, Iowa, has completed eight years without a lost-time accident. This safety record was accomplished under the guidance of a six-person safety committee led by Don Groves,



production manager and safety manager at Besser International Pipe Machinery.

The safety committee at Besser International Pipe Machinery conducts random plant inspections on a monthly basis, looking for unsafe working conditions. Once an inspection has been completed, all shop employees meet to discuss the findings. These meetings can take as long as an hour and a half. The committee then works to change the unsafe conditions. Besser International Pipe Machinery strives to meet or exceed OSHA standards on all safety issues in the plant.

Do all employees need to meet for an hour and a half each month? Is this excessive? You might say "Yes",

but the safety record of Besser International Pipe Machinery says "No." The cost of one lost-time accident can easily off-set the cost of halting production for one hour every month or quarter so employees can discuss unsafe conditions and practices in the work environment.

According to Don, training and communication are the keys to the safe working conditions at Besser International Pipe Machinery. "Employee involvement is critical, and to be committed to safety. We are fortunate that our employees are sold on safety."

#### *Comparison and Contrast*

Featherlite uses a structured, commercial program purchased from a safety vendor while Besser International Pipe Machinery uses a less formal program consisting of regular plant inspections and all-employee meetings.

The similarity between the two programs is **SUCCESS**. Both programs include a strong component of communication and employee involvement. Employees do not want to be injured on the job. Insight and input from employees about how to do their jobs safely is an invaluable resource in formulating a safety program.

#### *The key to safety:*

Do what works for your company. Investigate resources and study what other companies are doing, then develop and administer a customized program suited to your employees.



# Lockout/Tagout Revisited

by Amy E. Essex  
Besser Company Tax and Risk Manager

An article titled "Safety Basics" in a previous Besser Block issue (Volume 22, Number 1) touched on the importance of a Lockout/Tagout Program. The following article takes a more in-depth look at lockout/tagout and discusses where to go for additional resources and assistance in setting up a program and procedures.

Employees performing service or maintenance on equipment can be exposed to injuries from the unexpected energization or start-up of the equipment or from the release of stored energy in the equipment. Many injuries can be prevented by following a proper Lockout/Tagout Program.

In January 1990, OSHA issued Standard 29 CFR 1910.147, Control of Hazardous Energy. The standard is known as the OSHA "Lockout/Tagout Standard" and compliance is **mandatory** for producers in the United States. The standard requires implementing procedures to shut down the equipment, isolating it from the energy source(s) and preventing the release of potentially hazardous energy while maintenance and servicing activities are being performed.

## Lockout vs. Tagout

**Lockout:** A method of keeping equipment from being set in motion. It involves:

1. Putting a disconnect switch, circuit breaker, valve or other energy isolating mechanism in the safe or off position.
2. Placing a device over the energy isolating mechanism to hold it in place.
3. Attaching a lock so that the equipment can't be energized.

**Tagout:** A written **warning** attached to an energy isolating device which has been placed in the safe or off position.

**NOTE - Locks and tags alone do not de-energize equipment. Attach them only after the equipment has been isolated from its energy source.**

## Other Important Definitions

**Affected Employee:** An employee who is required to use equipment on which servicing or maintenance is being performed under lockout or tagout, or who performs other job responsibilities in an area where such servicing or maintenance is being performed.

**Authorized Employee:** A person who locks or tags equipment in order to perform service or maintenance.

**Energized:** Connected to an energy source or containing residual or stored energy.

**Energy Isolating Device:** A mechanical device that physically prevents the transmission or release of energy.

**Energy Source:** Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy.

## What if equipment is not locked or tagged out?

- A person could be **cut** by a sharp part that starts moving suddenly.
- A person could be **struck** by a part that hasn't stopped moving or starts moving accidentally.
- A person's limbs could be **crushed** between moving parts.
- An equipment part that isn't secured could **push** a person away with force.
- A person or his/her clothing could become **entangled** in a moving part.
- A moving part could **clamp down** on a person from above.

## When should equipment be locked or tagged out?

- During set-ups
- Before performing maintenance
- During troubleshooting
- Before making repairs

In short - an employee should lock or tag any time a guard or other

safety device is removed or when an employee must place any part of his/her body where it could be caught by moving equipment. **All** mechanical equipment which is capable of sudden, unexpected movement should be locked or tagged out.

## Employers' Responsibility for Lockout/Tagout

Employers must:

**Develop** an energy control program.

**Use locks** when equipment can be locked out.

**Ensure** that new equipment or overhauled equipment can accommodate locks.

**Use** an effective tagout program to ensure safety when tags rather than locks are used.

**Identify and implement** specific procedures (IN WRITING) for the control of hazardous energy including preparation for shutdown, equipment isolation, lockout/tagout application, release of stored energy and verification of isolation.

**Institute** procedures for release of lockout/tagout to include equipment inspection, notification and safe positioning of affected employees and removal of lockout/tagout devices.

**Obtain** standardized locks and tags which are of sufficient quality and durability to ensure effectiveness. The locks and tags should also identify the employees using them.

**Train** employees in specific energy control procedures.

**Use** training reminders.

**Schedule** annual inspections of the control procedures.

**Adopt** procedures to ensure safety when equipment must be tested during servicing, when outside contractors are working at the site, when a multiple lockout is needed for a crew servicing equipment and when shifts or personnel change.

## Summary of Lockout/Tagout Procedures

1. **Notify** others - authorized employees should notify affected employees.
2. **Review** the entire Lockout/Tagout Procedure before beginning.
3. **Identify** all energy sources, understand the hazards and know how to control the energy sources.
4. **Shut down** the machine or equipment.
5. **Disconnect** the power - isolate the equipment from the energy sources.
6. **Lockout** or tagout the equipment to prevent an accidental start.

Each member of a work crew should apply his/her own lock (can be done using a multiple-lock hasp). It is the employer's choice whether to use lockout or tagout.

7. **Neutralize** stored or potential energy.
8. **Verify** isolation - test to make sure the equipment can't start.
9. **Begin** work activity.

### Release from Lockout/Tagout Status

1. **Ensure** that the equipment is safe to operate.
2. **Safeguard** all employees and remove any tools from the area.
3. **Notify** affected employees that the equipment is being put back into service.
4. **Re-install** guards and other safety devices and ensure operability.
5. **Remove** the lockout/tagout device. Except in emergencies each device must be removed by the person who put it on.
6. **Re-energize** the equipment following a checklist.

### Conclusion

Employers are responsible for developing and implementing a Lockout/Tagout Program and for training employees in the proper use of Lockout/Tagout Procedures. Employees are responsible for adhering to the program to keep themselves and co-workers safe.

As with other OSHA Standards, many state OSHA departments have developed their own standards and those should be taken into consideration when developing a program.

## Quiz

Now that you understand the basics - take the following quiz to see how much you've learned (answers can be found on page 12).

Indicate whether each of these statements is true or false:		T	F
1.	In a lockout, an energy isolating device is locked in the safe or off position.		
2.	In a tagout, the energy isolating device is placed in a safe position and a written warning is attached to it.		
3.	A worker may use any sturdy lock to apply a lockout.		
4.	Lockout/tagout should be used whenever you are performing service or maintenance around any machine where you could be injured by unexpected start-up or release of stored energy.		
5.	Each individual employee can decide whether to use lockout, tagout or both.		
6.	Applying locks or tags in the right places de-energizes the equipment.		
7.	Turning off the power switch removes all energy from powered equipment.		
8.	Before lockout/tagout is applied, all workers in the affected area must be notified.		
9.	Before you turn off equipment in order to lock or tag it out, you must know the type of energy it uses, the hazards of that energy and how to control the energy.		
10.	Once you isolate a system from its main power source, you can be sure no energy will reach the equipment.		
11.	In a lockout, one person is allowed to attach a single lock for an entire work crew.		
12.	After equipment has been isolated from its power sources, it's still necessary to control any energy stored in the system.		
13.	Before removing lockout/tagout devices, you must make sure the danger area is clear of tools and workers.		
14.	If a worker is not present to remove his/her own lock, any co-worker can remove it as long as he/she first makes sure it's safe.		

### Resources

Following are resources that may assist you in developing and implementing a Lockout/Tagout Program.

OSHA website - [www.osha.gov](http://www.osha.gov)

Contains a lockout/tagout tutorial that explains the OSHA Standard in "plain terms" and also contains a list of states which have adopted their own OSHA approved state plans.

National Concrete Masonry Association - (703) 713-1900

NIOSH website -

[www.cdc.gov/niosh/homepage/html](http://www.cdc.gov/niosh/homepage/html)

Lists resources for ordering lockout/tagout videos which can be used for training purposes. The phone number for NIOSH is 1-800-35-NIOSH.

State or regional OSHA offices - contact OSHA at (202) 693-1999 for help finding the correct office to contact.

### References

OSHA Standard 20 CFR 1910.147, Control of Hazardous Energy (Lockout/Tagout)

OSHA Lockout/Tagout (Loto) Tutorial, found at [www.osha.gov](http://www.osha.gov)

# Corporate Safety Programs:

## If You Can't Afford Safety, You Can't Afford To Be In Business

by Amy E. Essex  
Besser Company Tax and Risk Manager

### *Does my company need a corporate safety program?*

As a plant owner or supervisor/manager, you are no doubt extremely busy with the day-to-day pressures of running a successful business. How can you also devote time to ensure a safe work environment... because as an employer **you must**. It is a requirement that you protect workers from harm. But, equally important, it is to your benefit to institute a complete safety and risk control program in your facility.

FACT – 98% of all accidents and injuries are caused by unsafe working conditions, unsafe acts of personnel or a combination of both.

FACT – Employers that demonstrate to employees that they really do care about safety are likely to have fewer workplace accidents.

### *I carry worker's compensation insurance in case of an accident – isn't that enough?*

The cost of accidents fall into two categories:

- **Insured Costs** – Worker's Compensation will cover:
  - Medical costs
  - Compensation costs
- **Uninsured Costs** – Not covered by Worker's Compensation:
  - Lost production time of injured worker getting first aid or medical attention
  - Costs of time spent investigating and reporting injuries, handling injured worker
  - Costs of hiring and training replacements for injured workers

- Interruptions and delays caused by accidents
- Damage to machines and materials caused by accidents
- Other indirect inefficiencies and hindrances

It has been estimated that uninsured costs are usually several times the insured costs. The amount paid for worker's compensation insurance is only a small part of the total cost of accidents, even though this is the most obvious direct outlay of money. *Preventing accidents pays doubly by reducing worker's compensation premiums and by reducing uninsured costs as well.*

Even if insurance paid all costs, you still have a responsibility to keep employees safe from harm. If a worker suffers a fatal injury in your plant, all the insurance in the world won't bring him/her back. An effective safety and risk control program includes safety and injury prevention activities as well as post-accident loss control measures. Every effort should be made to identify and eliminate physical hazards and educate employees as to the most cautious and efficient method of performing required tasks. If an injury does occur, despite safety and injury prevention measures, the risk control program must have appropriate post-incident follow-up activities in place to minimize the severity of the incident.

### *Whose responsibility is safety?*

Each employee in your facility is responsible for certain aspects of safety. Safety responsibilities should be placed and accepted as follows:

- **Management:**
  - State and enforce a policy on safety

- Provide a safe workplace
- Prescribe safe work practices and procedures
- Provide adequate training and competent supervision
- Designate responsibility and delegate authority to supervisors

### ■ **Supervisors:**

- Train personnel in proper and safe work practices
- See that proper practices are followed
- Investigate all injuries for causes
- Take corrective action when unsafe conditions or work methods are observed
- Maintain safe equipment, tools, environment

### ■ **Employees:**

- Observe prescribed work practices
- Report to supervisor any hazards that exist
- Report all injuries immediately
- Use protective devices and safety equipment

### *What are the elements of a complete corporate safety and risk control program?*

- A Company Safety Policy
- A Safe Work Environment
  - Eliminate Mechanical and Physical Hazards
    - Keep guards on machinery
    - Maintain good housekeeping
    - Promote safe materials handling methods
    - Properly maintain tools and equipment
    - Ground and control electricity

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**FACT – 98% of all accidents and injuries are caused by unsafe working conditions, unsafe acts of personnel or a combination of both.**

**FACT – Employers that demonstrate to employees that they really do care about safety are likely to have fewer workplace accidents.**

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opinions and making safety recommendations.

*How often should the committee meet and for how long?*

- Will vary from plant to plant.
- Will need to meet more often if you are just starting up a safety

program, then less often when maintaining the program.

- If you have more than one shift or work crew – hold very short “safety briefings” each week – conducted by the supervisor or shift foreman. The meeting should cover one safety topic or subject and take no longer than 10-15 minutes.

*Raising the level of safety awareness among workers through frequent but short safety messages is critical.*

*What are good topics for the safety committee or briefings to address?*

- Past injuries that have happened in the plant.
- Proper lifting and material handling techniques.
- How to safely use a specific piece of equipment. Discuss how to use it and why, including a discussion of what could happen if the equipment is misused.
- Company Safety Rules. Pick one specific rule for each meeting. Describe injuries that could happen if the rule is broken.
- When, where and how to wear personal protective equipment. Explain why the equipment is necessary and give examples of injuries which occurred because the equipment was not worn.

*How can I ensure that the company safety program will work?*

- Be personally “sold” on the safety program and the risk control activities of the company. **Emphasize the importance of plant safety.**
- Enforce the company safety rules.
- As a plant owner or supervisor, give constructive suggestions and feedback to the safety committee.
- Take seriously the responsibility of

conducting scheduled and unscheduled safety inspections.

- Use visual aids as part of the program: posters, bulletin boards, safety signs, videos/films.
- Commend employees who are safety conscious. *Let them know you noticed!*

*Where can I go for sources to establish a safety program?*

- Your insurance carrier
- National Concrete Masonry Association (NCMA) Resource Guide – Phone: (703) 713-1900
- Other Trade Organizations
- Your State OSHA Department. However, if you call them for assistance, be prepared to make all changes they require or possibly be subject to fines. This source is not recommended if you are just beginning a Safety Program – check other sources first.
- Other Concrete Products Plant Owners.

## References:

*Elements of a Safety Program*, Bureau of Safety and Regulation, Michigan Department of Labor, Safety Education & Training Division.

*Business Insurance*, 4 May 1998, Vol. 32, No. 18, Crain Communication, Inc. ■

- Eliminate Environmental and Chemical Hazards
  - Provide personal protective clothing and equipment
  - Control air contaminants
  - Control temperature and humidity (where feasible)
  - Control toxic substances and chemicals
  - Provide adequate illumination
  - Provide noise control or hearing protection
  - Provide radiation control
- Competent Supervision of Employees
  - Delegate authority for safety decisions to supervisors
  - Train and educate supervisors and employees
  - Lockout/Tagout program
  - Confined spaces
  - Safe and proper use of machines
  - Perform safety inspections
  - Measure safety performance
  - Maintain safety records
  - Form a safety committee

## Why does my company need a safety committee?

Workers are more likely to be responsive to a Safety Program if they help develop the program and are able to make suggestions and recommendations regarding safe practices in their work environment.

## Who should serve on the committee?

- Supervisors
- Machine operators
- Maintenance workers
- Plant owners? If practical – and if their presence does not prevent workers from stating

## Answers to Quiz (from page 10):

- |   |  |
|---|--|
| 1. True   | energy of some sort is always present.   |
| 2. True   |  |
| 3. False. Only standardized locks supplied by the employer are to be used.  | 8. True  |
| 4. True   | 9. True  |
| 5. False. The employer decides whether to use lockout, tagout or both; individual workers must follow the company policy. | 10. False. You must also isolate the equipment from any secondary power sources.                                 |
| 6. False. The equipment must first be isolated from its energy sources using energy isolating devices.                    | 11. False. Every worker in the crew must attach his/her own personal lock.                                       |
| 7. False. Whether the switch is on or off,  | 12. True   |
|   | 13. True   |
|   | 14. False. An absent worker's lock can be removed only in an emergency, and only under the employer's direction. |



# Improve Plant Safety

by Amy E. Essex  
Besser Company Tax & Risk Manager

Safety decals with text in Spanish, French, Italian, Russian, and Chinese languages are now available from Besser Company. These new safety decals compliment the English language safety decals which have been available since 1990.

If the operators of your equipment speak one of the languages listed above as a first language, you should strongly consider investing in these new decals. Providing more information to your employees about the potential hazards of working with machinery will improve the safety of your employees.

The new safety decals consist of both a signal word (caution, warning or danger) and text in one of the five languages. The signal word indicates the potential severity of the hazard while the text describes the hazard and how to avoid it.

The Spanish, French, Italian,

Russian, and Chinese safety decals contain only text and *must* be placed next to the English decal which carries the corresponding pictorial. Following this advice is critical since only the English decals carry the pictorials.

Ordering the decals is simple. First, locate the correct part number(s) in the column labeled English. Then, determine which additional part number(s) is/are necessary by scanning across the table to the right until the column label matches the additional language(s) you require.

**Warning: Under no circumstance should Spanish, French, Italian, Russian or Chinese decals be used without the English decal carrying the pictorial.**

Contact your Besser sales representative or the Besser service parts center at (800) 530-9991 or (517) 354-3166 to order safety decals. ■



## Safety Decals

### NOTE:

All foreign language safety decals are intended for use in conjunction with an English safety decal with pictorial.

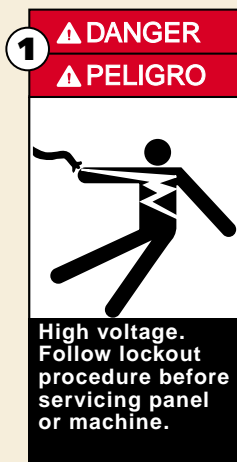
Please determine the correct decal for your needs using the following directions.

### Directions

1. Determine which English safety decals are required for each piece of equipment.
2. Locate the correct part number(s) in the column labeled English Part #.
3. Determine which additional language decal is needed.
4. After locating the English part number for the decal you need, scan across the table and locate the corresponding part number for the language that you need.

Decal Number	Equipment That Decals Should Be Adhered To:	English Part #	Corresponding Spanish Part #
1	1 per Panel	113236F0409	113236F0404ES
2	4 per Mixer	113237F0410	113237F0405ES
3	1 per Concrete Products Machine 2 per Depalletter	113240F0307	113240F0303ES
4	2 per Mixer	114692F1006	114692F0404ES
5	4 per Skiploader	114688F0906	114688F0404ES
6	8 per Skiploader/Mixer Platform	114689F0804	114689F0303ES
7	8 per Skiploader/Mixer Platform	114690F0805	114690F0303ES
8	2 per Vertical: Pallet Transport System 6 per Horizontal: LSC-40A/LSC-100 4 per Pallet Transport System	113244F0410	113244F0404ES
9	4 per Besser-Matic	113242F0409	113242F0404ES
10	4 per Besser-Matic	113243F0410	113243F0404ES
11	4 per Skiploader	114691F1006	114691F0404ES
12	1 per Electrical Panel	113249F0410	113249F0409ES
13	4 per Overhead Block Transfer	113238F1005	113238F0405ES
14	1 per Concrete Products Machine	113248F1006	113248F0405ES
15	2 per Concrete Products Machine	113241F0605	113241F0303ES
16	12 per Conveyor	113246F0704	113246F0303ES
17	8 per Cuber	113247F1006	113247F0405ES
18	3 per Cuber 2 per Block Turnover 2 per Slat Conveyor	113250F1006	113250F0405ES

In addition to English and Spanish, the safety decals are also available in French, Chinese, Italian and Russian languages. These safety decals compliment the English language safety decals, and must be used in conjunction with English decals which carry the pictorial. Refer to page eight of the 2000 Besser Parts and Accessories catalog to order, or contact the Besser Company service parts center at 800-530-9991 or at 517-354-3166.



**Large: 113236F0409**  
High Voltage  
Width 4 1/2" Height 9 5/8"  
**Small: 113236F0204**  
High Voltage  
Width 2" Height 4 1/8"



**113237F0410**  
Mixer Blade Hazard  
Width 4 1/2"  
Height 10 1/4"



**Vertical: 113240F0307**  
Crush Hazard  
Width 3 1/2" Height 7 1/2"  
**Horizontal: 113239F0604**  
Crush Hazard  
Width 6 5/8" Height 4"



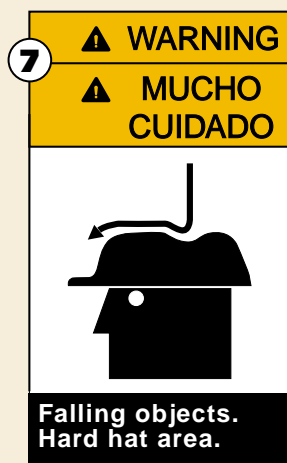
**114692F1006**  
Nip Points  
Width 5 3/4"  
Height 9 1/2"



**114688F0906**  
Crush Hazard  
Width 6 1/4"  
Height 9 1/2"



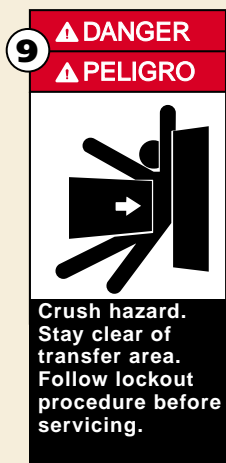
**114689F0804**  
Fall Hazard  
Width 4 1/2"  
Height 7 3/4"



**114690F0805**  
Falling Objects  
Width 4 3/4"  
Height 8"



**Vertical: 113244F0410**  
Crush Hazard  
Width 4 1/2" Height 10"  
**Horizontal: 113245F1005**  
Crush Hazard  
Width 10" Height 5 3/4"



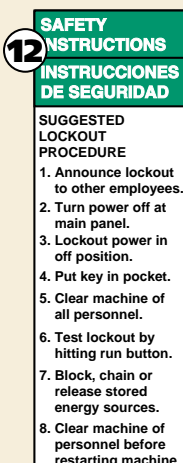
**113242F0409**  
Crush Hazard  
Width 4 1/2"  
Height 9 5/8"



**113243F0410**  
Falling Objects  
Width 4 1/2"  
Height 10"



**114691F1006**  
Shear and Fall Hazards  
Width 5 3/4"  
Height 9 3/4"



**113249F0410**  
Safety Instructions Decal –  
Suggested Lock-out Procedure  
Width 4" Height 10"

## Improve Plant Safety continued . . .

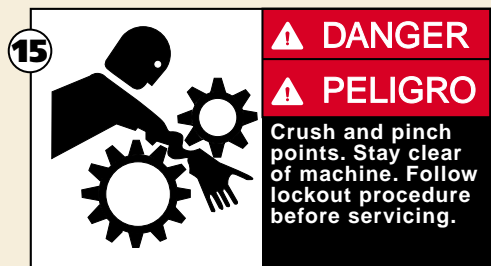
To order safety decals, contact your local Besser representative  
or the Besser Service Parts Center at 800-530-9991



**113238F1005**  
Crush Hazard  
Width 10 inch  
Height 5 3/4 inch



**113248F1006**  
Crush Hazard  
Width 10 inch  
Height 6 inch



**113241F0605**  
Crush and Pinch Points  
Width 6 5/8 inch  
Height 4 inch



**113246F0704**  
Nip Hazard  
Width 7 inch  
Height 4 1/2 inch



**113247F1006**  
Crush Hazard  
Width 10 inch  
Height 6 inch



**113250F1006**  
Crush and Pinch Hazard  
Width 10 inch  
Height 6 inch

## WARNING

The operation of any machine or power-operated device can be extremely hazardous unless you strictly observe the correct safety precautions. Make sure you observe all safety precautions for operation of any machinery.



Family of Companies

Visit the Besser web site at [www.besser.com](http://www.besser.com)

**Besser Alpena**  
801 Johnson Street  
Alpena, Michigan 49707  
800-530-9980

**Besser CMC**  
2121 Del Amo Boulevard  
Compton, California 90220  
310-537-5171

**Besser OEM**  
5306 Pride Road  
Oscoda, Michigan 48750  
517-739-7105

**Besser Appco**  
442 N. W.W. White Road  
San Antonio, Texas 78219  
800-330-5590

**Besser IPMC**  
111 S. George Street  
Sioux City, Iowa 51103  
800-621-7768

**Besser Proneq**  
765 Bombardier  
Mascouche, Quebec,  
Canada J7K 3L7  
800-363-2400

**Besser Baker**  
3380 US-23 North  
Alpena, Michigan 49707  
517-354-2189

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Holland, Michigan 49424  
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1518 E. 12th Street  
Boone, Iowa 50036  
800-654-3127